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Kaos J. 40°C threshold for 'heatwave emergency' Kuala Lumpur: The Star Malaysia; [updated 18 March 2016, cited March 2016]. Available from: <http://www.thestar.com.my/news/nation/2016/03/18/heatwave-emergency-threshold/>.

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PLENARY AND SYMPOSIUM

Urbanisation Challenges in Health: Urban Crisis: Preventions, Readiness and Preparedness

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ABSTRACT

INTRODUCTION: The growth of cities was a striking trend that was set to continue. According to the United Nation in 2016, there were 512 cities around the world with at least 1 million inhabitants, and 31 megacities with at least 10 million inhabitants. By 2030 these numbers were projected to grow to 662 and 41 respectively. More than half of the world population lived in cities. Urbanisation was a positive development, promoting economic growth and bringing people out of poverty. Through urbanisation new environments can be created for industries and technologies to grow and prosper the economic and livelihood of cities inhabitants. The nature of urbanisation is often characterised by high densities of human populations, complex infrastructural needs, high economic activities, governance, multicultural and often finances and service dependent. However, these characters can also be a vulnerability to urban populations. A US Army Study described megacities as becoming the epicentre of human activity on the planet and as such they will generate most of the friction which compel future conflict and crisis. Being dense, an incident in an Urban Environment will often result in mass casualties and large economic losses. Natural hazards like earthquake, floods, diseases and manmade hazards like fires, industrial accidents, street violent and riots, terrorism, insurgencies and armed conflicts will post potential risk that need to be mitigated by authorities to ensure inhabitant are protected and safe. Megacities also are vulnerable to outbreaks not only from poor sanitation and poverty but also from its high travelling population. These challenges will require an interagency response plan to prevent and effectively response to an urban population and environmental crisis.

CONCLUSION: The role of the Malaysia Armed Forces is to support the civil authority in any crisis situation to ensure no or minimum human casualty and physical damages.

KEYWORD: Malaysian Armed Forces, urbanisation, potential risk

Participation and Cross-Sector Engagement for Healthier Communities

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Think City

ABSTRACT

Along with Malaysia's development, cities have grown and 75% of the population are now urban dwellers. Lifestyle changes have resulted in high prevalence of NCD risk factors and NCD in all segments of the population. The proportion of Malaysian with one or more NCD risk factors is at a level now that we can assume that most people are at risk of developing NCDs. For example, a family of three generations would have at least one member with a chronic disease and most of the other members meeting common lifestyle risk factors. The urgency to address NCDs is clear, however, lifestyle is often portrayed as an individual choice and responsibility but is greatly influenced by other interlinked factors at various scales.

Think City is a Think and Do Tank working closely with local authorities, communities, institutions, private entities, and global experts to trial, plan, and implement programmes to rejuvenate cities and solve contemporary urban issues with an emphasis on historic city centres. Acknowledging cities as complex systems has shaped the Think City approach. Assessing the local context of people and place, engaging community and stakeholders in designing solutions are as relevant to urban rejuvenation as it is to good health promotion.

Even though most programmes have not been planned with specific health outcomes in mind, the healthy lifestyle benefits can be easily recognised. A variety of initiatives will be presented and learning for placed-based NCD prevention strategies shared.

In order to reduce the burden of NCD for individuals, families and societies and also meet the 30% premature mortality reduction by 2030 target set in SDG target 3.4, we do not just need to develop scalable interventions but involve all sectors. Identifying interventions led by other sectors, particularly civil society, and whose primary focus may not be NCD prevention but are resulting in healthier environments and lifestyles can be harnessed and supported to increase the intensity of interventions to achieve population-based health outcomes.

Individualised Screening Strategy for Colorectal Cancer Based on Risk Algorithms

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ABSTRACT

Prevention via earlier detection and screening of cancers represent an important strategy to minimise disease complications, mortality and morbidity, as well as health service utilisation. However, population-based screening is costly especially in some countries where screening services and resources are limited. Hence, an individualised approach to select high-risk individuals for screening is sometimes required in resource-deprived regions. This talk will highlight some of the risk prediction tools for colorectal cancer (CRC) as an example of a tailored, personalised approach to formulate and implement a risk-stratified screening programme for CRC and advanced colorectal neoplasia. In particular, it will present findings from one prospective, multi-centred colonoscopy trial that could inform individualization of screening strategies for detection of proximal advanced neoplasia. Flexible sigmoidoscopy (FS) and colonoscopy are two common screening tests for colorectal cancer. FS is currently the only endoscopy-based CRC screening modality which has been supported by randomised controlled trials as an effective tool to reduce CRC mortality. It has been increasingly used in Europe and Asia Pacific regions. The choice between FS and colonoscopy should be based on individual risks of advanced proximal neoplasia (APN). This study developed and validated a clinical scoring system to predict the risks of APN. We aimed to better inform screening participants and physicians on whether subsequent colonoscopy follow-up is warranted for subjects who received FS (i.e., when distal findings are known). We prospectively recruited 7,954 asymptomatic subjects who received screening colonoscopy in more than 13 study sites in the Asia Pacific region. We randomly allocated two-third of these subjects (5,303 participants) to the derivation cohort, and evaluated the independent risk factors for APN. The odds ratios for significant risk factors were used to develop a scoring system ranging from 0-15, divided into two tiers as: 0-3 "average risk" (AR) and ≥ 4 "high risk" (HR). A weighting was assigned to each independent variable in the risk score, applying the corresponding adjusted odds ratio and rounded to the nearest integer. Each screening participant had a score equivalent to the sum of their risk factors. The other 2,651 screening participants formed an independent validation cohort. The Cochran-Armitage test of trend was used to compare the prevalence of APN according to each score. The performance of the scoring system for predicting APN was evaluated. The prevalence of APN in the derivation and validation cohorts was 3.2% and 3.4%, respectively. Age, smoking status, family history of CRC in a first degree relative, and distal findings were found to be significant predictors. Utilising the scoring system, 79.5% and 20.5% in the validation cohort was classified as AR and HR, respectively. The prevalence of APN in the AR and HR groups was 1.9% and 9.4%, respectively; subjects in the HR group had 5.08-fold (95%CI: 3.38, 7.62; $p < 0.001$) increased prevalence of colorectal neoplasia than the AR group. The c-statistics of the scoring algorithm was 0.74 (95%CI: 0.68, 0.79), implying good discriminatory capability. The Hosmer-Lemeshow goodness-of-fit statistic evaluating the reliability of the validation set had a p value > 0.05 , implying a close match between predicted risk and real risk. To conclude, the scoring system based on age, smoking, family history, and distal finding is useful in predicting the risk of APN. We recommend that subjects who receive FS screening and score ≥ 4 points should be referred for colonoscopy workup. The seminar will end by highlighting the benefits and challenges associated with this risk-stratification approach.

Walkability, Safe City!

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ABSTRACT

Walkability is a concept that refers to the quality of walking. High walkability will inspire people to walk more. Previous studies have determined several factors that contribute to high walkability. These factors include width and material used for walkway, shade, crossings, continuity, ramp, safety, street furniture and activities. However, the implementation of these factors is not fully enforced. Compliance with these factors is progressing at a very low rate. Safe city guidelines which have been revised in 2013 are yet to be fully complied by the relevant authorities. This situation hinders people from walking in their neighborhoods and at their workplaces. This paper intends to highlight the loopholes that need to be patched to attract people to walk more in their daily activities. Fieldwork observations are the main methods used. The city that was chosen for this study is Taipan, USJ 10 Subang Jaya, Selangor. The local authority, Subang Jaya Municipal Council, aims to create Subang Jaya as a women friendly green city. In moving towards achieving Sustainable Development Goal No. 5, 10, 11 and 13 and also the New Urban Agenda commitments, Subang Jaya Municipal Council is working on its action plans to comply to the principles of these goals. Photographs were taken and compared with the safe city and other relevant guidelines. Findings show good government policies are available, but their enforcement is yet to be fully implemented. Failure to comply with these requirements will only deter people from achieving high walkability in their neighborhood and at the workplace.

The National Health and Morbidity Survey 2018: How Did We Do It?

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ABSTRACT

INTRODUCTION: The 2018 National Health and Morbidity (NHMS) survey targeted older persons' health and well-being in Malaysia. This study described the methodology and general findings of the NHMS 2018. **METHODOLOGY:** This was a cross-sectional study using a stratified cluster random sampling design, targeting older persons aged ≥ 50 years. Sample size was calculated using a single proportion formula for estimation of prevalence. Two phases of data collection were carried out involving 13 states and 3 federal territories in Malaysia. Field data collection teams visited households for an initial listing followed by a face-to-face interview of those found eligible using validated survey tools via mobile devices. Various scopes were included such as dementia, non-communicable diseases, food insecurity, incontinence, disability, and functional limitations besides basic sociodemographic profiles of the older persons. Continuous quality check of data was ensured via inbuilt systems in the mobile devices, besides checking of inconsistencies by the field personnel themselves. Descriptive and complex sample analysis was performed utilising SPSS version 23. **RESULTS:** A total of 13,508 living quarters (LQs) were identified from 110 Enumeration Blocks (EBs) and 5,636 eligible LQs were selected based on the inclusion criteria. Out of these, 5017 LQs with 7117 older persons were successfully interviewed with an 86.4% overall response rate. The majority were residing in rural areas, were females, Malay and married. About 60% were unemployed while 56% had an individual income of less than RM1000 per month. **CONCLUSION:** Findings from the NHMS 2018 are important for policy makers to identify health and social problems among older persons in Malaysia for further action.

Dementia in Malaysia and Quality of Life of Carers of People Living with Dementia (PLwD)

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ABSTRACT

BACKGROUND: Dementia, a chronic degenerative disease, changes the behaviour and ability of the person to perform everyday activities. This leads physical, social and psychological impact not only towards the patient, but also their careers. The quality of life (QoL) and improving QoL of family carers for people living with dementia (PLwD) has been an area of concern in the recent years. Thus, the aim of this study was to describe the prevalence of dementia in Malaysia and identify the factors associated with better QoL for carers of PLwD. **METHODS:** in this nationwide survey. A total of 3,774 individuals aged 60 years and above were selected in this nationwide survey. A stratified cluster sampling method was used with face to face interviews with the selected older persons. Screening for dementia was done using Identification and Intervention for Dementia in Elderly Africans (IDEA) Cognitive Screen. Control, Autonomy, Self-Realization and Pleasure (CASP-19) questionnaire was used to determine the QoL of the carers. All analysis was carried out using SPSS Ver 23.0, taking into account the complex study design and weights. **RESULTS:** The prevalence of dementia in Malaysia was 8.5% among older adults aged 60 years and above. The prevalence was higher in rural, among females and those with no formal education. The family carers of PLwD had a significantly lower mean QoL than those carers of older adults without dementia ($p < 0.001$). Linear regression among carers of PLwD showed that inability of the PLwD to carry out activities of daily living ($p = 0.018$) and low to fair social support for the carers ($p = 0.003$) were negatively associated with QoL of the carers. **CONCLUSION:** There is an urgent need for affirmative action and a comprehensive national strategic plan for dementia in Malaysia. Reducing the physical burden of taking care of the PLwD and increasing social support for the carers is essential to improve the QoL of carers of PLwD in Malaysia. This can only be achieved through increasing awareness and improving community participation as a whole to support PLwD and their careers.

KEYWORDS: Dementia, Carers of People Living with Dementia, Quality of Life, NHMS, Malaysia

Non-Communicable Diseases and Major Risk Factors Among Elderly in Malaysia

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ABSTRACT

Globally, there are an estimated 962 million people aged 60 years and above in 2017 and this population is rapidly increased more than twice from the last two decades. Malaysia is also expected to experience an aging population by 2020. Since the burden of Non-Communicable Diseases (NCDs) continues to rise, coupled with a rapidly ageing population, it is important to assess the NCD status of the elderly. Thus, the National Health and Morbidity Survey (NHMS) was conducted in 2018 with the aim of assessing the prevalence of health status and health related issue amongst Malaysian elderly. The study consisted of several modules, including the NCDs and major NCDs risk factors such as diabetes, hypertension, hypercholesterolemia, tobacco, physical activity and obesity. According to the NHMS, the prevalence of self-reported diabetic, hypertension and hypercholesterolemia among the elderly were 27.7%, 51.1% and 41.8% respectively. Majority of them received the drug treatment in the past two weeks and most of them sought the treatment from government facilities. Less than 0.5% of them did not seek any treatment. Meanwhile, the prevalence of NCDs risk factors such as current smokers, physical inactive and obesity were 13.3%, 29.8%, 17.6% respectively. In conclusion, the prevalence of NCDs remains high amongst the elderly and the co-existence of multiple lifestyle NCD risk factors among them is a public health concern. Therefore, comprehensive health-promotion interventions and providing quality care particularly at the primary care level is important to maintain the quality of life and reduce the risks of complications.

Prevalence of Food Insecurity and Malnutrition; Factors Related to Malnutrition in The Elderly

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ABSTRACT

INTRODUCTION: Malnutrition is an important cause of mortality and morbidity in the elderly. The objectives of this survey were to determine the malnutrition and food insecurity prevalence among the elderly in Malaysia and to determine its risk factors. **METHODS:** Data from a cross sectional survey derived from National Health and Morbidity Survey in 2018 was used. A stratified cluster sampling design involving a total of 3977 elderly aged 60 years and above. (51.1% females; 57.6% Malays, 26.5% Chinese, 6.5% Indian and 9.4% others). A face to face interview using mobile device was used during data collection. Malnutrition was determined using the Mini Nutritional Assessment (MNA) tool. Food security was defined according to low (score 2-4) and very low food secure (score 5-6) based on the USDA Short Form Food Security Survey Module. Data was analysed using SPSS version 23. Descriptive and multiple logistic regression model were used in the analysis. **RESULTS:** The prevalence of food insecurity was 10.4%, and 30.8% were malnourished. The following factors were found to significantly increase the risk of malnutrition; rural strata (aOR 1.36, 95%CI: 1.06, 1.75), being single (aOR 1.47, 95%CI: 1.22, 1.77), no formal education level (aOR 2.13, 95%CI: 1.34, 3.41), low social support (aOR 2.02, 95%CI:1.55, 2.62) and presence of food insecurity (aOR 2.01 95%CI; 1.60, 2.52). **CONCLUSION:** A third of the Malaysian elderly was malnourished and associated with food insecurity and low socioeconomic status, being single and residing in rural areas. There is a need to promptly identify those at high risk and review the current strategy to effectively address malnutrition and food insecurity in the country.

KEYWORDS: Malnutrition, Food insecurity, Elderly, National Health and Morbidity Survey, Malaysia

The Role of Airlines in Public Health Emergencies of International Concern.

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Malaysian Airlines

ABSTRACT

INTRODUCTION: The International Airlines Transportation Association (IATA) reported 4.3 billion travelers, the equivalent of more than half the world's population flew safely on 46.1 million flights in 2018. The International Air Transport Association (IATA) revealed that present trends in air transport suggest passenger numbers could double to 8.2 billion in 2037. The latest update to IATA's 20-Year Air Passenger Forecast, shows that an increasing shift Eastwards in the center of gravity of the industry is behind the continued strong growth. The aviation industry not only moves people but has the potential of moving disease. This was proven by the recent outbreaks of Severe Acute Respiratory Syndrome (SARS) in 2002-2003; Influenza H1N1 in 2009-2010 and Middle East Respiratory Syndrome Corona Virus (MERS-Cov) in 2012. These outbreaks not only cause loss of lives but had a global economic impact. To mitigate these risks, emergency preparedness is essential. Article 14 of the Chicago Convention provides the guidelines on preventing spread of disease by air transport. Post SARS, the International Civil Aviation Organization (ICAO) established a Cooperative Arrangement of for the prevention of Spread of Communicable Disease through Air Travel (CAPSCA) in 2006. This cooperative arrangement involves the aviation sectors and the health sectors with participation by many interested parties. The reference documents for CAPSCA are the ICAO Annexes and the World Health Organization, International Health Regulations 2005. (IHR 2005). **DISCUSSION:** Airlines must adhere to the policies and procedures that are established through this arrangement to prevent spread of disease.

KEYWORDS: airlines, emergency preparedness, air travellers

Air Transportation and Health Challenges: When Diseases Travelled First Class

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ABSTRACT

INTRODUCTION: Everyday all over the world people boards whether the commercial airlines or private aircraft travelling to various destinations across the globe. As for 2017 International Civil Aviation Organization (ICAO) documented a record breaking 4.1 billion people waiting in line, check in and going through security check to board a plane. March 2018 posted 202, 157 commercials, cargo and personal flights that take-off and landing in a single day, the highest number in 2018 equivalent to 140 planes taking of every minute somewhere around the globe. The convenient of air travel somehow introduces great challenges to the global health especially in the control of diseases where they no longer confine to its original location and geographical demarcation. Diseases that have been eradicated decades ago in certain countries started to re-emerge once again with bigger threats due to lack of awareness and preparation. Some common diseases in one country become exotic in another part of the world due to quick passage of spread and transmission through air transportation. Both passenger and cargo aircraft have proven to be vectors of disease in that they transport humans, mosquitoes, and other insects and animals who, in turn, transmit disease. Transmission to other passengers has occurred with tuberculosis and influenza. Vectors for yellow fever, malaria, and dengue have been identified on aircraft. Passengers were also exposed to hazards of flight in the form of reduced atmospheric pressure and available oxygen, noise and vibration. These factors may predispose some passengers with limited physiological tolerance to develop certain cardiovascular, pulmonary and neuropsychiatric problems that may lead to inflight medical emergencies. **CONCLUSION:** Although there are numerous health issues associated with air travel, they pale in comparison to the enormous benefits to the traveller, to commerce, to international affairs, and to the public's health.

Keyword: air transportation, infectious disease, travelers

Aircraft Accident Investigation in Malaysia

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ABSTRACT

INTRODUCTION: Royal Malaysian Air Force Institute of Aviation Medicine Kuala Lumpur (RMAF AIM) is currently the only Institution in Malaysia that caters for all aircrew medical needs in the Malaysian Armed Forces (MAF) and civilian agencies. RMAF IAM is also a permanent member for any air mishap in Malaysia as a Human Performance Subject Matter Expert (SME). In the wake of the disappearance of MH370 and unfortunate events involving MH17 over Ukraine Air Space, Ministry of Transport of Malaysia (MOTM) have decided to establish a team of Aviation Expert to be a part of a Malaysian Air Accident and Investigation Board (MAAIB) and where RMAIF AIM is part of it. **METHODS:** RMAF IAM provide expertise on Human Performance, Aviation Pathology and Human Factors performance shaping factors consisting of physiology, psychology, ergonomics, anthropometry, design, engineering, biomechanics and medicine. **RESULTS:** Study shows that 80% of most of the Air Mishap findings are due to Human Factors aspect while another 20% are due mechanical problems and yet the rate of accidents will never reach the pinnacle 0% as targeted due to an increasing rate of human travelling, rate of flying and sprouting new budget airlines. **DISCUSSION:** Effect of urbanisation will definitely have an influence on the health of the aircrew through the performance shaping factors that contribute to human factors and decrement of human performance in the cockpit. Developing correlations between public health issues and Aircraft Accident Investigation never the less still a challenge to the investigators.

KEYWORDS: RMAF IAM, air mishap, performance shaping factors

Urbanisation and Social Determinant of Health

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ABSTRACT

More than half of the global population now live in urban settings. The failure of city governments on addressing of the key social determinants of health can lead in the growth of informal settlements and slums that constitute unhealthy living and working environments. It would be impacted to issue ranging from poverty deprived urban living conditions and health vulnerability, burden of disease and communicable diseases, injuries and violence, mental health and substance abuse, noncommunicable diseases and nutritional disorders. Interventions that address the conditions in the places where people live, learn, work, and play have the greatest potential impact on people health. It means that community wide approaches aimed at improving population health. Urban development and town planning are key to creating supportive social and physical environments for health and health equity. The healthy city approach toward addressing a variety of urban health challenges is increasingly important in the context of urbanisation and globalization. A healthy city is one that is continually creating and improving those physical and social environments and expanding those community resources which enable people to mutually support each other in performing all the functions of life and developing to their maximum potential. This paper aims to describe how urbanisations impact global health, exploring issues and challenges of the urban settings as determinant of health, healthy city concept, and how the challenges of partnership across sector on implementation of healthy city in Indonesia.

KEYWORDS: urbanisation, social determinant of health, poverty, healthy city, community wide approaches, partnership

Urbanisation Challenge: Conceptual Framework Alignment in Family Health Improvement- Process Needs.

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ABSTRACT

Rapid rate of population growth and urbanisation of a country has demand fulfilment of its requirement and adaptation to the needs. Urbanisation requires specific planning, coordination and control of its growth that call for a more holistic and comprehensive approach. It should create environments that are health promoting, aesthetically pleasing, and yielding to economic efficiency of urban systems and population well-being. The key challenge and issue related to quality of service care deliveries has become a priority in urbanisation. Therefore, revisit the 5A's concept and implementable of health program planning matrix for monitoring and evaluation is highly crucial. Impacts on the provision of social services and spatial organisation needs smart management as the growth in urban areas is critical for individuals and communities that put-on pressure to social activists and government. Mismatch of demand and supply to fulfil human needs well-being will faced the rise of disease burden especially related to non-communicable disease. Life course approach of family health program need to be revisited to accomplish urbanisation drive. Health seeking behaviour is the ultimate root cause need to be tackled in order to fulfil 5A's concept of healthcare delivery. Usage of digital technology in era of industrialization 5.0 should be in place to cope with rapid population growth towards urbanisation and empowerment needs. Malaysia has reach proportion of 77 percent of population living in cities and expected to raise to 80 percent by year 2030. Population age below 15 is decreasing and the other categories is increasing due to decreasing in fertility rate. Everyone should aware urbanisation impact and starts preventing it from giving disaster due to overwhelming of emerging diseases that will eat up health economic cost. Redefining health program planning should be measured and reflect the root cause for primary intervention. Complexity of the urbanisation impact on family healthcare service delivery calls for realignment concept.

Evaluation of Health Insurance Scheme in India

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ABSTRACT

This talk is based on the paper published in Social Science & Medicine in 2017. The paper evaluated India's flagship health insurance programme. India launched the 'Rashtriya Swasthya Bima Yojana' (RSBY) health insurance scheme for the poor in 2008. Utilising three waves (1999-2000, 2004-05 and 2011-12) of household level data from nationally representative surveys of the National Sample Survey Organisation (NSSO) (N = 346,615) and district level RSBY administrative data on enrolment, we estimated causal effects of RSBY on out-of-pocket expenditure. Using 'difference-in-differences' methods on households in matched districts we find that RSBY did not affect the likelihood of inpatient out-of-pocket spending, the level of inpatient out of pocket spending or catastrophic inpatient spending. We also do not find any statistically significant effect of RSBY on the level of outpatient out-of-pocket expenditure and the probability of incurring outpatient expenditure. In contrast, the likelihood of incurring any out of pocket spending (inpatient and outpatient) rose by 30% due to RSBY and was statistically significant. Although out of pocket spending levels did not change, RSBY raised household non-medical spending by 5%. Overall, the results suggest that RSBY has been ineffective in reducing the burden of out-of-pocket spending on poor households.

Evaluation of The Impact of Primary Healthcare Enhancement Programme: Malaysia's Experience

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ABSTRACT

INTRODUCTION: Non-communicable diseases (NCD) lead to substantial mortality and morbidity worldwide. Malaysia is currently experiencing the epidemic of NCDs. In response to this challenge, an intervention package known as Enhanced Primary Health Care (EnPHC) has been designed by the Ministry of Health to improve the primary healthcare programme and service delivery related the non-communicable diseases. The intervention was piloted in 20 health clinics in Malaysia. This paper describes the evaluation of impacts of the intervention programme. **METHODS:** In measuring the impact of the intervention, 20 matched control health clinics were selected. The evaluation of EnPHC was divided into two types, i.e. outcome evaluation and process evaluation. The outcome evaluation was done through population-based survey and facility-based survey at the pre and post intervention. The process evaluation was done through qualitative studies on patients and healthcare providers. A difference-in-difference (DID) analysis was used to measure the effect of EnPHC interventions. **RESULTS:** The prevalence of screening for diabetes mellitus, hypertension and hypercholesterolemia increased by 8.7%, 9.9% and 9.2% respectively. The prevalence of undiagnosed diabetes mellitus and hypercholesterolemia decreased by 17.6% and 13.7%. Based on the facility survey, the proportion of HbA1c test done among diabetes patients has increased 29% in intervention clinics. Based on process evaluation, some interventions have positive perception among the ground implementers, especially in improving patients' NCD care management. Although patient cannot identify interventions, but they can detect changes in services, make critical appraisal and recognise its impact on their health **CONCLUSION:** Beneficial changes were noted in the intervention clinics in relation to NCD healthcare services. The positive outcome of this evaluation support further strengthening and scaling up of the intervention programme.

KEYWORDS: non-communicable disease, enhanced primary healthcare, primary healthcare intervention, community intervention, evaluation

Usage of Recompression Therapy in Malaysia: Cases Review

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ABSTRACT

INTRODUCTION: Recompression Therapy or Hyperbaric Oxygen Therapy is well established treatment modality for "the bends" or known as Decompression Illness. Few centres in Malaysia, pioneered by Malaysian Armed Forces. Usage of the therapy had been applied for chronic wound such as diabetic wound, post revascularization peripheral arterial disease and many others type of wound. Apart from that, post radiation injury patients were included and showed good relative recovery rate compared to current standard therapy. In addition, injured athletes among the serviceman had shortened their period of return to full duty with the addition of clinical Hyperbaric Oxygen Therapy. Significant survival of victim of Hydrogen Sulphide poisoning may change the approach from adjunct to mainstream therapy. Positive impacts were seen from some other patients that suffer from burn, abscess, post graft, and sensorineural hearing loss. **CONCLUSION:** Malaysia may explore more in this field of Hyperbaric Oxygen Therapy for the better care of future generation.

KEYWORDS: Malaysian Armed Forces, recompression therapy, decompression illness

Transformation of Diving and Hyperbaric Medicine Service in Malaysian Armed Forces

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ABSTRACT

INTRODUCTION: Diving medicine practice started in Malaysia since 1960's with a multiplace chamber left by the Royal Navy at Woodlands Naval Base, Singapore. In 1978, the Army Special Forces Training Centre at Sungai Udang Malacca received a multiplace chamber from Australia Defence Force. Until late 1996, hyperbaric chambers in Malaysian Armed Forces (MAF) were only used for training and treating decompression illness. The installation of the first hospital based hyperbaric chamber in Lumut Naval Base in November 1996 has opened a new era in the practice of this relatively young field of medicine in Malaysia. For the past 20 years, diving and hyperbaric medicine in MAF has developed with procurement of more hyperbaric chambers in the medical service as well as in the navy. Changes in practice of the diving and hyperbaric medicine in MAF have indirectly influenced the development of this field in the civilian side. **CONCLUSION:** Nowadays, MAF Diving and Hyperbaric Medicine Service play an important role in occupational health of not only the divers and submariners in the MAF, but it also benefits other working divers and recreational divers in Malaysia.

Keyword: Hyperbaric Medicine, MAF, submariner

Submarine Medicine: An Advancement in Hyperbaric Speciality

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ABSTRACT

INTRODUCTION: The history of Submarine Medicine began as early as in World War II. A submarine is a steel capsule which encloses submariners as they venture into a completely artificial environment beneath the surface of the ocean. Habitable space, the atmosphere, thermal habitability, the design compartment and noise are the areas of concern in submarine medicine; the effects to the health of submariner. Malaysian Submarine Force Headquarter in Telok Sepanggar Sabah was completed on 17th August 2009 and our two Prime Ministers' class Scorpene submarines KD TUNKU ABDUL RAHMAN and KD TUN RAZAK were commissioned on 27th Jan 2009 and 5th Nov 2009 which marked the significant development of Submarine Medicine in Malaysia. **RESULT:** Study on US Navy submarine crew, the most common medical events among officers were respiratory illness (primarily upper respiratory infections), followed by injury, musculoskeletal, infectious diseases, symptoms and ill-defined conditions and skin problem. The most common medical conditions among NCOs were an injury, upper respiratory illness, skin problem, symptoms and ill-defined conditions, digestive disorders, infectious diseases, sensory organ problems (ear infections and eye problems), and musculoskeletal problems. The development of deep expertise in Submarine Medicine as part of Underwater Medicine in Malaysia is essential to ensure the way forward of giving the best care to our submariners. **CONCLUSION:** Submarine personnel selection, regular assessment for fitness to dive in submariners, potential medical consequences of submarine escape and to appreciate atmospheric considerations inside submarine are among challenges which need to be addressed and improved gradually.

Keyword: submarine, health, navy

Ecological Study of Urban Built Environment and Hospital Admissions

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ABSTRACT

INTRODUCTION: This study examined the associations between the urban built environmental features and the number of hospital admissions for hypertension in Kuala Lumpur. **METHODS:** Disease specific records of hospital admissions from year 2008 to 2016 with individual patient's socio demography and residential postcodes were collected from the Ministry of Health Malaysia. Urban built environmental features and land use data were acquired from the Planning Department of the Kuala Lumpur City Hall. The built environmental data were then subjected to kernel density computations in ArcMap at 400m, 800m, and 1200m for walkability metrics (rail stations, bus stops, road intersections, recreational areas and undeveloped land); and 250m, 500m and 1000m for environmental pollution metrics (roads, highways, rail tracks, and industrial areas). Other included variables are land use mix, residential densities, and economy. **RESULTS:** Quasi-poisson regressions indicated that increased densities of bus stops at the highest intensity were consistently associated with increased number of hospital admissions for hypertension for all regression models. Conversely, increased densities of undeveloped land were associated with reduced number of hospital admissions for hypertension. Results obtained for the environmental pollution metrics were inconsistent. Among the socio-demographic groups, consistent positive associations were found for the entropy index, and bus stops; and negative associations for residential densities, rail stations, and undeveloped land across all groups. **CONCLUSION:** Although this is an ecological study, the initial findings pose further questions on the appropriate urban planning that will fit the local conditions to benefit health in the developing countries especially in the Southeast Asian region.

Accelerating Ending Aids in Bangkok Metropolitan City

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ABSTRACT

Bangkok lies at the heart of Thailand's AIDS epidemic. The risk of infection is higher because of the dynamics of its diverse and mobile population, social networks and socioeconomic disparities. The Bangkok Metropolitan Administration (BMA) has made HIV one of its top health priorities. "Ending AIDS by 2030" is the goal of Bangkok's AIDS response, and this is well-articulated in the Bangkok AIDS strategy for 2017-2030. In 2014, at a historic meeting in Paris, Bangkok was one of the cities from across the globe which committed to reach the "90-90-90" targets. Since joining the Fast-Track Cities Initiatives, Bangkok is taking the lead in scaling up proven. High-impact HIV services and strategies, and expanding testing, treatment and prevention for addressing the basic needs for key and vulnerable populations. As a result, Bangkok has demonstrated significant progress: percent of percent of people living with HIV in Bangkok who know their sero-status has increased from 66% in 2014 to 86%. The second "90" has improved from 50% to 72% while the third "90" stands at over 75% in 2017. Making 90-90-90 a reality in a megacity like Bangkok hasn't always been easy. It requires substantial effort and strong commitment. During the past few years, BMA have lessons and know what works:

1. Using local evidence to inform programs and policy change is a critical foundation.
2. A strong partnership with community-based organizations on providing HIV services by a people-centred approach such as key Population-led HIV services
3. Bangkok is leveraging innovation as a core strategy and has become one of the first cities in Thailand to provide pre-exposure prophylaxis (PrEP) for key populations through community-led HIV services and BMA municipal public health centres
4. Utilising ICT innovations and online platforms for health promotion

Healthcare Support Operation in Humanitarian Assistance: Malaysian Armed Forces Health Services (MAFHS) Experience.

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ABSTRACT

INTRODUCTION: Operational medicine is an important component of MAFHS. MAFHS has been active in providing healthcare support operation during disaster/conflict in and outside Malaysia since 1992. Operational Medicine is the healthcare provided in unconventional settings where important resources may be significantly restricted. These resources include limited supplies, expertise, time, location, or climate extremes. The application of the principles of war in planning and execution of medical missions during disaster as well as applying the principles of military logistic supply system in sustaining the medical operations in unconventional settings was proven to be very useful. The principles of suitability, distinguishability, flexibility, sustainability, acceptability and feasibility are being used regularly during planning and execution of any military medical mission. These principles coupled together with the Military Medical Appreciation Process (MMAP) has helped military health providers to cope with the challenges in operating under pressure and severe limitations by having a well thought out and well assessed medical support plan during HADR. **CONCLUSION:** This paper entails the deliberate planning process and systematic execution of HADR medical support missions in and outside Malaysia involving the MAFHS.

KEYWORDS: Operational Medicine, Military Medicine, Military Medical Appreciation Process, HADR.

Field Hospital Mission for Refugees - The Ministry of Health Malaysia Experience

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ABSTRACT

INTRODUCTION: In early September 2017, Malaysia pledged to send an integrated humanitarian mission to help the Rohingya refugees sheltering in Bangladesh after fleeing alleged suppression by the Myanmar military. The Malaysian Field Hospital (MFH) mission aimed to provide secondary medical care to Rohingya refugees in order to reduce morbidity and mortality. **METHODS:** The MFH operational activities were recorded using daily returns and situation report (SitRep). Data were analysed weekly using Microsoft Excel Office 365 whereas an overall MFH data for the first 3-month mission under the MOH Malaysia flagship were further analysed using Epiinfo version 7.2.2.2 from the US CDC, Atlanta, Georgia, USA. **RESULTS:** As of 14 February 2018, the MFH received 6,578 patients. Among all cases, non-communicable diseases contributed to 59% of diseases seen followed by acute respiratory infections (25%); injuries (9%); skin diseases (3%) etc. Among inpatients (556 cases), the majority of them (82 cases or 14.7%) had acute respiratory infection (ARI) and pneumonia. The MFH recorded eight deaths between 1 December 2017 and 14 February 2018. **DISCUSSION:** In line with the Sustainable Development Goals (SDGs) set by the United Nations, i.e., Goal 3: Health and Well-being, and Goal 17: Partnerships for the Goals, the MOH Malaysia successfully embarked upon strategic partnership in providing acute medical care to the Rohingya refugees in Bangladesh through the MFH.

KEYWORDS: Malaysian Field Hospital, Rohingya refugees, Cox's Bazar

Imaret Medical Relief at Cox's Bazar: Filling the Gaps During Humanitarian Crisis

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ABSTRACT

INTRODUCTION: Since August 2017, more than 900,000 Rohingya refugees have fled Rakhine, Myanmar to seek refuge in Cox's Bazar, Bangladesh. This is the biggest refugee crisis after the world war. IMAM Response and Relief team (IMARET) responded by activating the #IMARET4Rohingya relief effort to provide medical relief to the refugees in Cox's Bazaar. Teams of volunteer doctors were deployed every two weeks to the camps since 21st October 2017. In collaboration with a local medical Non-Governmental Organisation (NGO) and the Malaysian Field Hospital (MFH), relief efforts started with mobile clinics operating at different identified areas in the camp. Subsequently, IMARET assisted in operating a designated primary healthcare clinic in the camp. It is equipped with outpatient services, treating acute and chronic diseases and maternal and child health services. IMARET Mental Health and Psychosocial Support (MHPSS) teams were also deployed to conduct psychosocial interventions for the refugees living in the congested camps. Apart from that, IMARET volunteer doctors also contributed their services at the Malaysia Field Hospital (MFH). In terms of public health, IMARET together with the MFH has installed five field water treatment systems at different locations in the camps. Each water treatment system can produce up to 12,500L per day of safe drinking water for the refugees. To date, IMARET has deployed 37 teams, comprising of 120 doctors and treated 80, 876 patients.

KEYWORDS: refugees, relief, medical, humanitarian

Going About the Everyday: Functional Limitations in The Malaysian Elderly

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ABSTRACT

INTRODUCTION: Measuring the ability in performing activity daily living (ADL) and instrument activity daily living (IADL) will reflect the status of functional limitation in the elderly. Despite aging, social support and disability may cause limitation of function among the elderly. Therefore, this study was aimed to determine the prevalence of functional limitation among elderly. **METHODS:** A cross sectional study with face-to-face interview was conducted nationally. **RESULT:** Overall prevalence of having limitation in ADL and IADL was 17.0% and 42.9% respectively. Higher prevalence of having limitation in ADL were found among female elderly (21.2%), single elderly (25.5%), no formal education (29.5%), unemployed (20.7%) and low to fair social support (29.8%). Respondents from rural area (54.3%), female elderly(49.4%), single elderly (58.8%), no formal education (69.4%), unemployed (48.1%), household income less than RM1000 (53.2%), having visual impairment (84.0%), having hearing impairment (72.5%) and low to fair social support (58.9%) were reported to have dependency in IADL. **DISCUSSION:** Support from family and community is vital in managing functional limitation in order to provide better life for the elderly. Research and development on early detection and rehabilitation of functional limitation should be one of the priorities in the elderly health management.

KEYWORDS: Activity daily living, Elderly, Functional limitation, Instrumental Activity Daily Living

Elder Abuse Among Malaysian Older Persons Residing in The Community

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ABSTRACT

INTRODUCTION: Elder abuse is a known public health and social problem with serious consequences. The objectives of this study are to estimate its prevalence and correlates using data from a national level study. **METHODS:** A total of 3,977 older persons aged ≥ 60 years residing in the community nationwide were interviewed face-to-face by trained interviewers. Screening of 3,466 older persons for elder abuse utilising a validated tool from the National Irish Prevalence Survey on Elder Abuse was done after excluding those with probable cognitive impairment and needing assistance to answer. Those who screened positive in any one domain from psychological, financial, physical, sexual abuse or neglect, in the past 12 months, were categorised as overall elder abuse. The stratified cluster sampling design ensured national representativeness, with complex sampling analyses done. **RESULTS:** An estimated 9.0% of older persons in Malaysia screened positive for elder abuse. There was no significant difference by sex and strata (urban or rural). Those with poorer social support (AOR 5.0, 95%CI: 2.25, 11.22), dependency in performing Activities of Daily Living (ADL) (AOR 2.1, 95%CI: 1.23, 3.44) and prior history of abuse (AOR 10.1, 95%CI: 4.50, 22.86) had higher odds of experiencing elder abuse. Neglect was the commonest (7.5%, 95%CI: 5.54, 10.07). Multiple domains of abuse were reported by almost 5% of abused older persons. None however reported this to health providers, and only one to a social worker, out of the 19.3% who did report this to authorities. **DISCUSSION:** Elder abuse prevalence was found similar other local studies (4.5% to 9.7%), but lower than global estimates (12.8 to 19.3%). Community based programs to improve social support should be emphasized to decrease social isolation among older persons. Those with higher dependency in ADL have higher risk of experiencing elder abuse, thus supporting caregivers is an important measure to prevent elder abuse. A previous history of abuse should flag the older person for detection of elder abuse.

KEYWORDS: older persons, elder abuse, neglect, National Health and Morbidity Survey (NHMS), Malaysia

Quality of Life Among the Elderly and Related Factors in Malaysia

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ABSTRACT

INTRODUCTION: Elderly people is susceptible to poor health outcomes that impair their quality of life (QoL). QoL among the elderly provides information on potential modifiable risk factors that affects later life well-being. This study aims to describe the QoL and related factors of older persons in Malaysia. **METHODS:** We used a validated instrument of the 19-item Control, Autonomy, Self-realization and Pleasure (CASP-19) scale that measures psychological well-being related to QoL in older persons. Scores range from 0 to 57, and higher scores indicate better QoL. We included potential variables that influence QoL such as sociodemographic, food security, functional limitation, depression scores, social networking and self-reported abuse. Data were analysed in account of sample weights using STATA 15. Linear regression analysis was used to identify psychosocial factors which influence QoL. **RESULTS:** 3,444 individuals aged 60 years and above completed all CASP-19 items. The estimated mean QoL score was 47.01 (95%CI: 46.30, 47.72). Adjusted for covariates, QoL continued to deteriorate with lower education, probable depression (-1.042, 95%CI: -1.212, -0.871) and food insecurity (-0.815, 95%CI: -1.083, -0.548). QoL continued to improve with improved ADL score (0.302, 95%CI: 0.052, 0.552), IADL score (0.646, 95%CI: 0.382, 0.909) and better social support (0.308, 95%CI: 0.187, 0.429). **DISCUSSION:** Factors that influence QoL in older Malaysian include Education, depression, food insecurity, functional status and social support. Accessibility to mental health services, active participation in social activities and food banks should be evaluated as potential interventions to enhance QoL.

KEYWORDS: CASP-19, Elderly, Factors, Quality of life

How Do Malaysian Elderly Perceive Their Social Support?

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ABSTRACT

INTRODUCTION: Social support is an exchange of resources between at least two individuals which is perceived by the provider or the recipient to be intended to enhance the well-being of the recipient. This study aims to describe the perceived social support and related factors among elderly in Malaysia. **METHODS:** We used a validated tool, the 11-item Duke Social Support Index (DSSI) to assess perceived social support through face to face interview. Higher scores indicate better social support, where the DSSI 11-item scores range from 11 to 33. Data were analysed using SPSS version 23. Linear regression analysis was done to determine factors which influence perceived social support by adapting the conceptual model of social support determinants and its impact on health. **RESULTS:** A total of 3,959 respondents aged 60 years and above completed the DSSI. The estimated mean DSSI score was 27.65 (95%CI: 27.36, 27.95). Adjusted for confounders, the few factors found significantly associated with low social support among elderly were female gender (0.360, 95%CI: 0.157, 0.563), low income group; income below RM1000 (-0.208, 95%CI: -0.515, 0.099), low number of close friends; no close friend/person (-4.439, 95%CI: -4.908, -3.970), 1-2 close friends (-2.430, 95%CI: -2.773, -2.086), being single (-0.470, 95%CI: -0.702, -0.239), unemployed (0.276, 95%CI: 0.068, 0.484), less participation in society/religious activity; 0-1 time (-3.33, 95%CI: -3.683, -2.970), 2-5 times (-2.068, 95%CI: -2.411, -1.726), probable depression (-1.741, 95%CI: -2.141, -1.341), functional limitation (-0.468, 95%CI: -0.833, -0.102) and dependency in instrumental activities of daily living (-0.365, 95%CI: -0.624, -0.108). **DISCUSSION:** Sociodemographic (gender, income, marital status and occupation), social network (close friends), social involvement (society/religious activity) and personal health status are factors which influence social support in elderly. Community-empowerment programmes and special activities should be emphasized as interventions to enhance social support among the elderly.

KEYWORDS: social support, social networking, elderly, Duke Social Support Index

Using the Smart City Concept to Improve Urban Health

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ABSTRACT

A Smart City is supposed to refer to an idealised, technologically driven city with the antecedent use of big data and lots of information technology. More recently, however, we have come to accept that the Smart City is not just about using information technology or about the Internet of Things. These technologies are increasingly being recognized as just tools to achieve a Smart City and it is people who must come first in the Smart City Concept. All components of the Smart City Concept can be used to directly or indirectly improve urban health. These components range from renewable energy, healthcare infrastructure, urban vertical farming to smart homes and smart biometrics, all of which have a health component or can result in better health. These are in addition to the outbreak management of infectious diseases using smart technologies. This presentation will demonstrate how the components of a Smart City can be used to improve urban health.

Smart and Healthy Cities: Perspectives from Kuching City

Andrew Kiyu, Julin Alen

ABSTRACT

The world is undergoing very rapid urbanisation especially in the developing world; in Malaysia three-quarters of the population now live in urban areas. Thus, cities are growing even more important as they are our centres of commerce and innovation and the gateways to the global economy. Cities are also where problems (from the effects of climate change to rising inequality) and solutions meet. Our responses to those problems will likely succeed or fail in cities.

The World Health Organization's Healthy Cities programme which started in Europe in 1985 was one of the responses to address the ills of cities, based on the concept of the new public health. Healthy Cities seek to balance developments in the overlapping spheres of the social, economic and physical (natural and built) environments in order to achieve a sustainable health and wellbeing for its citizens. Healthy Cities impact on the health and wellbeing of its citizens by acting on the upstream determinants of health via the settings approach to health promotion. Kuching City has been part of the Healthy Cities programme since 1994.

In the meantime, the ongoing digital and Information and Communication Technology (ICT) revolution has seen a shift in focus from the proliferation of communication (1970s & 1990s) and information (1990s & 2000s), to the extraction of knowledge from the resulting data; in other words—a shift from 'Information Societies' to 'Knowledge Societies'. The Malaysian Multimedia Super Corridor which was announced in 1995 was meant to leapfrog Malaysia into a knowledge society. The ICT revolution also led to the emergence of "Smart Cities" that tap into new streams of data on the state and performance of the city systems, often in real time, to make better decisions and achieve the aspirations of its residents. Specifically, smart cities use the latest in technology and connectivity to collect lots of data through instrumentation, bring these data together through integration, and then analyse the integrated data for intelligence on how to improve the city's services and quality of life

ASEAN Member States (AMS) have established an ASEAN Smart Cities Network (ASCN) and the ASEAN Smart Cities Framework was endorsed by the ASCN on 8 July 2018. A smart city in ASEAN aims to achieve a balance between three interdependent objectives: competitive economy, sustainable environment and high quality of life. Kuching City is one of the 26 pilot ASCN cities. The two pilot smart city projects that Kuching Smart City plans to undertake are: (a) Integrated Smart Traffic Light System, and (b) Integrated Flood Management and Response System.

The City is ever evolving, and many challenges need to be addressed and overcome, before the dividends of the digital revolution and smart city on health and wellbeing, can be felt.

Smart City-As-A-Platform for Healthcare Services

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ABSTRACT

The topic shall introduce the concept of city-as-a-Platform that has been the mainstream discussion within TM Forum and ICT industries. The concept (or manifesto), backed by a consortium of technology partners and providers describes some of the key criteria and features of smart city that can be a common reference point by the industry players. Smart-city-as-a-platform is one of the building blocks of IR4.0 which also need to be supported by connectivity, intelligence and social revolution. Based on this framework, the readiness of healthcare sector to adopt to IR4.0 and can be measured so any gaps and challenges can be addressed by respective stakeholders. Smart City as-a-platform will drive new innovations within healthcare services and most importantly it should offer strong, sustainable ecosystems to support the digital transformation journey within Healthcare industries. This talk will highlight some of the examples of IR4.0 catalyst as well as potential services that can be deployed over the platform.

Training of Public Health Medicine Specialist in Malaysia – the Parallel Programme

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ABSTRACT

Public Health specialist programme is one of the first postgraduate programme to be offered in a university in Malaysia. The one-year Master of Public Health (MPH) was started in the University of Malaya in 1973, with its first batch of graduate coming out in 1974. At that time the MPH is the only postgraduate qualification required for public health medicine specialist in Malaysia. As the science and art of public health evolved, the requirement has changed since then. The duration of the MPH has increased from the one year to four years to ensure that our public health medicine specialist received the adequate training. In 2008, the one-plus-three programme; i.e., one-year MPH plus three years Doctor of Public Health (DrPH) programme was introduced. The DrPH is a professional doctoral programme to train the Public Health Medicine specialist a broad knowledge of public health combined with an orientation towards applied research in the organisation and evaluation of public health programmes. The MPH-DrPH programme was the basis for the registration of Public Health Medicine Specialist with the National Specialist Registry, Malaysian Medical Council. With the ever-changing environment and the broad area that public health covers, the Ministry of Health Malaysia have proposed that another programme to be established to cater for doctors who are more applied and who are not interested in a Doctoral level programme. The College of Public Health Medicine, Academy of Medicine Malaysia will be introducing this 'parallel programme' to fulfil this requirement. The Public Health Medicine Specialist parallel programme will be presented and discussed.

FREE PAPER

2nd Case of MERS-CoV in Malaysia: Challenges in Public Health Response

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Klang District Health Office, Klang District Health Office, Klang District Health Office

ABSTRACT

INTRODUCTION: Klang District Health Office received notification of a case of Middle East Respiratory Syndrome Corona Virus (MERS-CoV) on 30th of December 2017. World Health Organization reported this as the second case of laboratory-confirmed MERS-CoV in Malaysia. The aim of is to highlight challenges that faced by district health office in controlling MERS-CoV outbreak. **CASE REPORT:** A 55-year-old Malay gentleman with history of performing umrah pilgrimage was tested positive for MERS-CoV on 31st December 2017. He was discharged after 11 days of admission. Active case detection was conducted. Of the 70 close contacts identified, 36 (51%) were from the same pilgrimage, 20 (29%) were healthcare professionals, 8 (11%) were other close airline contacts and 6 (9%) were household contacts. Throat swabs were taken on 58 contacts, and all were tested negative for MERS-CoV. All contacts were put on Home Surveillance for 14 days. **DISCUSSION:** Our main challenge is to confine the contacts at home. Some of the contacts still performed their daily activities because food ration was not provided. In addition, the home surveillance cards were not being accepted by some of the employers. We did face challenge in taking samples for throat swabs due to limited slots given by government hospital, lack of isolation rooms and trained staffs. Certain aspects of the MERS-CoV guideline are not well-defined, such as transporting close contacts for sample taking. The existing guideline needs to be revised and updated. Despite the challenges that we faced the outbreak was well-controlled.

KEYWORDS: Coronavirus, Middle east, MERS-CoV, outbreak, pilgrim

A Qualitative Study on Scheduled Substances Abuse Among the Clients of Cure and Care Clinic, Karangan, Kedah.

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ABSTRACT

INTRODUCTION: Products containing scheduled substances such as psychotropic pills, cough medicines and *Mitragyna Speciosa* (ketum) had been frequently abused and often perceived as less threatening compared to the pandemic issue of illicit dangerous drugs use. **OBJECTIVES:** This study aims to qualitatively investigate the issues surrounding the abuse of products containing scheduled substances and the relationship between the abuse of these products and the illicit use of dangerous drugs among the clients in Cure and Care Clinic Karangan, Kedah. **METHODS:** Direct interview sessions were simultaneously held by four interviewers, involving a total of thirty clients at the Cure and Care Clinic Karangan, Kedah. Convenience sampling **METHODS:** was used. Interviewers were given a set of questions as reference points. Interviews were done until the data saturation point was achieved. Interviews were audio-recorded, transcribed verbatim, and the data was analysed into themes. **RESULTS:** The thematic analysis grouped the data into five themes, namely the factors triggering scheduled substance abuse, accessibility and affordability of the abuse scheduled substances, the types of scheduled substances abused and illicit use of dangerous drugs, dependence or habit-forming effects, and the ramification of substance addiction. Two main products containing scheduled substances; cough preparations and ketum had been identified as the popular choice for abuse among the clients. **DISCUSSION:** The abuse of scheduled substances plays a role in prompting the subsequent illicit use of dangerous drugs among the clients mainly due to the ease of access to the scheduled substances such as ketum and cough preparations in the market.

KEYWORDS: schedules substances abuse, ketum (*Mitragyna Speciosa*), cough medicine, illicit use of dangerous drugs.

An Outbreak of Salmonella Enterica Serovar Weltevreden; Cases from Kedah, Perak and Selangor After Consumption of Laksa Kebok, Kupang Baling Kedah, Malaysia on 4th October 2018

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ABSTRACT

BACKGROUND: Salmonella species is one of the bacteria under laboratory-based surveillance system in Malaysia since 2002. On 7th October 2018, notifications received on two deaths from different family were related with history of consumption of Laksa Kebok, bought at Kupang, Baling Kedah on 4th October 2018. The symptoms were described as fever, diarrhoea, vomiting, abdominal pain after consumptions. The assessment team were mobilized aims to verify the outbreak, describe the epidemiological characteristics of the outbreak, to identify the source and infection and implement control measures. **METHODS:** Active case detection was performed looking for cases who had symptoms of diarrhoea, vomiting and abdominal pain or fever and who had consumed Laksa Kebok, Kupang Baling on 4th October 2018 onwards. We evaluated the status of hygiene and sanitation, food and water supply used. All clinical and environmental samples were sent for chemical and microbiological test. DNA fingerprinting was performed by Pulsed Field Gel Electrophoresis (PFGE) at National Public Health Laboratory. **RESULTS:** Total attack rate was 93.2% (83/89). Women were higher compared with men, mean age of cases 31 years old. Major clinical manifestation was diarrhoea (86.7%), fever (65.1%), vomiting (53.0%), abdominal pain (50.6%) and others. About 8.4% required admission. Case fatality rate 2.4%. Of 20 isolates from clinical samples, 16 isolates were identified as *Salmonella Weltevreden*. The PFGE results showed >99% genetic similarity and were grouped as one cluster. **CONCLUSION:** Cross contamination with *S. Weltevreden* due to improper storage of dough Laksa, in adequate cooking temperature and insufficient time boiling of Laksa noodles possibility causing the outbreak.

KEYWORDS: food poisoning, salmonella weltevreden, laksa kebok

Are-MER: A Rare Event of Mercury Exposure in Penang

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ABSTRACT

INTRODUCTION: All compounds of mercury are toxic especially methylmercury. Exposure to elemental mercury can cause serious adverse effects to the gastrointestinal, nervous and genitourinary system. The aim of this study is to determine the source, the aftermath and control measures of heavy metal exposure in the community. **METHODS:** This is a retrospective descriptive case series encompassing epidemiological, environmental and laboratory investigations performed in May 2016 using interviewer-guided questionnaires on 83 subjects. **RESULTS:** Elemental mercury was discovered by three neighbours (index case) in an abandoned water-meter room surrounded by palm oil plantation located in Seberang Perai Utara district. The mercury was brought to a few houses in the neighbourhood and school hence, exposing 19 villagers, 61 students and staff. The most prevalent symptoms were cough (40.9%), nausea (31.8%) and dyspnoea (31.8%). Majority (60.2%) of those exposed were treated as inpatients, 24.1% as outpatients and the remaining were asymptomatic. Out of 70 patients, 8.6% tested positive for mercury in urine whereas 1.4% tested positive for mercury in blood. Chelation therapy was not indicated as the mercury positivity levels were insignificant. Decontamination procedures were carried out by Hazardous Materials Squad (HAZMAT) at all locations where elemental mercury was found. **DISCUSSION:** All individuals exposed to elemental mercury were diagnosed and treated. Epidemiological, environmental and laboratory investigations were conducted, and control measures were carried out. Public awareness on health risk posed by mercury exposure is still low hence health education and promotion together with strict enforcement should be implemented.

KEYWORDS: Mercury, exposure, poisoning

Association Between Night-Shift Work, Sleep Quality, and Health-Related Quality of Life

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ABSTRACT

BACKGROUND: Night-shift work may adversely affect health. This study aimed to determine the impact of night-shift work on health-related quality of life (HRQoL) and assess whether sleep quality was a mediating factor. **METHODS:** A cross-sectional study was conducted among Malaysian manufacturing workers, aged 40 to 65 years. Participants completed a self-administered questionnaire on socio-demography and lifestyle factors, short Form-12v2 Health Survey (SF-12), and the Pittsburgh Sleep Quality Index (PSQI). Baron and Kenny's method, Sobel test and multiple mediation model with bootstrapping were used to determine whether PSQI score or its components mediated the association between night-shift work and HRQoL. **RESULTS:** Of the 494 participants, 177 (36%) worked night-shift and 51% were males. Mean age was 47±5 year. Night-shift work was associated with sleep impairment and HRQoL. Night-shift workers had significantly lower mean scores in all the eight SF-12 domains. Compared to non-night shift workers, night-shift workers were significantly more likely to report poorer sleep quality, longer sleep latency, shorter sleep duration, sleep disturbances, and daytime dysfunction. Mediation analyses showed that PSQI global score mediated the association between night-shift work and HRQoL. "Subjective sleep quality" and "sleep disturbances" were mediators for the association between night shift work and physical wellbeing, whereas "sleep latency" and "daytime dysfunction" were mediators with respect to mental wellbeing. **CONCLUSION:** Sleep quality partially explains the association between night-shift work and poorer HRQoL. Organisations should treat the sleep quality of night-shift workers as a top priority area for action in order to improve their employees' overall wellbeing

KEYWORDS: night-shift, quality of life, shift work, sleep quality, wellbeing

Association of Haze Episodes with Healthcare Utilisation Due to Haze-Related Illnesses at Public Healthcare Facilities.

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ABSTRACT

INTRODUCTION: Haze imposes a substantial disease burden on population especially in Southeast Asia region due to high frequency of haze episodes. Reduction of air quality level due to haze has resulted in substantial disease burden due to increase in healthcare utilisation (HU). This study aims to determine the association of haze and HU due to haze-related respiratory illnesses with a focus given on the exacerbation of bronchial asthma and chronic obstructive pulmonary disease (COPD). **METHODS:** A cross-sectional study was conducted through secondary data collection of haze/non-haze episodes as the study exposures and HU related to the exacerbation of bronchial asthma and COPD as the study outcomes. Data on haze/non-haze episodes and HU for four consecutive years (2012-2015) were retrieved from Department of Environment and Ministry of Health Malaysia respectively. **RESULTS:** In the four consecutive years, the percentage of haze episodes recorded in all stations was higher (67%) as compared to non-haze (33%) episodes. Means (SD) of patients diagnosed with exacerbation of asthma and COPD were also significantly higher ($p < 0.05$) for inpatient 74(62.1) and outpatient 320(650.1) cases during haze episodes as compared to inpatient 3416.5) and outpatient 146(170.5) cases during non-haze episodes. **DISCUSSIONS:** Findings from this study indicated that haze episode incurred significant healthcare burden due to increase in MRU. The evidence from this study will help the policy makers to prepare and allocate resources to control future implications of haze-related illnesses.

KEYWORDS: haze, air pollution, respiratory illnesses, healthcare utilisation

Bed-Watcher System: Alleviating Urban Hospitals' Crowded Beds

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ABSTRACT

INTRODUCTION: Higher patient density in urban areas lead to higher workload especially in emergency departments (ED) of public hospitals. The bed-watcher system (BWS) was an in-house development of one of the tertiary hospitals in Klang Valley (Hospital A), aimed to facilitate staff in handling patient load in ED through better bed management. This study assesses the effectiveness of BWS in improving Hospital A's bed management. **METHODS:** A mixed-methods approach was used. 3-months data from BWS and hospital reports for year 2015 (pre) and 2016 (post) were used to compare Bed Occupancy Rate (BOR), Bed Turnaround Time (BTT), number of patient transfers (PT) and Discharge Time (DT). The study also conducted In-depth Interviews (IDIs) and Focus Group Discussion (FGDs) amongst hospital staff and patients to explore their experience of bed management with BWS. **RESULTS:** Quantitative results showed an increase in BOR and PT from 2015 to 2016. BTT showed a reduction in performance, though DT was maintained above 90% for both years. These results imply that there was no significant improvement in Hospital A's performance through BWS use. However, qualitative results from IDIs and FGDs indicated that BWS enhances bed management in this hospital. The staff described benefits from BWS use although issues of manpower and data quality needs to be addressed. **CONCLUSION:** Implementation of BWS enhances bed management in Hospital A and has potential to be scaled-up in other Ministry of Health's hospitals.

KEYWORDS: Bed management, bed watcher system, emergency department

Body Weight, Body Weight Perception and Bullying Among Adolescents in Malaysia

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ABSTRACT

INTRODUCTION: Being overweight, with body weight perception as a mediator, has been identified to be primary reasons for bullying among adolescents. This study aimed to explore the association between body weight, body weight perception and bullying among students 13 to 17 years of age in Malaysia. **METHODS:** A two-stage stratified cluster sampling design was used and 212 schools across Malaysia were selected for this survey. A validated self-administered questionnaire was used to collect information on bullying and the student's reflection of their body weight. Anthropometric measurements were recorded by trained research assistants. The complex sample design and weights were taken into account during all analysis. **RESULTS:** The prevalence of being bullied among adolescents in Malaysia was 16.2%. There was a significant interaction found between body mass index (BMI) and body weight perception. Students who were obese had 74% higher odds of being bullied compared to students in the normal BMI category. Students with a normal BMI but with a body weight perception of smaller than their actual category had 68% higher odds of being bullied while students with a normal BMI but with a body weight perception of higher than their actual category had 57% higher odds of being bullied. **DISCUSSION:** Obesity and body image perception are both equally important modifiable factors that may help reduce the prevalence of bullying among Malaysian adolescents. Obesity prevention, together with instilling positive body weight perception, should be part of all programs directed towards tackling the problem of bullying.

KEYWORDS: Adolescent Health Survey, NHMS, Body weight, Body weight perception, bullying

Commitment of Measles Elimination in Malaysia: Progress and Challenges

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ABSTRACT

INTRODUCTION: Malaysia did not achieve the target for measles elimination programme (MEP) in 2018 resulting in a revised target being set for 2023. A study was conducted to determine the status of elimination and factors affecting this process. **METHODS:** We conducted a descriptive study by reviewing a secondary data from the national web-based measles surveillance system (2006-2016), outbreak reports and vaccine coverage data at three levels of healthcare facilities (state, districts and health centres) and assessed MEP surveillance indicators for 2016. We interviewed staffs on response activities following measles outbreaks using a structured questionnaire based on "Measles Elimination Guidelines 2015". **RESULTS:** Incidence of measles in 2016 was 3 per million populations with increasing trend every three years. Most affected were those aged <15 years (76%), of whom 29% were infants. Fifty percent of cases were unvaccinated, mainly due to vaccine refusal and taking alternative medicine (47%). The state and district MCV1 coverage were above 95%. Some health centres had coverages of 75-90% (below target). Only 72% of laboratory results were available within four days of specimen receipt. Seventy eight percent of staff involved in response activities was noncompliant with the guidelines. **CONCLUSIONS:** Low vaccine coverage at pockets and delayed laboratory results has hindered elimination and these issues are being addressed. Supplementary immunization activity targeting children below 15 years is now done in low coverage areas. We recommend follow up campaigns three yearly, strengthen health promotion, enhance staff training and better co-ordination with laboratories for early results to ensure elimination.

KEYWORDS: measles, elimination, MCV, challenges

Community Health Engagement and Its Outcome During Pacific Partnership Exercise - MAF Experience

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ABSTRACT

Pacific Partnership began as a military-led humanitarian response to one of the world's most catastrophic natural disaster brought by the December 2004 Tsunami that swept through parts of South and Southeast Asia. Correspondingly in 2006 the US spearhead the inaugural Pacific Partnership mission and since then has evolved from a mission focused on direct assistance, to one that emphasizes regional resiliency, interoperability and security through disaster risk reduction engagement activities. For this, various programmes are carried out and Community Health Engagement holds an important role to bring about the best of civilian-military cooperation in preparation for any HADR efforts in Malaysia and the Indo-Pacific region in general. 2019 marks the 14th year of Pacific Partnership and the 4th year of Malaysia's participation. This study intends to give an overview of the Community Health Engagements conducted during this mission and its outcome in the Malaysian Armed Forces perspective.

KEYWORDS: Pacific Partnership, Community Health Engagement, Malaysian Armed Forces, HADR

Consequences of Food Insecurity on Health, In Associated with Health Insurance and Food Assistance (Indonesia)

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ABSTRACT

INTRODUCTION: The ranking of the Indonesian Human Development Index (HDI) 2017 has fallen compared to 1990. Health status is one of the dimensions of the HDI. The health degree of the Indonesian from life expectancy at birth tends to increase, but not all years are in good health. Health complaints data show that illness experiences tend to increase in the last two decades. Health problems become one of the consequences caused by food insecurity. The study aims to examine the consequences of food insecurity on health complaints and controlled by demographic and socio-economic characteristics (sex, age, area, education, drinking water, sanitation, and economic status), food assistance program, health insurance ownership and health facilities per density. **METHODS:** Indonesia household socio-economic survey conducted in March 2018 (1,131,195 individual samples), was analysed using multinomial logit method. **RESULTS:** The findings indicate that the population of moderate to severe food insecurity has a risk to experience severe health complaints more than 2 times of food secure level. The subsidized government's health insurance owner has a lower risk of health complaints than the non-subsidized government's health insurance. Food assistance programs can reduce the probability of health complaints in moderate-severe food insecurity level group and at least junior high school graduated. The Experience severe health complaints and outpatient treatment are higher at the moderate-severe food insecurity, living in rural areas, and non-subsidized government's health insurance. **DISCUSSION:** Health policy needs to be mapped according to food insecurity and affordability of health facilities.

KEYWORDS: health, food insecurity, health insurance, food assistance, multinomial logit

Consumption of Manjakani Among Postpartum Mothers and Risk of Heavy Metal Contamination

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ABSTRACT

INTRODUCTION: In Malaysia, herbal medicines are used for variety of reasons including health promotion and home remedies during pregnancy and postpartum. Among the available herbs, Manjakani is one of the most commonly consumed during this period and raised concerns over possible heavy metals exposure. This study aims to determine Manjakani consumption among postpartum mothers, and its heavy metals level, namely Lead (Pb), Cadmium (Cd), Arsenic (As) and Chromium (Cr). **METHODS:** This study involves comparative questionnaire involving 106 postpartum mothers. A sample of Manjakani was collected from six districts in Kuala Lumpur (Segambut, Seputeh, Cheras, Bandar Tun Razak, Bukit Bintang and Lembah Pantai). Samples were extracted using microwave digester and analysed in triplicates, totalling 18 samples using Inductively coupled plasma mass spectrometry (ICP-MS). Non-carcinogenic health risks for herbal medicine consumption were calculated using Hazard Quotient (HQ). **RESULTS:** Manjakani was consumed by 16% of mothers (n=17). No significance was found between jaundice and manjakani consumption. Highest level of the metals was shown by Cr with mean concentration of 4208.5±1906 ug/kg, followed by Pb (170.8±193.2), As (39.3±27.1) and Cd (7.7±0.76). following a decreasing order of Cr>Pb>As>Cd. There were no significant non-carcinogenic health risks depicting worst case scenario with Pb, As and Cd contamination (HQ<1). **CONCLUSION:** Heavy metals were quantified in Manjakani which raises concerns on safety for consumption during pregnancy or postpartum period. This warrants for further investigation on other frequently consumed herbs.

KEYWORDS: Manjakani, postpartum mothers, heavy metals exposure, non-carcinogenic health risk

Determinant of Fertility in Indonesia: Analysis of 2015 Intercensal Population Survey

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ABSTRACT

INTRODUCTION: With the success of reducing the Total Fertility Rate (TFR) from 5.8 to 2.6 and increasing the Contraceptive Prevalence Rate (CPR) from 25.4% to 57.9% in the period of 1970-2012 (IDHS 2012), there was a change of population pyramid structure in Indonesia. Government of Indonesia is targeting to achieve a replacement level fertility of 2.1 in order to extend the window of opportunity of demographic dividend. The analysis of CPR and TFR is used in the implementation of Family Planning (FP) programs, which are divided into four quadrants of relation between TFR and CPR. The purpose of this study is to analyse the determinants of fertility in Indonesia with the variation of four quadrants. **METHODS:** The study population is 405,508 women of reproductive age 15-49 years old, from the 2015 Intercensal Population Survey data. Analysis is using Cox Regression analysis. **RESULTS:** From the study, it was found that fertility was influenced by first marriage age, first birthing age, and unmet need for FP, with p-value 0.001, after controlled by influential variables. The risk of early age of first marriage and the age of first delivery to high fertility is highest in Quadrant IV followed by quadrants I, III and II. While the risk of unmet need to high fertility is highest in quadrant II, followed by quadrant III, IV and I.

KEYWORDS: Fertility, CPR, TFR, Quadrant, Family Planning

DNA Damage and Heavy Metals (Cd, As and Hg) in Hair of Malay Women

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ABSTRACT

INTRODUCTION: Environmental exposure damages the DNA. Alarmingly, some environmental toxins are carcinogenic. Thus, this study aimed to associate DNA damage and concentration of heavy metals (HMs) namely Arsenic (As), Cadmium (Cd) and Mercury (Hg) in hair samples of Malay women. **METHODS:** A cross-sectional study was conducted among Malay women aged 18 to 45 years old. Anthropometric measurements and sociodemographic data were collected. Concentration of HMs was quantified using inductively coupled plasma mass spectrometry (ICP-MS). Meanwhile, degree of DNA damage was detected using Comet assay. Minimum 50 cells were randomly selected and scored using online software (TriTek CometScore 2.0). Levels of the DNA damage was expressed in % Tail DNA, tail moment, tail olive moment and tail intensity. Data analysis was performed using IBM SPSS Statistics 23. **RESULTS:** Ninety participants with mean age 29.66±5.96 years and no prior occupational exposure to HMs were recruited. Mean concentrations quantified were As (0.15±0.40) µg/kg, Hg (1.25±4.93) and Cd (7.25±4.67). The basal level of DNA strand breaks was 11.31±5.54 (%DNA in tail mean±SD). Participants of 20-23 years old had significantly higher concentration of Cd (p<0.05). Moreover, higher Cd concentration was significantly associated with higher DNA damage among those 24-27 years old (p<0.05). **DISCUSSION:** Higher concentration of Cd have been evidently reported among cancer patients in previous studies. Thus, postulating higher incidences of cancer among young age group. Focus attention should be given to identify possible source of HMs contamination among young Malay women.

KEYWORDS: DNA Damage, Heavy Metals; Hair Scalp

Effect of Hormone Replacement Therapy on Incidence of Four Major Cancers of Postmenopausal Women in Korea

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ABSTRACT

INTRODUCTION: To assess the effect of hormone replacement therapy (HRT) on the occurrence of cancer in Korean postmenopausal women. **METHODS:** We used cohort dataset of Health examination DB from the National Health Insurance Service, which included 514,866 subjects from 2002 to 2013. We chose women aged 40-69 between 2002 and 2003 (n=168,043). Follow-up cancer diagnosis was carried out up until 2013. We used a nested case-control design because both groups have to match the exposure period. To adjust for any potential confounders, a propensity score matched analysis was carried out using the logistic regression model and 1:3 propensity-matched groups. We used the Cox proportional regression model to calculate the hazard ratio (HR). **RESULTS:** There were 9,764 cases of HRT and 27,818 cases of never user between 2002 and 2003. During 11-year total follow-up period, 3,515 (9.35%) cases of primary cancer were identified. On the basis of survival analysis, we adopted the Cox proportional hazards model and found that HRT was negative associated with cancer occurrence (HR: 0.80, 95%CI: 0.73, 0.88, p=0.012). Especially the incidence of lung, colorectal stomach and breast cancer were significantly negative associated with HRT. The type of HRT is also one of the major interesting. As a result, HRs were decreased by tibolone and oestrogen-progestine user. **DISCUSSION:** HRT showed some protective effect on all 4 kinds of cancers and exerted their effect differentially by regimen, dosage, duration of HRT.

KEYWORDS: cancer, hormone replacement therapy, tibolone

Effectiveness of Ovitrap Surveillance in an Urbanised Outbreak Area in Gombak.

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Gombak District Health Office

ABSTRACT

INTRODUCTION: In Malaysia, dengue is predominantly an urban disease and *Ae. aegypti* is the main reported vector. Gombak is an urban district in Selangor with multiple recurring dengue outbreak ecosystem. The assessment of practicality of ovitrap as a surveillance system was studied to appraise the importance of ovitrap as an early detection tool in dengue prevention and outbreak control mechanism. **METHODS:** This study utilised Bandar Baru Selayang (Zon A) data, which derived from ovitrap surveillance records from February to November 2018, and all registered dengue confirmed cases from 1st January 2016 till 31st March 2019, extracted from e-dengue. Google Earth was used to map cases and *Aedes* sp. positive area. For ovitrap surveillance, a fixed number of 100 ovitraps were placed and analysed weekly. Preventive activities were executed each time when positive *Aedes* sp. identified in ovitrap. **RESULT:** Data was analysed using Microsoft excel. During the 40-week study, positive ovitrap with *Aedes* sp was identified intermittently for 28 weeks. It was noted 86% of the ovitrap placed outdoor was positive compared to only 14% placed indoor. Preventive activities implemented were able to avert cases successfully for the first 21 weeks and reduced severity of outbreak by 75% compared to same time period for 2016 and 2017. **DISCUSSION:** Ovitrap is an effective and promising tool in dengue surveillance provided prompt and effective preventive activities are executed.

KEYWORDS: Ovitrap, surveillance, dengue outbreak, urban, ecosystem

Environmental Health Risk Analysis of Hydrogen Sulphide (H₂S) Exposure On Communities Around Broiler Farms

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ABSTRACT

INTRODUCTION: The development of broiler farm sector contributed to the air pollution in the form of odour due to the formation of hydrogen sulphide gas (H₂S). This study aims to analyse the level of risk of H₂S exposure in the community near broiler farms PT. Ciomas Padang. **METHODS:** The study used Environmental Health Risk Assessment (EHRA) method. Population consists of 160 people and 66 sample respondents with accidental sampling technique. Four-point air samples taken on the settlement around broiler farms PT. Ciomas used gas sampler impinger. **RESULTS:** Four-point air samples were lower than odor threshold (0.0ppm or 0.027mg/m³), H₂S concentration was 0.015mg/m³, 0.018 mg/m³, 0,022 mg/m³ and 0.023mg/m³. The calculation of the largest real-time intake and lifetime intake found at location C. The average real-time intake value was 0,00135 mg/kg/day and intake lifetime were 0.00406mg/kg/day. RQ value of real-time and lifetime, obtained all point of measurement has RQ>1 which means that H₂S exposure is unsafe and risk management is necessary. **CONCLUSION:** The required risk management by limiting safe concentration and limiting the duration of exposure. Other efforts that can be done is by adding lime and prebiotic on chicken manure to reduce the release of H₂S gas and cleaning the dirt under the cage once a week.

KEYWORDS: EHRA, H₂S, Farm, Community

Exploring Contributing Factors of Depression Among Inmates in a Local Prison Malaysia: A Mixed Methods Study

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ABSTRACT

INTRODUCTION: Globally, there is a rapid increase in the prison population, and being a marginalized population put them at risk of depression. The objective of this study is to determine and explore the contributing factors of depression among adult prison inmates in a local prison. Malaysia. **METHODS:** A mixed methods sequential explanatory study was undertaken using the Biopsychosocial model at a medium security prison in Malaysia. In the first quantitative phase, 460 inmates were selected using the probability proportional to size using stratified random sampling. A cross-sectional data was collected using a validated and pre-tested questionnaire, which depression was screened using the Center for Epidemiologic Studies Depression Scale. Multiple logistic regression analysis was applied to identify predictors using SPSS. In the follow up qualitative phase, a semi-structured interview was undertaken with 16 inmates to help explain and deepen understanding of the quantitative results. The conversations were recorded, transcribed as verbatim, and analysed using a thematic analysis. **RESULTS:** The prevalence of depression was 40.7%. Depression was predicted by perceived having stress, longer duration of sentences, being non-Muslim, presence of communicable disease, and history of childhood abuse. Qualitative phase explained that accessibility, stigma, dissatisfaction, inadequate social support, perceived misjudgement, the uncertainty of future, and internal states including guilt, shame, and regret as a contributing factor of depression. **CONCLUSIONS:** Study showed a high prevalence of depression among inmates. There is a need for more significant investment in strengthening mental health services, improvement in the prison environment, and the criminal justice system.

KEYWORDS: Depression, Adult, Inmates, Prison

Factors Associated with Incomplete Immunisation Among Under-5 Children in Central Zone of Sarawak

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ABSTRACT

INTRODUCTION: Vaccine preventable disease (VPD) is still a public health issue in Malaysia. Despite high immunisation coverage, children aged less than five years old are still at risk of contracting the disease. In Sarawak, there are “pockets” of under immunised population marked by immunisation coverage less than 95%. **METHODS:** The cross-sectional study was conducted on under five children in central zone of Sarawak. Data was collected by face to face interview using interviewer administered questionnaire. Data on anthropometry, medical and immunisation records were obtained through children under seven health books. Univariate and multivariate analyses were done to determine the association between immunisation coverage with independent variables. Analysis was done by IBM SPSS version 22.0. A $p < 0.05$ was considered as statistically significant. **RESULTS:** Overall complete immunisation coverage in central zone was high at 95.3%. Only 4.5% of the children were incompletely immunised, and 0.2% were unimmunised. Older children (Adj. OR:1.037, 95%CI: 1.011, 1.063, $p < 0.001$), history of hospitalisation [(Adj. OR:2.541, 95%CI: 1.341, 4.815), $p = 0.004$], and attended private health facility for immunisation service (Adj. OR =34.416, 95%CI: 4.198, 282.128, $p = 0.001$) were significantly associated with incomplete immunisation. **CONCLUSION:** The healthcare workers need to be aware of the at-risk group at their local setting, so they can tailor the appropriate targeted intervention, and formulated the best immunisation plan for these children.

KEYWORDS: childhood immunisation, coverage, Sarawak

Factors Associated with the Incidence of Computer Vision Syndrome in Bank Officers

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ABSTRACT

INTRODUCTION: Computer Vision Syndrome (CVS) is a collection of compound eye symptoms due to using a computer. This study aimed to determine factors associated with CVS. **METHODS:** This type of study was quantitative observational with cross-sectional design with amount of sample 117 respondents. Data analysis used was univariate, chi-square used for bivariate analysis and multiple logistic regression used for multivariate analysis. **RESULT:** The Prevalence of Bank RK officers who experienced CVS complaints were in the forms of tired and tense eyes at 54.3%, neck pain at 28.7%, shoulder pain at 27.7%, headache at 25.5%, blurred vision at 20.2%, seeing twins at 17%, watery eyes and difficulty to focus at 14.9%, back pain at 11.7%, sore eyes, irritation pain at 5.3%. Based on the bivariate analysis, variables related to CVS were vision distance ($p = 0.016$), monitor position ($p = 0.011$), lighting ($p = 0.001$), working period ($p = 0.002$), the length of work ($p < 0.001$). Variables not related to CVS was age ($p = 0.561$). Based on the multiple logistic regression, length of work was the dominant factor that caused CVS (POR:9.7). **DISCUSSION:** This study indicates that the most dominant factor influential to CVS is the length of work, while other factors acted as confounding. This study suggests the officers to do the 20-20-20 **METHODS:** every hour, stretching, lighting settings and work station ergonomics according to standards.

KEYWORDS: Computer Vision Syndrome, length of work

Factors Contributing Unsuccessful Treatment of Tuberculosis Patients in Raub District

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ABSTRACT

INTRODUCTION: Tuberculosis (TB) is listed among the top ten causes of death worldwide. Identifying factors that contribute to unsuccessful treatment could help healthcare workers to recognize problems, assess the risks, predict the diagnosis and it could potentially help prevent treatment failures. Unsuccessful treatment includes death, defaulted and failed treatment. **METHODS:** A cross-sectional study was conducted to identify the contributing factors for unsuccessful treatment. 152 patients registered in the MyTB system from year 2015 until 2017 in Raub district, Pahang were analysed. **RESULTS:** Among 152 patients analysed, 101 (66.4%) were males and 51 (33.6%) were females. The treatment success rate was 77.0% and the unsuccessful rate was 23.0%. Amidst the unsuccessfully treated, 20.4% were due to the death of the patients, while the other 2.6% defaulted their treatment. Univariate analysis showed that unsuccessful TB treatment has statistically significant association between age ($p=0.002$), education ($p=0.038$), cigarette smoker ($p=0.018$), TB-HIV status ($p=0.014$), diabetic status ($p=0.050$), DOTs supervision ($p=0.012$) and re-treatment cases ($p=0.010$). However, multivariate analysis showed the potential factors associated with unsuccessful treatment outcome were age above 60 years old (aOR: 4.958; 95%CI: 2.035, 12.080; $p=0.001$), cigarette smoker (aOR: 4.251; 95%CI: 1.681, 10.749; $p=0.002$) and unknown HIV status (aOR: 11.416; 95%CI: 2.357, 56.004; $p=0.003$). **DISCUSSION:** The factors contributing to the unsuccessful treatment in Raub district were elderlies, cigarette smokers and unknown HIV status.

KEYWORDS: TB, unsuccessful, tuberculosis, treatment, failure

Family Satisfaction On Chemotherapy Services in West Sumatera, Indonesia

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ABSTRACT

INTRODUCTION: Satisfaction with chemotherapy services can affect patient behavior and treatment outcomes. Patients and families often fail to express their problems and anxieties when they are dissatisfied with the attitudes of health workers, so doctors or nurses often do not realize whether patients and families are satisfied with the services provided. This study aims to describe the satisfaction of families who have children with acute lymphoblastic leukemia on chemotherapy services. **METHODS:** A Descriptive study was conducted at the Midwifery and Child Inpatient Installation, Dr. M. Djamil Hospital Padang from September 2018 to February 2019. The study sample was 47 parents who had acute lymphoblastic leukemia children taken by consecutive sampling. Data collection used the FamCare Scale Questionnaire with r values of 0.434-0.727 and Cronbach alpha >0.913 . **RESULTS:** Approximately 61.7% were mothers and 38.3% were fathers, 61.7% were over 35 years old (late adulthood) and 66% were high school education. Most respondents (63.8%) expressed satisfaction with the chemotherapy service received. **DISCUSSION:** Doctors and nurses should be able to improve their communication skills in providing chemotherapy services through training held by hospitals so that the process of providing services is better. Furthermore, attention needs to be paid to aspects of cleanliness, tidiness and the comfort of the chemotherapy room and the provision of special rooms for child chemotherapy and the handling of long waiting times.

KEYWORDS: communication skills, hospital room, doctors, nurses

Fast Food Consumption Among Adolescent and Its Related Factors: Findings from NHMS Adolescent Nutrition Survey 2017

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ABSTRACT

INTRODUCTION: Fast food consumption is increasing among adolescents. Fast food is generally favoured due to its easy availability despite of its high calorie with high salt and sugar content. This study aims to determine the prevalence of fast food consumption among adolescents in Malaysia and its associated factors. **METHODS:** Data was derived from the Adolescents Nutrition Survey (ANS) 2017, a cross sectional study using a two-stage stratified random sampling design. **RESULTS:** This study found that 86.9% of the adolescents in Malaysia consumed fast food. Multiple logistic regression analyses showed that Chinese adolescents had significantly lower odds to consume fast food (aOR 0.32, 95%CI: 0.27, 0.39), and those with overweight or obese BMI (aOR 1.27, 95%CI: 1.05, 1.54) had higher odds of consuming fast food compared to underweight adolescents. Adolescent who eat outside (aOR 5.14, 95%CI: 4.58, 5.76) and also had a habit of snacking (aOR 4.19, 95%CI: 3.59, 4.91) significantly higher odds of consuming fast food. **DISCUSSION:** The prevalence of fast food consumption among adolescents is very high. Efforts need to be taken to educate adolescents regarding healthy eating. Prompt actions also need to be taken with regards to laws and regulations associated with advertising and marketing of fast food for adolescents.

KEYWORDS: adolescent, fast food, Malaysia, NHMS

Forecasting Hand-Foot and Mouth Disease (HFMD) Cases Using Weather Variables and Google Search Queries in Sabah, Malaysia

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ABSTRACT

INTRODUCTION: Climate change and population dynamics have been postulated as driving hand-foot and mouth disease (HFMD) transmission. This study aims to develop a forecasting tool utilising climatic predictors and internet search queries in developing preventive strategies that would alleviate the burden of HFMD in Sabah. **METHODS:** Nine years of data was collected, consisting of temperature, humidity and rainfall from the Malaysia meteorological department, HFMD cases from the Sabah State Health Department and internet search queries from Google trends of years 2010-2018. Correlations between dependent and independent variables and their lagged functions were executed and integrated into a Seasonal auto-regressive moving average (SARIMA) model and subsequently, in measuring fit, the Akaike's Information Criterion (AIC) and log-likelihood metrics were utilised to select the best model. All statistical analysis was carried out using R. **RESULTS:** Google search trends evinced moderate positive correlations to HFMD cases ($r_{0-6weeks}$: 0.47-0.56) with temperature revealing weaker positive correlations ($r_{0-3weeks}$: 0.17-0.22). The autocorrelation functions revealed moderately positive correlations ($r=0.15-1.0$) at lags of zero and five weeks. Fit and parsimony were prioritised in selection, with a single model integrating mean temperature at lag zero-week and google search trends at lag one-week producing best fit (AIC: 4077.22, log-likelihood: -2030.61). **DISCUSSION:** Trajectorial forecasting oscillations of the model are stable up to four weeks in advance with accuracy being highest at one and two weeks justifying it as a low-cost, time-sensitive tool to be used in outbreak preparedness and mitigation. However, the model still requires validation and will carried out in the near future.

KEYWORDS: Coxsackie, EV71, prediction model, weather, google trends, ARIMA

Geospatial Assessment of Food Outlets and Facilities for Physical Activity as Components of Obesogenic Environment Surrounding Malaysian Adolescents

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ABSTRACT

INTRODUCTION: Obesogenic environment is identified as an exposure to develop NCD where food intake and physical activity patterns are the shared contributing factors for NCD as early as in adolescence life. This study aimed to determine the association between exposure to surrounding food outlets and physical activity (PA) facilities as the components in obesogenic environment, with obesity profiles among Malaysian adolescents based on residential settings. **METHODS:** This ecological study was conducted as a part of the Malaysian Health and Adolescent Longitudinal Research team (MyHeART) and involved 1032 students aged 17 years old from 14 schools in three states of Peninsular Malaysia in 2016. Anthropometric measurements and biochemical profiles were taken from the participants. Extensive search combining characteristic observation and ground truth verification methods was conducted to locate food outlets and PA facilities surrounding each school. All results were analysed by using IBM SPSS Statistical Version 23 and ArcGIS 10.3.1 for geographical data. **RESULTS:** Overweight/obesity rate was 33% among the adolescents with significant spending on food outlets within schools and less time for physical activity. 340 food outlets and 93 PA facilities were mapped into geographical information system. Spatial analysis showed that food outlets selling high energy density food and less vegetables/fruits could be found nearer to schools, while clusters of PA facilities were very dependent on residential settings. **DISCUSSION:** The findings may assist in improvement of current policies for food environment and physical activity for school-going adolescents through understanding of potential environmental factors that lead to obesity among adolescents.

KEYWORDS: obesogenic environment, adolescent health, food outlets, physical activity, obesity

Glycaemic Control and Management of Type 2 Diabetes Patients Across Public Health Clinics in Kedah

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ABSTRACT

INTRODUCTION: Prevalence of diabetes in Malaysia has increased over past decade, from 11.6% to 17.5%, which incur additional cost of MYR4.5 to 7.7 million annually. Generally, glycaemic control (HbA1c) of $\leq 6.5\%$ is recommended. In US, 34.1% T2DM patients with HbA1c level $\leq 7\%$. Non-adherence to treatment ranging from 7-64% worldwide causing diabetes difficult to manage. Kedah has the highest prevalence of diabetes in Malaysia based on findings from NHMS 2015. This study aimed to examine the glycaemic control and management of patients with type-2 diabetes mellitus (T2DM) across all the 58 public health clinics in Kedah, Malaysia. **METHODOLOGY:** This is a cross sectional study whereby, the data was obtained from the National Diabetes Registry, with patients selected using stratified random sampling. **RESULTS:** Of the 23,577 patients followed up at the clinics during August 2016 and July 2017, only 15.6% had a glycosylated haemoglobin (HbA1C) level $< 6.5\%$. Meanwhile, 28.6% of them did not have their HbA1C levels tested over the 12-month period. While retinopathy appeared as the most prevalent diabetes-related complication (12.6%), combination treatment (≥ 2 antidiabetic medications) was not used in nearly 30% of the patients with a HbA1C of 7.5-10.0%. Insulin therapy was also only given to 60.5% of those with a HbA1C $> 10.0\%$. **DISCUSSION:** Overall, the current management of T2DM patients at the primary care level in Kedah has been inadequate and warrants a revision.

KEYWORDS: Hypoglycaemic agents, insulin, Malaysia, primary health care, type 2 diabetes mellitus

Health Among Workers: The Relationship Between Job and Obesity

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ABSTRACT

INTRODUCTION: In 2018, the prevalence of obesity in Indonesian adult population was 21.8 percent; doubled compared to the past ten years. Several studies have shown that occupational factors can influence the incidence of obesity. The purpose of this study is to examine the relationship between the job and the incidence of obesity in workers. **METHODS:** This research is a quantitative study using a cross-sectional design with secondary data from the Indonesian Family Life Survey (IFLS) in 2014. The unit of analysis in this study is workers aged 18 years and over, for women not in a state of pregnancy. The inferential analysis is done using logistic regression. **RESULTS:** There is an association between job sectors and the incidence of obesity in workers. Service sector workers are 2.1 times more at risk of obesity when compared to agricultural sector workers, while industrial sector workers are 1.3 times more at risk of obesity compared to agricultural sector workers. Variables of gender, age, education level, and marital status are factors that together increase the risk of obesity in workers. **DISCUSSION:** Therefore, the role of the company/workplace is needed in maintaining health and reducing the possibility of obesity in workers.

KEYWORDS: obesity, job sectors, IFLS

Health Risk Attributed by Air Pollution in Klang Valley

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ABSTRACT

INTRODUCTION: Outdoor air pollution has become major health concern in every country, especially in urban areas. This study aimed to determine the air quality and its association with health risk among population in Klang Valley. **METHODS:** Outdoor air quality was obtained by secondary data provided by Department of Environment Malaysia (DOE). Cross-sectional study was conducted in October 2018 and health risk was assessed using Headache Impact Test-6 (HIT-6), Pittsburgh Sleep Quality Index (PSQI) and Center for Epidemiologic Studies - Depression Scale (CES-D). **RESULTS:** API data obtained from April 2017 until March 2018 showed that only 3.8% of the weeks having moderate air quality, which ranged 51-100, the remaining weeks were at healthy level. 266 participants were being recruited in this study with a mean (SD) age 32.5 (9.75), 26.3% were males and 73.7% females. HIT-6 scoring and sleep efficiency difficulty were found to be significantly associated ($p < 0.05$) with industrial area along the journal to workplace, majority of participant who doesn't travel through industrial area reported to have little to no impact of headache on life (50%) and no problem in falling asleep in night (41%). Three factors were found to be significantly associated ($p < 0.05$) with disturbance of sleep, namely frequency of wearing mask, mode of transportation and route to workplace. Similarly, depression level also found to be significantly associated ($p < 0.05$) with the factors mentioned above. **CONCLUSION:** Health risk attributed by air pollution can be reduced by modifying the frequency of wearing mask, mode of transportation and route to workplace.

KEYWORDS: air quality, Headache Impact Test-6 (HIT-6), Pittsburgh Sleep Quality Index (PSQI), Center for Epidemiologic Studies - Depression Scale (CES-D), klang valley

Heavy Metals in Angelicae Sinesis (Danggui) Consumed by Postpartum Mothers and Its Health Risk

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ABSTRACT

INTRODUCTION: Consumption of Chinese Herbal Medicine (CHMs) have escalated globally. They are preferred treatment for minor diseases or disorders. In Malaysia, CHMs are common home remedies during pregnancy and postpartum. *Angelicae Sinesis* (Danggui) is a staple CHMs during postpartum for purpose of nourishing blood and resolving stasis. Concerns are raised over possible heavy metals toxicity. Thus, this study aims to determine danggui consumption among postpartum mothers and its heavy metals concentrations, namely Lead (Pb), Cadmium (Cd), Arsenic (As) and Chromium (Cr). **METHODS:** This is a cross sectional questionnaire study involving 147 postpartum mothers. Samples were collected from nine districts in Kuala Lumpur (Segambut, Seputeh, Cheras, Kepong, Bandar Tun Razak, Titiwangsa, Setiawangsa, Batu and Lembah Pantai). Then, they were extracted using microwave digester and analysed using Inductively Coupled Plasma Mass Spectrometry (ICP-MS) in triplicates; totalling 27 samples. Non-carcinogenic health risks for herbal medicine consumption were calculated using Hazard Quotient (HQ). **RESULTS:** Danggui was consumed by 10.1% of mothers (n=15). Among them, incidence of jaundice was 73.3% and need for phototherapy was 46.7%. Heavy metals contaminations were found in the decreasing order of Cr>As>Pb>Cd with median(interquartile) of 3996.3 (2805.6) µg/kg, 128.3(56.7), 98.6(99.1) and 37.0(35.0) respectively. Only As had significant non-carcinogenic health risks in worst case scenario with HQ>1 eliciting possible adverse health effect. As is a confirmed human carcinogen and can induce skin, lung and bladder cancer. **CONCLUSION:** Alarming concentrations of heavy metals were quantified in danggui warranting for further investigation to safeguard health of postpartum mothers.

KEYWORDS: Angelicae Sinesis (Danggui), postpartum mothers, heavy metals exposure, non-carcinogenic health risk

High Screen Time Among Under-5 Children: Associated Factors

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ABSTRACT

INTRODUCTION: High screen time is a health risk behaviour that develops during the early years, and once established tends to remain stable in to middle childhood causing physical, psycho-social and development problems. National data shows that 52.2 % of Malaysian children under-5 had exceeded screen time recommendations. However, little is known about the factors influencing screen time in this age group. This study aims at describing the factors associated with high screen time among under-5 children. **METHODS:** A cross sectional study using self-administered questionnaires was conducted among 489 parent-child dyad attending child health clinics in Petaling, Selangor in May 2019. **RESULTS:** Prevalence of high screen time among under 5 children was 91.4% with a median of 3.00±3.68hours. Malay children had significantly higher odds of high screen time compared with other ethnicities. Parental screen time of >2hours a day (aOR: 2.42; 95%CI: 1.24, 4.73), Parents aged above 30 (aOR: 3.12; 95%CI: 1.58, 6.16), Parents lower self-efficacy to influence child's physical activity (aOR:2.29; 95%CI: 1.01, 5.20) and parental perception on influence of screen time on child's cognitive well-being (aOR: 1.152; 95%CI: 1.01, 1.32) were all positive predictors of their child's screen time. **DISCUSSION:** A significant proportion of high screen time among children under 5 was explained by parental factors. Interventions that aim to foster healthy screen time habits may be most effective when targeting parents.

KEYWORDS: High screen time, under-5, associated factors

HIV Among Gay Men in Malaysia: from Integrated Bio-Behavioural Survey 2014

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ABSTRACT

INTRODUCTION: HIV cases are high among the gay or known as men having sex with men (MSM). The aim of this study is to describe the socio-demographic and sexual behaviours of MSM in Malaysia and also to determine the prevalence of HIV among them. **METHODS:** A cross-sectional study was conducted between December 2014 and March 2015 in Kuala Lumpur, Johor, Penang and Sabah. The total sample recruited was 531 respondents using respondent-driven sampling **METHODS:** (RDS). Descriptive analyses were done using SPSS. **RESULTS:** Majority of MSM (47.8%) were less than 24 years old with median age of 25. 44.8% were Malays, unmarried (89.8%) and 4.9% were married to woman. 60% of the MSM have attained at least secondary school and 70.6% were employed. The median age of anal sex debut was 17 years old and the median duration of risk behaviour was 7 years. More than half of the respondents (55.3%) reported they have permanent partners, in which, 43.0% were male sexual partners, 11.6% female sexual partners and 2.6% transgender partners. As for condom and substance use, 56.7% reported they used condom during last anal sex. 38.7% reported they consumed alcohol and 19.3% used syabu before sex. 40.9% had HIV test in the last 12 months and 47.9% have adequate awareness on HIV. The prevalence of HIV among the MSM was 8.9% in Malaysia. **DISCUSSION:** HIV prevention efforts and enforcement on sexual education and awareness need to scale up to reduce the prevalence of HIV especially among the young people.

KEYWORDS: Integrated Bio-behavioural Survey, MSM, Malaysia

Household Food Insecurity and Its Determinants in the Rural Area of Central River Region, Gambia

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ABSTRACT

INTRODUCTION: Food insecurity is a major challenge for rural households in the Central River Region. However, little is known about its determinant's factors. The purpose of this study was to investigate the factors affecting household food security. **METHODS:** A cross-sectional study was conducted among 334 households who have been recruited through multistage random sampling in Gambia. Women, as a proxy to the household, consented for the study were then interviewed the Household Food Insecurity Access Scale (HFIAS) questionnaire. Data were analysed using SPSS version 24 and multiple logistic regression was conducted. **RESULT:** 334 households were included in this study. Three-quarters of the households (73.4%) were food insecure, 9.0% households mildly food insecure, 14.1% moderately food insecure and 50.3% severely food insecure. Female household headed (aOR: 4.8, 95%CI: 1.01, 5.84), household size of ≥ 7 members (aOR: 4.5, 95%CI: 1.18, 5.92), household income (aOR: 14.8, 95%CI: 3.74, 15.67), absence of livestock (aOR: 3.42, 95%CI: 1.21, 4.85), women's occupation (aOR: 10.5, 95%CI: 1.31, 14.47), spouse's occupation (aOR: 4.55, 95%CI: 2.08, 9.75), lack of financial assistance (aOR: 2.42, 95%CI: 1.03, 5.67) and lack of market access to food (aOR: 2.2, 95%CI: 1.18, 4.10), were factors associated with household food insecurity. **DISCUSSION:** This current study found that there was a high prevalence of household food insecurity in Central River Region, Gambia. Future studies are needed to provide evidence in another region of Gambia in order to generate policy so that measures are taken against this food insecurity problem.

KEYWORDS: food insecurity, prevalence, Gambia

Household Health-Related Expenditure and Poverty Impact of Chronic Hepatitis C Disease: Evidence from Malaysia

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ABSTRACT

INTRODUCTION: Chronic Hepatitis C virus (HCV) infection can incur high out-of-pocket (OOP) health-related expenditure, which may result in impoverishment. **METHODS:** This study aimed to describe the annual OOP expenditure among patients with various HCV-related disease states (non-cirrhotic chronic infection, compensated cirrhosis, decompensated cirrhosis and liver carcinoma) and the poverty impact following healthcare expenditure. This study was conducted in University Malaya Medical Centre (UMMC) through face-to-face interviews. Data on various household OOP expenditure related to clinical management of HCV disease states were gathered. Poverty impact was calculated as difference in poverty headcount and poverty gap before and after disease-related healthcare expenditures. **RESULTS:** The mean (SD) annual OOP expenditure for the studied households (n=135) was RM 5892(10405). The highest mean (SD) annual OOP expenditure was by patients with liver carcinoma at RM10172(16041) and the lowest expenditure was by patients with non-cirrhotic chronic HCV infection at RM1811(2504). The four main drivers for OOP expenditures were traditional and complementary medicine, antiviral treatment, clinical procedures and hospitalisation. OOP expenditures caused 18(13.3%) households to experience impoverishment. The income shortfall below the national poverty line was RM7054. **DISCUSSION:** Patients with advanced HCV-related disease states had higher health-related expenditure compared to those with early disease states, with OOP expenditure leading to impoverishment in a number of households. As this study was conducted in UMMC the charges can be higher than other public hospitals and reflected in the findings. These findings can be useful to inform future policies to minimise the financial impact of chronic HCV disease on the patients and their households.

KEYWORDS: hepatitis C, household expenditure, Malaysia, Out-of-pocket (OOP), poverty impact

How Do We Conduct Measles Supplementary Immunization Activities? Experience of Titiwangsa Health Office, Kuala Lumpur

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ABSTRACT

Supplementary immunisation activities (SIAs) are vaccination campaigns that supplement routine vaccination programs to ensure high levels of immunisation coverage. The incidence of Measles in Titiwangsa has risen from 29 cases in 2016 to 51 in 2017. In 2018, a total of 61 positive measles cases were detected. To combat the rising number of cases, SIAs were piloted in Titiwangsa Health Office. It was conducted for six months period from September 2018 to Mac 2019 among children aged 6 months to less than seven years old in the areas identified with Measles Risk Assessment above 50%. Monovalent measles supplementary vaccination was given via three approaches namely (1) health clinics, (2) door to door, and (3) kindergarten and pre-school. Health clinic strategy considered children who came to the maternal and child health clinic for routine check-up and vaccination. Door to door strategy targeted the high-risk localities for measles includes cluster or outbreak areas, and high population density of foreigners and anti-vaccination groups. Community leaders were approached, and children surveys were conducted prior to SIAs. For kindergarten and pre-school strategy, all kindergarten or pre-school teachers were explained regarding the SIAs and consent forms were distributed beforehand. The vaccination was given to the children at kindergartens or pre-schools by our designated teams. SWOT analysis was done to identify the strengths and limitations of each strategy. The SIAs benefited the Titiwangsa Health Office by successfully reduced the number of measles cases as well as improved the immunisation coverage, especially in high-risk areas.

KEYWORDS: Supplementary Immunisation Activities, measles, measles vaccine, Titiwangsa Health Office

Human Brucellosis in Klang District: A Missing Chain

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ABSTRACT

INTRODUCTION: Brucellosis is the most widespread zoonosis that has important social and economic impact to the country. However, human brucellosis has been one of the most neglected disease. There are a knowledge and skill gap for diagnosis and a fragmented intervention measure for control and prevention by stakeholders. **METHODS:** A retrospective epidemiological study was conducted, including laboratory investigation. Data from investigation and laboratory results were reviewed and analysed. Conclusion was made of the possible risk and source of transmission of human brucellosis. **RESULTS:** A human brucellosis outbreak has been occurred among eight persons, having drink improper pasteurized goat milk from Farm M situated in Klang District in 2018 without related to occupational exposure. All seven cases detected through notifications from hospital and one through active case detection. A total of four cases (50.0%) were from Klang, three from Petaling (37.5%) and one from Sepang (12.5%), aged between 4 to 39 years old. The main symptoms include prolonged fever, body ache and headache. Epidemiological linkage and laboratory results have been proven that all cases and a focus of goats with positive *Brucella* were from farm M. A joint investigation between Communicable Disease Control Unit, Food Safety and Quality Unit and Veterinary Department was carried out and control and prevention measures taken. **DISCUSSION:** Human Brucellosis can be prevented effectively by elimination of animal reservoir, enforcement of Food Act 1983 and disclose a knowledge gap of better diagnostic tools and vaccines. These need a close collaboration between health department, veterinary department and local authorities.

KEYWORDS: brucellosis, human, intervention, enforcement

Impact of Climate Change on Riverine Flooding of Healthcare Facilities in Peninsular Malaysia

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ABSTRACT

INTRODUCTION: Climate change will increase the magnitude and frequency of extreme weather events and create risks that will impact health care facilities. Health care facilities (HCF) will need to assess climate change risks and adopt adaptive management strategies to be resilient. This study aims to project and identify HCF prone for riverine flooding due to climate change. **METHODS:** The HCFs were categorised as Community Health Clinics (CHCs), Primary Health Clinics (PHCs) and Hospitals. Projection of the 15 most vulnerable river basins in Peninsular Malaysia was done based on IPCC SRES-AR4 and Regional Hydroclimate Model of Peninsular Malaysia. A total of 1268 CHCs, 520 PHCs and 82 Hospitals were included in this study. HCFs in Sabah, Sarawak and Labuan were excluded. The current (baseline) and future flood assessments of 2030 and 2050 were carried out based on 100-year Return Period. **RESULTS:** At Baseline, 108 CHCs, 25 PHCs and two hospitals were projected to be flooded under the current flood modelling simulations. Flood projections at 2030 estimated 217 CHCs, 27 PHCs and three Hospitals being affected. There was an increase in the affected HCFs to 215 CHCs, 67 PHCs and 11 Hospitals in the future flood assessment at 2050, at various ranges of flood depth levels (FDL). **DISCUSSION:** Many HCFs have not been designed with extreme weather events like riverine flooding in consideration. This study enables stakeholders to assess vulnerability of flooding and plan adaptation measures in anticipation of the impact of climate change on riverine flooding affecting HCFs in Malaysia.

KEYWORDS: health care facility; climate change; modelling; riverine flooding; adaptation

Improving Public Health Through Melaka Healthy and Green City Initiatives: Review of 5-Years City Approach.

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ABSTRACT

INTRODUCTION: Melaka is one the fast-growing cities in Malaysia; rapid urbanisation leads to economic, social and physical environment changes. ‘Melaka Maju 2010’ was declared by state government following enhanced understandings on urbanisation challenges and opportunities. This paper is aimed to describe Melaka Initiatives in achieving a liveable, clean and green environment, and review public health improvement within 5-years evidence of achievement. **METHODS:** We did a narrative review based on ten-related documents about Melaka Initiatives of Healthy and Green City. Trend of selected diseases related with healthy and clean environment also being reviewed to emphasis the relationship. **RESULTS:** Nine programmes for Melaka Initiatives of Healthy and Green City were emerged in ensuring sustainability and achieving healthy city goals. Smart partnership concepts between government agencies and various stakeholders including local populations had support the momentum of approach. The programmes are Smart LED and Smart Meter Programme, Melaka Green Seal, 100 Resilience Cities, Melaka World Solar Plant, Green Information Communication Technology, Green Neighbourhood Gardening, Energy Performance Certificate, Bio-degradable Bag Programme. Co-benefits of such programmes were not only related to environmental impacts, also extended towards public health. Effects of clean environment towards vector borne diseases; review of 5-years median dengue cases showed decreasing trend. In addition, the convenience of pedestrian and cycling facilities, parks and playing fields, hence the propensity to take healthy exercise, therefore improving in non-communicable risks. **CONCLUSION:** The approaches and transitions to Melaka Healthy and Green City in 5-years had supported the economic, social and health of its populations.

KEYWORDS: urban health, healthy city, green initiative, public health

Is Malaria Knowlesi Really Confined Only at Rural Community?

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ABSTRACT

Plasmodium knowlesi is a zoonotic malaria that could infect between macaques and humans. The parasite is transmitted by a group of mosquitos that belongs to Anopheles group. Even though the number of human malaria cases in Malaysia has been significantly reduced for the past few decades, the emerging of this zoonotic malaria has become one of public health concern. The main natural hosts for this zoonotic malaria are long-tailed macaque (*Macaca fascicularis*) and pig-tailed macaque (*Macaca nemestrina*). Conventionally, many of this zoonotic malaria cases are reported from rural area. However, as human activities expand with urbanisation and deforestation, these macaques migrate and inhabit areas that are also inhabited by the humans. This ultimately leads to transmissions of *Plasmodium knowlesi*. Outbreaks of zoonotic malaria infection suggest the human-macaques interaction maybe closer than conventionally described. This is evidenced by two zoonotic malaria outbreaks that have occurred in an endemic area of Tampin District, Negeri Sembilan on two separate outbreaks in the same year. Enforcement activities too have led to the discovery of macaque being kept illegally in a populated housing premise. This article serves as an eye opener to public health sector on the epidemiology of emerging zoonotic malaria cases in urban areas.

KEYWORDS: Plasmodium knowlesi, zoonosis, malaria, macaque, Negeri Sembilan

Joint Effects of Serum Zinc with Red Meat Intake and Obesity on the Risk of Colorectal Cancer: A Case-Control Study

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ABSTRACT

BACKGROUND: High red meat intake, obesity and low level of zinc have been reportedly associated with colorectal cancer (CRC) risk. The aim of the present study was to explore the interaction between serum zinc with red meat intake and obesity on CRC risk. **METHODS:** Patients with CRC and the controls were recruited for the information on red meat intake, body mass index and blood sample. The serum samples of 204 patients of CRC and controls were analysed for Al, Zn and Co using Inductively Coupled Plasma Mass Spectrometer (ICPMS). Multiplicative interaction was assessed through a cross-product interaction term in a multiple logistic regression model. The presence of additive interaction was evaluated by calculation of the relative excess risk due to interaction (RERI) and attributable proportion due to interaction (AP). **RESULTS:** The odds ratios (ORs) of the serum zinc-red meat intake product term on a multiplicative scale in the univariate and multivariate models were 5.49 (95% confidence interval, 95%CI: 3.48, 8.65) and 0.53 (95%CI: 0.04, 7.34), respectively. There was also evidence for interaction on an additive scale; the RERI and AP in the univariate model were 0.27 (95%CI: 0.03, 0.50) and 0.92 (95%CI 0.83, 1.01), respectively. After adjusting for the potential confounders, the value of RERI 0.22(95%CI: -0.13, 0.57) and AP 0.95 (5%CI: 0.89, 1.03). While for obesity factor, the serum zinc-obesity product term on multiplicative scale were 3.68 (95%CI: 1.41, 9.57) in univariate model and 4.55 (95%CI: 0.33, 62.85) in multivariate model. The value of additive scale, RERI; 0.07(95%CI: -0.02 to 0.15), AP; 0.57(95%CI: 0.18, 0.97) in univariate model and RERI; 0.05(95%CI: -0.05, 0.15) and AP; 0.65 (95%CI: 0.04, 1.26) in multivariate model. **CONCLUSION:** Serum zinc and red meat intake interact strongly and synergistically influence the risk of CRC compare to obesity factor. Further investigations with big sample size are necessary for confirming this additive interaction.

KEYWORDS: CRC, Trace element, interaction, red meat, obese

Largest Acute Chemical Incident in Malaysia, March 2019: Opportunity to Assess the Preparedness and Response Capacity

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ABSTRACT

INTRODUCTION: Johor State reported Malaysia's largest chemical emergency from 7th to 20th March 2019, following illegal dumping of industrial toxic waste into a river. A total of 5,039 students and residents in the area were affected, with 1,228 hospitalised and 26 treated in Intensive Care Units with an incidence rate of 10.8%. No deaths were reported. Following the stand down, an After Action Review (AAR) was conducted to assess the chemical incident preparedness and response and identify strategies for improvement. **METHODS:** Facilitated focus group discussions among the key responders was undertaken by Ministry of Health to qualitatively review selected actions in response to this significant incident. The aim was to capture the response activities, determine strengths and weaknesses, and document lessons learned. The elements reviewed were coordination and communication, emergency response, laboratory functions, risk communication and case management. **RESULTS:** The existing Incident Management System functioned in-line with General Guideline on Disaster Management. Major successes were the effective multisectoral coordination, rapid emergency response and efficient patient management. Major challenges included: the chemicals were initially unknown, hence the lack of knowledge of the hazards and risks involved; inadequate use of PPE and decontamination procedures; limited laboratory capacities for testing chemicals; and delayed risk communication. **CONCLUSION:** The AAR identified strengths and areas that require improvement for better preparedness and response to a chemical emergency. An incident management protocol was developed specifically for handling chemical incidents. This addresses key areas such as information sharing, risk and crisis communication, enhanced laboratory capacities and building human skills through training and exercises.

KEYWORDS: Mass casualty, chemical incident, After Action Review (AAR), Lessons learned

Leprosy and Its Elimination Challenges in Marudi District, Sarawak

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ABSTRACT

INTRODUCTION: Leprosy is prevalent among the indigenous Penan population located in deep interiors between river basins in the Ulu Baram, Marudi District, and Sarawak. Strategy for disease elimination is through active case detections (ACD). It is performed annually through a 5-year elimination program (2015-2019). We aim to describe the ACDs performed in that period, its results and elimination challenges in Marudi District, Sarawak. **METHODS:** A cross sectional study of Marudi District, Sarawak involving 5-year surveillance data (2015-2019). Source of data is from manual and electronic surveillance system kept at Marudi District Health Office. Data was analysed and reported using descriptive analysis. **RESULTS:** The average incidence is 3.7 per 100,000 populations with a 5-year prevalence of 18.6 per 100,000 populations. 92% were males and 8% were females. Age ranges between 17-66 years with median 47 years old. 77% of the detected cases were multibacillary type and remaining 23% were paucibacillary. Total costs of ACDs were RM226,953. Among the cost by line items, 31.5% attributed to human resource, 66.6% to vehicle/boat rentals and 2.9% to consumable items. **DISCUSSION:** Leprosy is still endemic in interior parts of Marudi district, Sarawak. Low education level, lack of hygiene, malnutrition and poverty are the key determinants suspected for persistence of leprosy among the Penan ethnic minority. Significant cost and resources required to perform the tedious ACD strategy for disease elimination. **CONCLUSION:** Holistic approach targeting suspected key determinant of leprosy among the Penan ethnic minority must be adopted together with ACD activities for disease elimination strategy.

KEYWORDS: Leprosy, active case detection, Penan, elimination

Mental Health of Elderly Indonesian in One Person Household

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ABSTRACT

INTRODUCTION: In 2010, the elderly population in Indonesia amounted to 5% of the total population and increased to 5.4% in 2015. The 2015-2045 Indonesian population projection results show that by 2035, the elderly population in Indonesia will be 10.6%. Elderly people who are prosperous, healthy, educated and productive will contribute to the acceleration of economic growth. At present, the world and Asia in particular, including Indonesia, are experiencing demographic dynamics that can increase the prevalence of one person households. The elderly population compared to other age groups is very biologically and mentally prone due to the continuous ageing process which is characterised by a decrease in physical endurance and susceptibility to disease attacks. The purpose of this study was to determine the mental health of elderly people in one person households in Indonesia. **METHODS:** This study used data from the results of the Indonesian Happiness Level Survey (SPTK) 2017 and was analysed using a binary logistic regression model. **RESULTS:** The elderly population in one person households is less likely to be happy compared to non-one person households. The area of residence, occupation, level of education and income of the elderly population is positively associated with happiness for the elderly. The higher education and income, the happier. Older people who live in cities are happier than those who live in rural areas. **DISCUSSION:** Ageing support to increase the level of happiness of the elderly population should be based on living arrangements and increasing elderly-friendly facilities in rural areas.

KEYWORDS: Mental health, happiness, one person household, binary logistic regression

Mosquito Home System: A Case Study of Practical Model to Fight Aedes in Kedah, Malaysia

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ABSTRACT

INTRODUCTION: Dengue is a vector borne disease transmitted by Aedes mosquito. Preventing or reducing the virus transmission depends entirely on controlling the mosquito vectors. Transmission control activities should target Aedes in its immature stages (egg, larva and pupa) and adult stages in the household and immediate vicinity. This paper presents an alternative mechanism of combating this global disease by using an auto dissemination trap, called Mosquito Home System (MHS). **METHODS:** MHS is equipped with a special trade secret solution that is called as Insecticide Growth Regulator (IGR) is non-toxic, has a pheromone-like liquid formulation that is a chemical that serves to stimulate and have sexually attract the male and female that will attract and lure female mosquitoes to lay eggs in them, and will soon die after laying eggs. Those eggs that already laid with the chemical will not hatch or die at an expected 99% rate or go beyond the pulp level. This liquid prevents the food for the larvae into the water and in turn will kill the larvae. Once it lays eggs in the MHS, it kills the larvae and pulp in the new breeding ground. **RESULTS:** Data taken from October 2018 to April 2019 in Taman Ria, Sungai Petani, Kedah, Malaysia reveals that the decrease percentage of 82% on overall total number of Aedes eggs collected through MHS pots installed in that area. **DISCUSSION:** The MHS implementation in controlling dengue disease caused by Aedes mosquito could be enforced to the national and international level community.

KEYWORDS: Aedes mosquito, Mosquito Home System (MHS), fogging, Insecticide Growth Regulator (IGR), Aedes egg, pheromone

MRSA Outbreak at a Massage Parlour in Kuala Lumpur, 2019

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ABSTRACT

INTRODUCTION: On 30 January 2019, Lembah Pantai Health Office (LPHO) received a notification on positive MRSA cases among customers at a massage parlour in Kuala Lumpur. Investigations were commenced with objectives to establish the outbreak existence, to determine the epidemiological characteristics and to identify source of infection. **METHODS:** Investigation was focused on cases, environmental and laboratory investigation. All notified cases, employees (masseur) and the owner were investigated through phone or face to face interview. Environmental investigation and sample were taken to look for possible source of infection. Hand and nasal swab were taken from all available employees during investigation. **RESULTS:** Eleven customers were diagnosed to be positive MRSA with history of having foot massaged in the premise from Jun 2018. The first onset was on 19 Jun 2018, with symptoms of rashes with pus discharge and inflammation over their shin. All of them had seek treatment with eight being admitted at various private hospitals and diagnosed through laboratory investigations. Nasal swab from one-woman employee also positive for MRSA. Environmental investigation showed the massage area was crowded with chairs attach to each other and made from fabric. **DISCUSSION:** MRSA can be transmitted to other person through direct skin to skin contact or contacts with shared items or surfaces. As in this outbreak, the source of infection was believed to be from the masseur as a carrier. Prevention and control measures were already taken for both, the carrier and the premise.

KEYWORDS: MRSA, MRSA outbreak, massage parlour

Muscle Wasting: Are Malaysian Elderly at Risk?

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ABSTRACT

INTRODUCTION: Elderly aged more than 60 years old tend to be at risk for malnutrition. This may lead to various health and social problems including deterioration of quality of life. The aim of this study is to determine muscle wasting among elderly in Malaysia. **METHODS:** Data was obtained from the National Health and Morbidity Survey (NHMS) 2018: Elderly Health, a cross sectional study with two-stage stratified random sampling. A total of 3700 elderlies were involved in this study. Socio-demography was obtained using a self-administered questionnaire and calf circumference was used to identify individuals aged 60 years and above who were at risk of muscle wasting with cut-off values of <30.1cm for men and <27.3cm for women. Descriptive analysis using complex sample was performed for data analysis. **RESULTS:** Findings showed that a total of 477 elderlies were at risk of malnutrition or muscle wasting. The national prevalence of the risk of muscle wasting was 10.5% (95%CI: 9.01, 12.32). Rural areas (14.9%, 95%CI: 12.52, 17.60), males (11.9%, 95%CI: 9.91, 14.27), single (14.7%, 95%CI: 12.03, 17.81), had no formal education (17.1%, 95%CI: 13.43, 21.59), and unemployed (10.7%, 95%CI: 9.05, 12.50) were the highest among elderly who were at risk of muscle wasting. **CONCLUSION:** Therefore, although the prevalence of risk of muscle wasting was lower than previous studies, a systematic enable nutrition screening and appropriate intervention should be promoted to improve the health status of the elderly.

KEYWORDS: malnutrition, muscle wasting, elderly, Malaysia.

Perceptions of Social Norm Played an Important Role on the Occurrence Casual Sex Among Yi Minority Residents in China: A Population-Based Study

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ABSTRACT

INTRODUCTION: Liangshan is one of the areas severely affected by both HIV and poverty in China. Casual sex is extremely prevalent among Yi minority people in Liangshan. Social norms can be viewed as products of cultural values, customs or traditions, which are informal understanding that reflect common expectation of a certain behaviour. This study was to investigate prevalence of casual sex in lifetime and social norms associated with occurrence of casual sex. **METHODS:** A cross-sectional survey was conducted among a representative sample of sexually active Yi minority people between October 2017 and February 2018. 1616 individuals were recruited for participation in this study. **RESULTS:** Of the participants, 11.8% were confirmed to be HIV positive. About half of the participants (46.6%) had ever engaged in casual sex in their lifetime, 34.2% reported their first sexual intercourse occurred below 18 years old. The lifetime prevalence of condom-less sex and multiple sex partnerships was 92.5% and 56.7%; 9.4% reported injective drug use. All six perceptions of social norms were significantly associated with presence of casual sex in lifetime after adjusted for the background variables. Perceptions that casual sex was acceptable among Yi minority people (OR_m: 11.20) and Yi man can have more than one sex partner (OR_m: 1.66) remained statistically significant in the multivariate logistic regression model. **CONCLUSIONS:** Casual sex may play an important role in facilitating HIV transmission among Yi minority people. Future interventions should consider making use of Yi clan system to change perceptions of social norm related to casual sex.

KEYWORDS: social norm; casual sex; HIV transmission

Physical Frailty and Its Association with Fall Among Community-Dwelling Older Population

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ABSTRACT

INTRODUCTION: Falling event among the older population poses serious health problems. This is due to its implications which includes decrease in physical function thus restricted their daily life activities. As part of the frailty components, presence of unsteady gait and muscle weakness contributed towards frailty being one of significant predictor of fall. **METHODS:** This was a cross-sectional study among 2324 community-dwelling older adults aimed to determine the association between physical frailty and outcome on fall. **RESULTS:** Almost one-third of the frail individuals had falls in the past 12-months (29.8%, 95%CI: 23.9, 36.5) compared to pre-frail (17.4%, 95%CI: 15.2, 19.8) and robust (12.3%, 95%CI: 9.6, 15.6). More than half of the frail individuals reported having fear of falling (55.4%, 95%CI: 48.7, 61.9) whilst only 33.9%(95%CI: 30.0, 38.1) among pre-frail and 18.8%(95%CI: 15.3, 22.8) from robust. Furthermore, frail individuals were also reported the highest prevalence of having activities not done (41.7%, 95%CI: 30.1, 54.3) and stopped doing activities due to fear of falling (36.7% 95%CI: 25.9, 49.1) with much lower prevalence for both pre-frail and robust groups. Ultimately, this study showed that being frail significantly increased the likelihood of fall approximately two-fold higher than those from robust group (aOR:1.8, 95%CI: 1.2, 2.7). **CONCLUSION:** This study showed significant association between frailty and fall among the older population. Given that fall can be fatal with potentially causing further complications thus justifies the need to incorporate safety interventions to reduce falling event mainly among those frails.

KEYWORDS: Frailty, fall, older population, community-dwelling

Poor Sleep Quality Among Healthcare Workers Serving in Urban Area in Malaysia

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ABSTRACT

INTRODUCTION: Poor sleep quality is the collective terms for sleep disturbances, which may result in adverse health outcomes and poor work performance. Study had shown that 57.8% of healthcare workers (HCW) in an urban hospital in Malaysia suffered from poor sleep quality, which was much higher than the general population prevalence. This study aimed to explore the prevalence of poor sleep quality among clinic based HCW and its associated factors. **METHODS:** This study was part of a community trial conducted in ten health clinics within Gombak district by using self-administered questionnaires. **RESULTS:** Majority of the 256 respondents were female (81.3%), age group of 31-40 years (49.2%), married (81.6%) and diploma holders (39.8%). The prevalence of poor sleep quality among them was 41.0%. In term of sociodemographic characteristics, respondents' age, gender, marital status, ethnicity and education level did not have any significant association ($p>0.05$). As for employment characteristics, HCW who did overtime work ($\chi^2=6.392$, $p=0.011$) and had taken medical leave in the previous year ($\chi^2=8.003$, $p=0.005$) were significantly associated with poor sleep quality. The level of sleep hygiene practice among HCW, namely sleep scheduling (OR: 1.23, 95%CI: 1.15, 1.30, $p<0.001$), arousal related behaviour (OR: 1.26, 95%CI: 1.19, 1.34, $p<0.001$), dietary behaviours (OR: 1.19, 95%CI: 1.09, 1.30, $p<0.001$), and sleep environment (OR: 1.09, 95%CI: 1.06, 1.11, $p<0.001$) were significantly associated with poor sleep quality. **DISCUSSION:** The prevalence of poor sleep quality among HCW in this study is high. Intervention program such as sleep hygiene education is important to improve HCW's sleep quality to prevent negative effects due to poor sleep.

KEYWORDS: poor sleep quality, urban healthcare workers

Risk Factors of Undernutrition Among Children Under 5 Years Old in Jerantut, Pahang: A Case-Control Study

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ABSTRACT

INTRODUCTION: There are nearly 815 million people who are chronically undernourished, which contributes to an estimated 3.1 million deaths annually. The National Health and Morbidity Survey (NHMS) 2015 reported that 8% of children suffer from undernutrition. In Jerantut, the prevalence of under-nutrition among children below the age of 5 was 5.67%. This study aims to determine the risk factors associated with undernutrition among children below 5 years old in Jerantut, Pahang. **METHODS:** A case-control study design was conducted in March 2019. The case dealt with a child suffering from moderate to severe undernutrition with a z-score < -2SD from the median baseline recommended by World Health Organization (WHO) in 2017. The control patient in this case study was a child without undernutrition, with z-score above -2SD. Secondary data from the antenatal book and children's health records were used. Multivariate logistic regression analysis was conducted using SPSS 25.0 for Windows. **RESULTS:** A total of 226 respondents amounting to 113 cases and 113 controls were selected. It was found that risk of undernutrition was significantly associated with low household income (aOR: 6.52, 95%CI: 1.81, 23.53), low birth weight (aOR: 6.25, 95%CI: 1.17, 33.30), recurrent illness for acute gastroenteritis (AGE) (aOR: 3.32, 95%CI: 1.07, 10.27) and for upper respiratory tract infection (URTI) (aOR: 6.05, 95%CI: 3.06, 11.94). The daily consumption of fruits or vegetables is a protective factor for undernutrition (aOR: 0.48, 95%CI: 0.25, 0.92). **CONCLUSION:** Low birth weight, low household income, recurrent AGE and URTI were noted as significant risk factors associated with undernutrition. Daily consumption of fruits or vegetables is a protective factor for undernutrition.

KEYWORDS: Undernutrition, PPKZM, Risk Factors, Jerantut

Sarawak Pregnant Women re Iodine Deficient Despite Adequate Iodine Intake Among School-Age Children

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ABSTRACT

INTRODUCTION: The universal salt iodisation (USI) has been implemented to control the iodine deficiency disorders (IDD) in many countries. However, several studies conducted among school-age children (SAC) and pregnant women (PW) found that adequate iodine status in SAC may not reflect adequate iodine status in PW. The aim of this study was to assess the current iodine status among SAC and PW after 10 years of USI in Sarawak. **METHODS:** This cross-sectional survey among SAC and PW was conducted between July 2018 and October 2018. A proportion to population size sampling technique was used to select 30 schools and 30 maternal and child healthcare clinics. A total of 1200 SAC and 750 PW were randomly selected to participate in the study. Thyroid size and urinary iodine concentration (UIC) level was classified according to the WHO/UNICEF/ICCIDD assessment criteria. **RESULTS:** A total of 988 SAC and 677 PW participated in the study with response rates of 82.3% and 90.2%, respectively. The total goitre rate (TGR) was found to be 0.1% in SAC and 1.0% in PW. The overall median UIC level among the SAC was 126.0µg/L (IQR: 71.0, 200.9µg/L), classified as adequate iodine intake, while the median UIC among PW was 123.9µg/L (IQR: 56.5, 192.1µg/L), classified as insufficient. **CONCLUSION:** The present findings indicate that despite adequate iodine intake in SAC, the majority of PW still showed insufficient iodine intake. Thus, a comprehensive monitoring of the IDD among PW and appropriate nutrition education is warranted.

KEYWORDS: universal salt iodisation, school-age children, pregnant women, Sarawak

Screening and Referral Services for Hypertension: A Community-Based Intervention in Myanmar

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HelpAge International

ABSTRACT

INTRODUCTION: Raised blood pressure (BP) or hypertension (HPT) is the most common condition observed in the population that can lead to cardiac arrest, stroke, renal failure, and death if not detected early and treated appropriately. 36.9% of adult population were never been measured their blood pressure although 26.4% of adult population have detected as raised blood pressure in Myanmar. **OBJECTIVE:** This study aimed to find the undetected case of raised blood pressure or hypertension among over 40 years old population in urban community. **METHODS:** Data collection was carried out by inclusive self-help group members by using mobile data collection Methods named as “KoBo Collect” software and measuring respondents’ blood pressure with standardised BP machine. **RESULTS:** 2362 community members accepted to screen their blood pressure. 18% of screening people were detected as high blood pressure and 34% were undetected. 77.8% in 40-64, 16.7% in 65-79, 5.6% are 80 years and above. **DISCUSSION:** These finding suggest that community-based screening model for Hypertension should be used to get early screening and referral to Health facility for only diagnosis and treatment. By using community-based screening model could be use in primary health care services (1) community members change better health care seeking behaviours by providing awareness. (2) reduce the complications associated with Hypertension by early screening, diagnosis and treatment with minimum cost. (3) enhancing community participation in disease prevention and control activities. (4) reducing workload of primary health care providers in screening and gathering patient data.

KEYWORDS: hypertension, screening, referral, urban community

Self-Rated Health and Disability Among Elderly Migrant: How Does It Differ Across Return and Non-Return Migrants?

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ABSTRACT

INTRODUCTION: Elderly return migrants are failed migrants. Studies show lower education, living alone, depending on social security, and original place was metropolitan cities, and inter-province are characteristic of elderly return migrants. On the other hand, the elderly population, inter-province, and migration experience are negatively associated with health indicators. This study discusses differences in health status and disability between recent elderly return and non-return migrants in Indonesia, controlled by individual characteristic and regional area. **METHODS:** This study used an ordered logit model with sample data of 1916 elderly Indonesian migrants from Indonesian Intercensal Survey (SUPAS) 2015. **RESULTS:** Elderly return migrants were healthier compared to non-return migrant. Return migrants were negatively associated with health complaints, concentration difficulties, communication difficulties and unable to taking care their-self, but it is not significant to have emotional and physical difficulties (seeing, listening, walking/climbing stairs, and using hands/finger). Meanwhile, there were strong positive effects of age (75+years) and financial source (family transfer) on these dependent variables. Higher levels of education and destinations area (Sumatra and Java-Bali) were less likely to have health complaints. The elderly non-return migrants were less likely to be able taking care their-self which appropriate with their reason for moving (following family). **DISCUSSION:** Elderly health care policies could refer to migration patterns (non-return and returns migration), economic characteristics, and destination areas because they were critical objective factors to determine the health status of elderly migrants.

KEYWORDS: elderly migrant, return migrant, health, disable

Sugar Tax: Could It Significantly Alter Malaysian Food Behaviour?

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ABSTRACT

INTRODUCTION: In the 2019 Budget speech, the Finance Minister announced the implementation of the excise tax on two categories of sugar-sweetened beverages starting from April 1st, 2019 (now postponed to July 1st), at the rate of RM0.40 per litre. The targets are manufactured ready-to-drink beverages including carbonated and flavoured drinks containing sugars more than 5g per 100ml, or fruit juices and vegetable-based drinks exceeding 12g per 100ml. It was stated in the government's intention to promote 'healthy eating and lifestyle' and reduce the prevalence of overweight or obese Malaysians. With these objectives in mind, this study explores what could be the impact of the Sugar Tax policy to public health. **METHODS:** Taking into accounts of the evidence found in the NHMS 2014 (Malaysian Adult Nutrition Survey), NHMS 2017 (Adolescent Health Survey) and Household Expenditure Survey 2016, prevalence, frequencies and money spent on such targeted beverages and other sugar-rich food items are analysed against the potential tax impact on food consumption behaviour and expenditure. **RESULTS:** Assuming Malaysian's behaviour is unchanged since 2014, on average the Federal Government would collect at most RM9.71 per sweetened drinks consumer per month. If a B40 household of 4 members display similar behaviour, then it would cost them more than double the monthly average household non-alcoholic beverages expenditure. **CONCLUSION:** This study finds the Sugar Tax to be regressive towards the lower income households, however they could probably still afford to resume their old consumption habit since the effect of the excise tax might be just marginal.

KEYWORDS: sugar tax, sugar-sweetened beverages, food consumption, food behaviour, healthy lifestyle

Supplementary Immunisation Activities in Titiwangsa Health Office: A Preliminary Findings

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ABSTRACT

INTRODUCTION: Malaysia has adopted a goal for measles elimination by 2025. Measles control strategies such as supplementary immunisation activities (SIAs) are needed to achieve optimal immunisation coverage. Titiwangsa Health Office was identified as a pilot project for measles-SIAs in Health Department of Federal Territory Kuala Lumpur and Putrajaya based on the measles risk assessment. **METHODS:** Data on the SIAs conducted in Titiwangsa Health Office from September 2018 to Mac 2019 was analysed. **RESULTS:** A total of 13,804 children age range between six months to less than 7 years old were found during the SIAs. Of these 19,519 (89.34%) were vaccinated with monovalent measles vaccine. The number was higher among children in kindergartens and pre-schools (n=6388), followed by clinics (n=11,984) and door to door (n=1147). About 204 who missed their routine immunisation were vaccinated with DTaP (52.9%), MMR (29.9%) and Hep B (17.2%). Absent and incomplete consent form were the main reasons for not vaccinating them during the SIAs. Also, there was a reduction of number of measles cases before and after the SIAs. **CONCLUSION:** SIAs have made a substantial contribution to reduce number of measles cases as well as reaching children missed by routine vaccination program. The ongoing SIAs will be completed in August 2019.

KEYWORDS: Supplementary immunisation activities, Titiwangsa Health Office, measles vaccine, measles

The Association of Husband's Nutrition Knowledge and Support to The Maternal Nutritional Status and Health Seeking Behaviour

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ABSTRACT

INTRODUCTION: Maternal nutrition and practice play significant roles in improving health outcomes for both mother and child. Globally and in the Philippines, men greatly influence household decision including antenatal care, nutrition and workload during pregnancy, and health care for children. The study aimed to determine the association of husband's nutrition knowledge and emotional and financial support to the maternal nutritional status and health-seeking behavior. **METHODS:** A correlational research utilizing the enumerative sampling technique was conducted. A total of 160 respondents or 80 married couples participated from selected municipalities in the Philippines. Adapted questionnaires and forms were used to assess the husband's nutrition knowledge and financial and emotional support as well as the nutritional status and health-seeking behavior of the maternal woman. Linear and ordinal regression analysis were used to determine the significant association between variables. **RESULTS:** Results showed that husband's nutrition knowledge ($p < 0.001$) financial ($p = 0.082$) and emotional support ($p = 0.060$) have significant association to maternal nutritional status and health-seeking behavior. Further, husband's nutrition knowledge significantly affects protein intake ($p = 0.055$). **DISCUSSION:** Findings of the study revealed that husband's nutrition knowledge and support may have an impact on maternal nutritional status and health-seeking behavior. This suggests that involving fathers in maternal and child health program in the Philippines may empower women and improve their maternal practices. This may also increase husband's awareness about their importance in achieving optimal nutrition of both mother and the child particularly for the first 1000 days.

KEYWORDS: Nutrition Knowledge, Financial Support, Emotional Support, Maternal Nutritional Status, Health-seeking Behavior

The Effect of Temperature on The Development of Immature Stages of Aedes Spp. Against Breeding Containers

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ABSTRACT

Temperature is often identified as the main environmental factor affecting the growth of the mosquito population. It is important to study the effect of temperature on the life parameters of *Aedes albopictus* and *Aedes aegypti* in the local environment using the local strains. This will subsequently provide an in-depth understanding on the biology of *Aedes* mosquitoes which will eventually affect the transmission of dengue viruses directly to human. In this study, we examined the effect of constant temperatures (25°C, 27°C, 30°C and 33°C) on the developmental period of local *Aedes albopictus* and *Aedes aegypti* strains using environmental chambers. Two categories of the containers (artificial - a glass jar, tire and plastic cup and natural - coconut shell) were used to examine the association of the types of containers to the development of both *Aedes albopictus* and *Aedes aegypti*. Based on the developmental data, it was found that the increase in temperature reduced the developmental period of the mosquito except for the first instar larvae. In addition, both strains were found to be able to develop and survive at all selected temperatures up to 33°C. In terms of the types of breeding containers, shortest development was recorded in the coconut shells, followed by tires, glass jars and plastic cups for both *Aedes* species. These findings provided valuable baseline information on the potential effects of climate change on the bionomics of *Aedes albopictus* and *Aedes aegypti* in future projection of *Aedes* density towards an improve vector control.

KEYWORDS: temperature; climate; *Aedes*; *albopictus*; *aegypti*; development; survival; humidity; breeding container.

The Effectiveness of WhatsApp and Instagram as SADARI Health Promotion Media to Prevent Breast Cancer

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ABSTRACT

INTRODUCTION: The incidence of breast cancer in West Sumatra Province, Indonesia ranks third out of 34 provinces in Indonesia, with an estimated number of 2,285 breast cancer patients. Based on the initial study, 18 out of 30 female students learned about the term Breast Self Examination (SADARI), but 14 people have never done SADARI. Health promotion innovation by utilizing technology is needed to improve the students' awareness in reducing the incidence of breast cancer. This study aims to measure the effect of SADARI health promotion through WhatsApp and Instagram social media on increasing knowledge, attitudes, and perceptions of the usefulness of technology in Andalas University students. **METHODS:** Quasi experiment study with a non-equivalent pretest post test design approach to female students in non-medical faculty of Andalas University, which are divided into health promotion recipients using WhatsApp dan Instagram. **RESULTS:** There are differences in the average score of knowledge, attitudes, and perceptions of the usefulness of the respondents technology before and after SADARI health promotion using WhatsApp and Instagram social media ($p < 0.05$). The results of statistical tests show that the knowledge, attitudes and perceptions of the usefulness of technology respondents in WhatsApp group are higher than the Instagram group ($p < 0.05$). **DISCUSSION:** Health promotion using WhatsApp is more effective than Instagram. It is recommended to use WhatsApp and Instagram as an alternative SADARI health promotion media.

KEYWORDS: Health promotion, SADARI, WhatsApp, Instagram

The Evolution of Cervical Cancer Control Program in Malaysia

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ABSTRACT

INTRODUCTION: Cervical cancer is the leading cause of mortality among women worldwide. However, it is one of the most preventable and treatable forms of cancer, as long as detected early and managed effectively. **METHODS:** The performances of pap smear services were analysed through the annual data and report of pap smear services from all the states. It was later mapped with the latest incidence of cervical cancer in Malaysia to see the impact of the program. **RESULT:** In 1996, the second National Health and Morbidity Survey (NHMS II) revealed that only 26% of eligible women underwent cervical cancer screening using Pap smears while in 2006 (NHMS III) this proportion had doubled to 43.7%. However, five (5) years later, the NHMS 2011 reported that only 12.8% of eligible women had Pap smear examination. The MOH pap smear screening target was set at 40% of eligible women. The performance for the past 5 years (2013-2017) was on average 25%. There were multifactorial reasons for the poor uptake and the coverage of the program. **CONCLUSION:** With the success of a national HPV vaccination program, MOH recognises the need to review our national cervical screening program. While HPV vaccination will not remove the necessity for cervical screening, there is a need to change to a more effective screening modality that aligned with current international evidence.

KEYWORDS: cervical screening, cancer, effective

The Experience of Caregivers in Accessing Oral Health Care Facilities for Cerebral Palsy Children: A Qualitative Study

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ABSTRACT

INTRODUCTION: Maintaining oral health (OH) is a major issue among children with cerebral palsy (CP) due to various factors and one of them having barriers in accessing OH services. This study explored the experience of the caregivers on accessibility towards OH services for their children with cerebral palsy (CP) in Kota Bharu, Kelantan. **METHODS:** A purposive sampling was utilised, audio-recorded in-depth interview conducted on ten CP's caregivers in this qualitative phenomenology study. Transcribed verbatim were reviewed, NVivo used in developing themes and facilitate data management. **RESULTS:** Ten CP's caregivers aged 32-60 years participated, mostly from low socio-economic status, low level of education and the children with CP predominantly in Gross Motor Function Classification System IV. From ten verbatim transcripts, five themes have emerged; dental experience (unable to identify and express dental problem), family support (sole primary caregiver, poor relationship among family), mobility (lack of transportation, facility not disabled friendly), ability to pay (financial constraints) and social value (stigma, marginalised by surrounding). **DISCUSSION:** OH literacy, appropriate OH services, OH outreach programme and future OH home services, suggesting promoting the ability in accessing OH facility. Highly dependent children with CP needs physical support however unsupportive interactions amongst family jeopardized their dental needs. Social support will assist CP's caregiver in parenting duty however poor social support, restriction on mobility and costly basic necessities could detrimental their OH need. Therefore, attentions are needed to address related barrier factors that are impeding access of CP children to OH facilities.

KEYWORDS: cerebral palsy, qualitative research, oral health service accessibility

The Fate of Being Sandwich Generation: How the Children's Health in Three Generation?

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ABSTRACT

INTRODUCTION: Along with the increasing demographic trends in the past few years, such as increasing life expectancy and decreasing fertility, attention to a sandwich generation where middle-aged people care for young people and elderly parents simultaneously also increased, although in fact in Indonesia the phenomenon is not a strange thing. Many studies have conducted research on the impact of being in the position of a squeezed generation, both in terms of health, employment, expenditure and so on. However, on the contrary, this study focuses on the health of the child which is likened to the stack of a sandwich at the bottom layer. This study compares the health of children who are in sandwich generation with those who are not in that position. **METHODS:** This study used panel data from IFLS in 2007 and 2014 with a unit of analysis of 6,886 children aged 0 to 18 years. This study used Multinomial Logistic Regression in panel data, with BMI and Hemoglobin Levels as child health variables and sandwich generation dummy as the main independent variables, while the control variables used household characteristics, parental characteristics, and child characteristics. **RESULTS:** being in the sandwich generation significantly affected the child's BMI ($\beta = -0.0194139$, $p = 0.075$) and significantly affected the child's Haemoglobin Level ($\beta = 0.0241834$, $p = 0.035$). **DISCUSSION:** Therefore, the health of children in three generations is important to be noticed, especially when Indonesia is in aging societies for the next 20 to 30 years.

KEYWORDS: Children's Health; BMI; BMR; Sandwich Generation; IFLS

The Implementation of Traditional Minangkabau Makan Bajamba to Improve the Nutritional Status of Malnourished Toddlers in a PHC at Padang, Indonesia

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ABSTRACT

INTRODUCTION: Malnutrition is a major health problem in Indonesia, especially in toddlers. In 2015, 6.3% of toddlers in Lambung Bukit, West Sumatera, were malnourished. Makan bajamba, a practice that derives from the culture of the Minangkabau, is proposed as a solution to this problem. The purpose of this study is to evaluate the impact of Makan Bajamba in improving the nutritional status of malnourished toddlers. **METHODS:** The study was conducted at a PHC with a Pos Gizi program where children were fed using the Makan Bajamba. **METHODS:** accompanied by parental counseling and instruction about nutrition and parenting practices for 12 days. The sample population consisted of 12 toddlers who met the inclusion and exclusion criteria. Toddlers who gained ≥ 400 grams and had improved nutritional status were determined to have completed the program, while those that did not were assigned to the next Pos Gizi. **RESULTS:** Of 12 participants, four dropped out, and six completed the program. The mothers' knowledge increased between 51% and 68.1%. Their parenting skills increased between 62.4% and 72.9%. **DISCUSSION:** Implementation of Makan Bajamba is effective in improving the nutritional status of malnourished toddlers. As an adjunct to this activity, mother's knowledge about nutrition and parenting skills increased significantly.

KEYWORDS: Makan bajamba, Malnutrition, Pos Gizi

The Importance of Maternal Mental Health for Children

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ABSTRACT

INTRODUCTION: Several studies suggested that household income was not the most important factor in determining the quality of their children. It seems that family income did not affect directly to the quality of the children but by means of behavioural parenting of the parents based on their psychological condition. Several studies found that parental depression could affect both positive and negative impact on the quality of the children. This research aims to know the influence of mother depression and father depression against cognitive score of children in Indonesia. **METHODS:** This study used the data from IFLS 2014 with the unit of analysis of children aged 7 to 14 years old who still have both parents. The number of samples in this study amounted to 5,474 children. This study used a regression model of OLS analysis methods with the children's cognitive score as the dependent variable and father depression score and mother depression score as the main variables. **RESULTS:** Mother depression had a significant effect on children's cognitive score ($\beta = -0,004874$, $p = 0,043$) in which the higher mother depression associated with the lower child cognitive score. It means that the nurturing which the mother gave to her children was an important factor to determine the quality of the children compared to the nurturing the father gave. Hopefully this research could be contributed to the policy makers and families in order to pay attention to the mental wellbeing of the mother so that the quality of children would increase.

KEYWORDS: parental depression, mental health, cognitive

The Impoverishment Due to Direct Tobacco Expenditure in Malaysia

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ABSTRACT

INTRODUCTION: Tobacco-smoking does not only incur adverse health-related financial impacts but also non-health financial and welfare impacts. One of the non-health impacts is impoverishment attributed to direct tobacco expenditure. Hence, this study examined the impoverishment attributed to direct tobacco expenditure in Malaysia from 1993 to 2014. **METHODS** This study utilised five series of nationally representative data from the Household Expenditure Survey (HES) and poverty line index (PLI) officially released by Malaysian Economic Planning Unit to classify the poverty status of households. Individual PLI was used to determine number of household members impoverished due to direct tobacco expenditure. **RESULTS** Overall, the impoverishment from direct tobacco expenditure is persistently present at five points of time in Malaysia, however, increases in the estimate of impoverishment had reduced from 1.08% in 1993 to 0.01% in 2014. By the number of individuals per se, there were 184,240 persons affected in 1993 which gradually reduced to 3,443 persons in 2014. A declining trend in impoverishment due to direct tobacco expenditure was also observed in all three regions, both urban and rural strata and all ethnicities in Malaysia. **CONCLUSION:** In conclusion, the increases in the estimation of impoverishment due to direct tobacco expenditure have been reducing from 1993 to 2014. If this finding is interpreted along with the persistently high prevalence of tobacco-smoking in Malaysia especially the adult male complemented with the gradual increasing tobacco taxes, we postulated that the tobacco could be still affordable, or the rate of income growth has exceeded the price increase of tobacco products.

KEYWORDS: Impoverishment, tobacco expenditure, tobacco-smoking

The Prevention of TB-MDR Risk for Newly Diagnosed Tuberculosis Patient Using Face to Face Health Education

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ABSTRACT

INTRODUCTION: The high incidence of MDR-TB in the community is due to the lack of socialization or provision of health education about MDR-TB. So far, health education has only focused on TB generally. The purpose of this study was to determine the effect of health education on the preventive behavior of MDR-TB in pulmonary TB patients in the Padang Health Center. **METHODS:** The design of this study was quasi-experiment with the design of pre and posttest without a control group. The sample in this study were 29 people with TB who are at the beginning of the treatment phase, using a purposive sampling technique. Data collection use questionnaires, and the health education was provided in 2 sessions using a face-to-face with flipchart, booklets, and videos as media. Analysis of data in this study using the T-Test statistical test. **RESULTS:** The results showed the significance of knowledge $p\text{-value} = 0,000$ ($p \leq 0.05$), attitude $p\text{-value} = 0,000$ ($p \leq 0.05$), and the action of taking medicine more than most (65.5%) regularly took TB medication, indicating that there was an effect of providing health education on the prevention behavior of MDR-TB in pulmonary TB patients. **DISCUSSION:** It is expected that the provision of health education on the prevention behavior of MDR-TB is more emphasized by the motivation and self-efficacy of pulmonary TB sufferers, and in the provision of health education it is expected to be able to involve PMO and health workers actively.

KEYWORDS: Drug-resistant TB, Knowledge, Attitude, preventive measure

The Relationship Between Specific Nutrient Intake with Prevalence of Stunting Among Schoolchildren, in Padang, West-Sumatera, Indonesia

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ABSTRACT

BACKGROUND: Stunting is a nutritional problem and most commonly found in children in Indonesia. Deficiencies of specific nutrients such as protein, calcium, phosphorus, vitamin C and magnesium are thought to be related to stunting. **OBJECTIVE:** The objective of this study was to look the relationship between Specific Nutrient Intake with Prevalence of Stunting Among Schoolchildren, in Padang, West Sumatera, Indonesia. **METHODS:** A cross-sectional survey was conducted among 232 children (6-7 years) randomly selected from eight primary schools in Padang City. The data were collected by measuring the height of children using microtois, stunting determined by TB / age and make use of diagrams WHO-NCHS, and to assess specific nutrient intake using food frequency questionnaire (FFQ) and nutrisurvey programme. The data was processed using a computer and analysed using T-Test and Mann-Whitney U. **RESULTS:** This study shows that average protein intake, calcium, phosphor, vitamin C, Magnesium and zinc in normal children are 86.58±34.82g/day, 524,25±37, 74.25mg/day, 1366.00±704.29mg/day, 86.07±50.19mg/hr, 285.19±110.25mg/hr, Zinc are 8,18±2,22mg/day and in stunting children are 80.24±24.87g/day, 361±57.85mg/day, 1228.74±81.50mg/day, 98.76±45.91mg/day, 284.91±85.21mg/day, zinc 7.87±2.88mg/day. There was a significant mean difference of intake proteins and zinc between normal children and stunting children (p=0.04), but not with other nutrient intakes (p>0.05). **CONCLUSION:** This study showed that intake proteins and zinc are related to the incidence of stunting Among School children, in Padang, West Sumatera, Indonesia.

KEYWORDS: nutritional problem, stunting, specific nutrients, schoolchildren

The Rise of Public Health 2.0: An Infodemiological Study of Stroke Using Google Trends Search Queries in Malaysia

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ABSTRACT

INTRODUCTION: The dawn of “infodemiology” facilitates real time information seeking behavior to be available through data-mining within health Web 2.0. This investigation aimed to explore real time virtual health seeking information behaviors through geospatial-temporal patterns of search volumes in user-specified terms. **METHODS:** Fifteen-year retrospective web-based infodemiological data using Google Trends with filters ‘Malaysia,’ ‘Health,’ and ‘Web’ from January 2004-March 2019. Principal and related terms of “stroke” were included. Trends and geo-mapping of health seeking behaviors with autocorrelations, partial autocorrelations were computed through R and Wessa Time Series Function (95%CI: set as white noise). Pearson correlation was calculated using SPSS version 23.0. Statistical significance was set at p<0.05. **RESULTS:** Analysis yielded 6282 validated hits to conceptualize Malaysia’s “STROKE 2.0.” Search volume showed cyclical trend with irregular patterns. Autocorrelation reported statistically significant scores. Stroke-related search terms included “stroke and brain” (r=0.25; p=0.001), “stroke and signs” (r=0.16; p=0.034), “stroke and family history” (r=0.41; p<0.001). Geo-mapping with highest regions of flux volumes included Kelantan (100), Perlis (67), Negeri Sembilan (63), Kuala Lumpur (55) and Terengganu (54). Top five flux volumes across cities included Kota Bharu (100), Batu Caves (67), Seremban (56), Kuala Terengganu (50) and Sungai Petani (48). Query volumes were normalized. **DISCUSSION:** “STROKE 2.0” connotes health seeking behaviors focused on disease characteristics rather than treatment/preventions. Flux behaviors were dense in low socio-economic regions compared to metropolitans. We fostered new epidemiological approach, complementing classical epidemiology to provide contexts realities data on stroke. This accelerates policy drafting for preventive measures.

KEYWORDS: Infodemiology, Google Trends, Digital Epidemiology, Stroke 2.0, Malaysia

The Risk Assessment on The Event of Illegal Chemical Dumping and Leakage in Sungai Lalang, Semenyih

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ABSTRACT

INTRODUCTION: A hazardous unknown chemical drum was reported illegally dumped and leak near the industrial area in Sungai Lalang, Semenyih Selangor. Initially, the report was made by nearby factory workers. The District Disaster Management Committee was activated. The Department of Environment and the chemical, biological, nuclear, radiation and explosion (CBNRe) team lead the investigating of this event. **METHODS:** Risk assessment was done together with multi-agencies involvement. Various laboratory samples were taken including a nearby sample from the leaked chemical drum, river water, soil, and air sampling were done. Mixed methods study designs were conducted for medical surveillance in the affected area. **RESULTS:** and discussion A total of 191 drums, in which 127 drums contained unknown chemical while the other 64 drums were emptily disposed of by The Kualiti Alam company. A preliminary result from the rapid test of the chemical was organic hydrocarbon which commonly used as a solvent. Medical surveillance among workers stay at red zone area was done, only three (3) workers seek medical attention and were managed as an outpatient. The common symptoms were cough and sore throat. Based on the risk rating, the risk of this events falls into high risk category. **CONCLUSION:** Collaboration with multiple agencies with good coordination is important in managing chemical pollutant. In term of risk assessment, multiple parameters including a sample from the environmental and medical surveillance are important to assess the severity of the event subsequently to come out with mitigation plan and follow up after the event.

KEYWORDS: Solvent, hydrocarbon, risk assessment, toxicologist, environmental health

To What Extent Do Psychological Factors Impact Work Engagement Among Malaysian Employees?

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ABSTRACT

INTRODUCTION: Psychological wellbeing is important because of its direct bearing on psychological connectedness or work engagement. We set out to determine levels of work engagement and to identify the psychological factors that predict it. **METHODS:** A total of 5,235 adults participated in a cross-sectional, questionnaire-based health survey in Malaysia. Work engagement was assessed with the 9-item Utrecht Work Engagement Scale (UWES-9). Higher UWES mean scores indicate greater levels of work engagement. Psychological distress was assessed using the 6-item Kessler scale (K6; cutoff score ≥ 13 , score range 0-24). Higher K6 scores indicate greater psychological distress. A multiple linear regression was performed to determine predictors of work engagement. **RESULTS:** A female preponderance was observed ($n=3,259$, 62.3%). Participant age ranged from 18 to 85 years (mean \pm SD: 33.88 \pm 8.83). The mean work engagement score on the UWES-9 was 3.53 (SD \pm 0.94). A total of 11 out of 18 variables on a multiple regression predicted work engagement, $F(18, 4925) = 69.02$, $p < 0.001$, $R^2 = 0.201$. Factors that predicted higher work engagement were age, marital status, education level, job type, job permanency, longer sleep length, lower psychological distress and no history of workplace bullying. **DISCUSSION:** Inadequate sleep, the presence of psychological distress and a history of work bullying were among key factors associated with poorer work engagement among Malaysian employees. All three are modifiable factors which can be targeted to improve work engagement.

KEYWORDS: work engagement, psychological distress, sleep, work bullying, Malaysia

Under-Reporting of Energy and Nutrient Intake from 24-Hours Diet Recalls in The Malaysian Adult Nutrition Surveys (MANS 2014 & MANS 2003)

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ABSTRACT

INTRODUCTION: Under-reporting of energy intake is a common cause of bias in nutritional studies. This study was aimed at examining the extent of under-reporting of energy intake and its related characteristics among respondents in MANS 2003 and MANS 2014. **METHODS:** The present study analysed energy intakes of 9,624 adults aged 18-59 years old from the Malaysian Adult Nutrition survey in year 2014 (2,890 respondents) and 2003 (6,734 respondents) using a single 24-hour diet recall. Basal metabolic rates were calculated from the age- and gender-specific equations of Schofield. Under-reporting was defined as an energy intake: BMR ratio <1.2 as proposed by Goldberg. **RESULTS:** Under-reporting has increased significantly ($p < 0.001$) from 53% in 2003 to 61% in 2014. In both surveys, under-reporting increased with higher BMI and older age-group. It was higher among women than men, lowest among those with primary schooling or below, and those living in Peninsular Malaysia. It was higher among rural respondents in 2014 but higher among urban respondents in 2003. Intake of energy and micronutrients increased when under reporters were excluded. **CONCLUSION:** Under-reporting was prevalent in both the nationwide MANS, and is associated with BMI, age, gender, education level, strata and location. It is important to take this into account when assessing dietary intake in population-based studies.

KEYWORDS: Energy intake, 24-hours diet recall, under-reporting, nutrition survey, adults

Urban Heart: A Structured Tool for Framing Health Equity in Cities and Districts

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ABSTRACT

INTRODUCTION: The Urban Health Equity Assessment Response Tool (Urban HEART) supports statistical evidence of a population and their varied living conditions and involve the participating local community to draw linkages between socioeconomic factors and health impact. The aim of this paper is to describe the process of adopting Urban HEART in Malaysia cities. **METHODS:** In this paper we explore systematically the Urban HEART concepts and processes, and how this tool influenced the development of a collaborative process in finding the differences across urban populations. We also examined the efforts of introducing Urban HEART to public health practitioners in Malaysia including the capacity building. **RESULTS:** The three main approaches to reduce health inequities are to target the disadvantage population groups, narrow health gap and reduce inequities. The speculated causes of health inequalities in different cities were viewed for socioeconomic factors (including demographic, SES and living condition), and health outcomes (including morbidity, mortality and healthcare services). Urban HEART training was conducted in two sessions in 2013, involving numerous participants from six different states. Differences in health across the population are to be observed in the cities and to report the inequalities in social determinants as the underlying cause of health inequalities. Local indicators to be identified and established criteria to prioritize a conclusive planning. **CONCLUSION:** The Urban HEART is designed by WHO as a user-friendly guide for policy- and decision-makers at national and local levels; to help in identify and analyse urban health inequities and facilitate viable decisions of health inequities.

KEYWORDS: urban health, health equity, health impact

Urban-Rural Differences in Menstrual Hygiene Among Adolescent Girls and Its Implications on Health in India

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ABSTRACT

INTRODUCTION: Although menstruation is a natural process, it is linked with several misconceptions, taboos, and socio-cultural restrictions, resulting in adolescent girls remaining ignorant of the awareness of hygienic health practices, which result in adverse health outcomes and vulnerability. **METHODS:** The present paper examines the knowledge and practice of a hygienic **METHODS:** of menstrual protection and to assess its adverse effects on adolescent's health using binary logistic regression. NFHS-4 data collected from all the 640 districts of India in 2015-16 is used. The sample size of the present paper is 121,533 adolescent girls age 15-19. Information on the woman's characteristics, marriage, fertility, contraception, reproductive health, sexual behaviour, and other health issues was also collected in NFHS-4. **RESULTS:** The result shows that 42 per cent of adolescent girls use sanitary napkins, 62 per cent use cloth, and 16 per cent use locally prepared napkins. Overall, 58 per cent of adolescent girls age 15-19 years use a hygienic method of menstrual protection in India, more (79 per cent) in urban areas as compared with just 49 per cent in rural areas. **DISCUSSION:** More than half of adolescent girls in rural areas and one-fifth adolescent girls in urban areas are not able to use a hygienic method of menstrual protection which leads to a lot more complications to their reproductive health and subsequently, it affects the overall health status of adolescents in India.

KEYWORDS: Adolescent, Menstruation, Health, India

Vaccine Hesitancy Among Parents in Kuala Lumpur: A Single Centre Review

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ABSTRACT

BACKGROUND: Vaccine hesitancy (VH) is defined as the delay in acceptance or refusal of vaccination despite availability of vaccination services. The objective of this study is to improve the understanding on VH among parents by determining the prevalence of VH and to identify the predictors associated with a vaccine hesitant attitude. **METHODOLOGY:** This cross-sectional study was conducted in KL where a questionnaire was devised to collect information from parents namely sociodemographic, WHO determinants of VH and the Parents Attitude towards Childhood Vaccine (PACV) scale. **RESULTS:** With a sample size of 226, we noted 60.2% (189) of the participants were females which were predominantly Malays 80.3% (252). Our study shows the prevalence of VH of 15.5% (35/226: 15.5%, 95%CI: 11.2, 20.4) among parents based on the 15-item PACV scale. In univariate analysis, our study did not see any link between sociodemographic factors to VH in parents. Only five of these determinants were in the final model as statistically significant ($p < 0.05$) predictors of VH among parents in KL. The five factors were introduction to new vaccine, past bad experiences on vaccinations, no trust in pharmaceutical industries, no trust in health system and provider as well as male gender. **CONCLUSION:** Factors contributing toward 15.5% of VH in KL, Malaysia must be studied further for any temporal relationship to the under-immunization in children in order to reach the WHO goal of 100% immunization coverage in children.

KEYWORDS: vaccine hesitancy, parental attitudes to childhood vaccine (PACV), prevalence, determinants

What Are the Factors Influencing Tuberculosis Contacts Turning Up for Their Screening Appointments?

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ABSTRACT

INTRODUCTION: Contact screening is an essential component of tuberculosis control in Malaysia to identify individuals with tuberculosis and latent infection with *Mycobacterium tuberculosis*. Despite the government's effort in reducing transmission among TB patient's relatives and friend, only few turn up for their screening appointments. The aim of this study is to determine the prevalence of tuberculosis contacts attending screening and the factors influencing them. **METHODS:** A cross-sectional study based on identified and registered tuberculosis contacts in Marang district from year 2013 to 2017. **RESULTS:** Among 910 tuberculosis contacts selected, 77% attended the initial screening, 46% three months after initial screening, 16% after six months and 2.3% two years later. The fourth tuberculosis screening appointment has the highest absenteeism which is 97%. Smokers and those having co-morbid such as diabetes and hypertension has higher percentage of attending screening appointments compared to others (66%). We found that those staying far from health facilities (81%) statistically significant in attending at least one screening visit as compared to those living near them (73%) or staying in remote areas (41%) Among contacts who were screened, only 0.4% has yielded positive test. **DISCUSSION:** This study shows that tuberculosis contacts are not consistent in attending their screening appointments. Among the various factors identified for their attendance are distance from home to the nearest health facility, occupation and co-morbid. This study demonstrates that TB screening activities among our population need to be strengthened to achieve the success of our National TB control programme.

KEYWORDS: tuberculosis, contact screening, defaulting appointment

What Causes Low Yield Among Pulmonary Tuberculosis Smear Positive Contacts in Kuantan? - Key for Improvement

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ABSTRACT

INTRODUCTION: Contacts who are exposed to infective pulmonary tuberculosis (PTB) patients are at substantial risk of active tuberculosis (TB) and latent TB infection (LTBI). The prevalence of active TB among contacts to PTB patients was 3.5-5.5%. The incidence of active TB is highest in the first year and remains above background incidence for at least 5 yrs after exposure to a patient with TB. The objective of this study is to determine the causes of low yield among PTB smear positive contacts in Kuantan. **METHODS:** We conducted a cross sectional study consists of hundred PTB smear positive cases in Kuantan in the year 2018. Data were obtained from the electronic disease registration system (MyTB) and from patient's record. Data was analysed using SPSS. **RESULTS:** From hundred index cases, 994 contacts identified. The overall yield for active TB among contacts was 0.22%. The defaulter rate for first screening was 9%, 84% at second screening, 90% at third screening and 94% at fourth screening. Only 38% of contacts classified as household contacts, 54% were occupational contacts, 7% were other relatives while 0.5% was social contacts. **CONCLUSIONS:** Low yield of active TB among PTB smear positive contacts contributed by high defaulter rate and lack of contact prioritization. Pertaining to its highly contagious nature, adequate contact investigation and management is mandatory for all PTB smear positive cases. Early diagnosis of active TB among contacts lead to less severe disease and stop further transmission of *Mycobacterium tuberculosis* to others.

KEYWORDS: Active tuberculosis, defaulter rate, household contacts, occupational contacts

What Makes Occupational Health Services Seems Difficult to Be Implemented?

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ABSTRACT

INTRODUCTION: The estimation of occupational accidents or work-related illness globally by International Labour Organization (ILO) has reached up to 2.3 million each year. From this estimation, 160 million workers fall victim to work-related diseases annually. Despite this, the accessibility to occupational health services is still low. Almost 80% of the total working population do not have access to OHS. Competent occupational health professionals are required to have good OHS accessibility. However, certain challenges faced by these professionals may cause poor coverage of OHS. This study aims to describe the difficulties faced by occupational health doctors in providing the occupational health services in Malaysia. **METHODS:** Qualitative methods were utilised for the study using focus group discussions and interview responses. The responses were recorded and transcribed precisely. NVivo version 11 was used to facilitate the data analysis process which follows the thematic analysis strategies. **RESULTS:** Four codes were identified as underlying factors that causing the occupational health services difficult to be implemented which include reporting issues, industries attitudes, standard and guidelines, and practising issues. **CONCLUSION:** The results suggested that all factors need to be critically addressed on a national basis to help facilitate the implementation of OHS in Malaysia.

KEYWORDS: Occupational Health Services, Occupational Health Doctor, Qualitative Study

Workplace Violence Among Healthcare Workers (District Health Offices and Health Clinics) - Pulau Pinang 2018

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ABSTRACT

INTRODUCTION: For long a ‘forgotten’ issue, workplace violence has gained momentum recently and now a global concern. Underreporting is a major barrier to institution of effective programs to assess and manage workplace violence. Only two notifications reported in 2018 from District Health Offices and Health Clinics in Pulau Pinang. **OBJECTIVE:** To determine the incidence of workplace violence in 2018 and factors associated with it. **METHODS:** Cross-sectional study conducted among healthcare workers in District Health Offices and Health Clinics involving Doctors, Nurses, Medical Assistant, Environmental Health Officer and Assistant Environmental Health Officer. A validated and pretested questionnaire was used. Incidence rate and adjusted odd ratios of workplace violence were calculated to examine associated factors to workplace violence by using logistic regression analysis. **RESULTS:** The response rate for survey completion was 92.7% (1186/ 1280). Among the respondents, 368 (31.0%) experienced workplace violence in 2018; 19.9% experienced verbal abuse, 5.1% written abuse, 2.8% experienced physical aggression, and 1.4% experienced sexual harassment. Majority (31.0%) involved Nurses. The significant risk factors found to be associated with workplace violence were Job Categories ($p<0.05$) and Years of Service ($p<0.05$). **CONCLUSION:** The incidence rate of workplace violence in 2018 (District Health Offices and Health Clinics) in Pulau Pinang was 0.3 per 10,000 healthcare workers. Most of the cases were not notified. Certain Job Categories and Years of Service had higher probability to experience workplace violence. Concerted effort to increase notification and the countermeasures for workplace violence at those high-risk group should be investigated.

KEYWORDS: workplace violence, healthcare workers, Pulau Pinang

POSTERS

40 Years of Alma Ata Malaysia: Infrastructure Phc Development Reducing the Urban-Rural Divide Targeting Equitable Access Through Urbanisation for Health

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ABSTRACT

INTRODUCTION: Health services infrastructure an interplay of resources; equipment, logistics, transport, supplies, manpower, management and information are crucial for effective delivery of quality health care programmes. This paper critically analyses the Malaysian's PHC infrastructure historical development in its effort to reduce urban-rural divide targeting equitable access. **METHODS:** This review collated information through literature search from published and unpublished research papers. **RESULTS:** In pre-colonial period, health care facilities relate to cultures of the native people. It became more structured during the post-independence period in 1957. Driven by the goal of building an equitable health care system, reducing the urban-rural health divide, the "Three-tier Rural Health Services" was created and gradually transformed to Two-tier system in the 1970s to reduce delays in relaying referrals for medical attention. Further reforms were seen in 1994 when the outpatient services were transferred from the hospitals to the health clinics giving even greater prominence to primary care services. Modernisation of the health infrastructure development were guided by the "Medical and Design Brief" that provides standardisation according to scope of services syncing intimately the services, manpower and infrastructure. The mobile health services continue to penetrate making deeper inroads to remote areas and marginalised groups. **DISCUSSION:** During the course of time with urbanisation taking place, delivery systems, scope of services and health care infrastructure including the physical build-up design for health clinic are crafted with the aim of "leaving no one behind" whether they are in rural or urban, remote or in the heart of the city.

KEYWORDS: access, equity, PHC Infrastructure, universal health coverage, urban-rural divide

A 5-Year Review of Colorectal Screening Program in Penang

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ABSTRACT

INTRODUCTION: Colorectal cancer (CRC) rank second among the most commonly diagnosed cancers in Malaysia. Its incidence increased after the age of 50 years in both sexes. Ministry of Health Malaysia had started implementation of CRC screening programmes since 2014. The objective of this study is to review the CRC screening programme since its implementation in Penang. **METHODS:** A retrospective cohort study was conducted using data collected from 2014 to 2018. Clients screened were attendees of Health Clinics throughout Penang. Those that are found to have positive immunochemical fecal occult blood tests (iFOBT) were referred for colonoscopy. **RESULTS:** A total of 19,280 clients were screened, which covered about 1.12% from the Penang population of ages 50 to 75 years old. Clients with positive iFOBT were 1,040 (5.4%), with subsequently 517 (49.7%) underwent colonoscopy. Colorectal cancers were diagnosed in 25 (4.8%) cases. **CONCLUSION:** The number of clients underwent iFOBT were encouraging. However, implementation of CRC screening program needs to be strengthened especially in convincing more clients to undergo colonoscopy.

KEYWORDS: screening, colorectal cancer, iFOBT

A Review of a Severe Acute Respiratory Illness Cases Among Umrah / Hajj Pilgrims in Perak, Malaysia 2016

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ABSTRACT

INTRODUCTION: Air travel increases risk for rapid transmission of communicable diseases including Middle East Respiratory Syndrome Coronavirus (MERS-CoV) particularly in mass gathering events such as umrah/hajj pilgrimages. Following MERS-CoV emergence, nations worldwide conduct enhanced surveillance for severe acute respiratory infections (sARI) among returning hajj/umrah pilgrims. **METHODS:** A cross-sectional study conducted on notified cases of suspected MERS-CoV cases (>18-years), presenting within 14-days of returning from hajj/umrah, registered in the 2016 Perak MERS-CoV Surveillance Database. This study aimed to describe possible risk factors of sARI among the study population. **RESULTS:** A total of 85 suspected MERS-CoV cases were analysed. The median age was 61.0 years (IQR14.0), comprised of 43(50.6%) males and 42(49.4%) females. Forty six percent (20 cases) of the males were smokers. All cases were vaccinated for meningococcus, while 23 patients (27.1%) had influenza vaccination and 22 patients (25.9%) had pneumococcal vaccination. Seventy percent of the cases had awareness on MERS-CoV, while 12 cases had exposure history to camels (14.1%). No confirmed MERS-CoV cases were detected. The main diagnosis was Community Acquired Pneumonia (41 cases), Influenza (35 cases) and other respiratory infections (9 cases). Diabetes Mellitus was an important co-morbidity among the cases ($p=0.03$) and influenza vaccination was protective against influenza infections, OR:0.21 (95%CI: 0.06-0.69). **DISCUSSION:** This study recommended the need for mandatory influenza and pneumococcal vaccinations and optimal diabetic control for umrah/hajj pilgrims. This is in addition to regulation of travel agencies to reduce the risk of MERS-CoV exposure by avoiding recreational trips to camel farms during the pilgrimage.

KEYWORDS: MERS COV, pneumococcal vaccination, influenza vaccination, respiratory illness, umrah/hajj pilgrimage

A Study of the Leadership Styles of Healthcare Managers in Northern Malaysia

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ABSTRACT

INTRODUCTION: An effective organization needs competent management and skillful leadership. Leaders exhibit different leadership styles, namely transformational leadership style, transactional leadership style and laissez-faire leadership style to carry out and achieve organization goals. The aim of this study is to determine the dominant leadership style of healthcare managers. **METHODS:** Using simple random sampling, 208 healthcare leaders and 406 subordinates were selected to answer a self-administered Multifactorial Leadership Questionnaire 5X. **RESULT:** The mean age of healthcare leaders was 43 ± 8 years with the majority of them from the public health (48%), hospital (34%) and state department (18%). The mean age of their subordinates was 37 ± 9 years. The self-rating survey revealed that the healthcare leaders were more inclined towards transformational leadership (mean 3.03 ± 0.63) compared to transactional leadership (mean 2.90 ± 0.70) and avoidant leadership (0.67 ± 0.62). The outcomes of their leadership had a mean score of 2.94 ± 0.58 . However, the subordinates rating suggested that their leaders' leadership styles were more of transactional leadership (mean 2.82 ± 0.75) than transformational leadership (mean 2.69 ± 0.78). Rating by the subordinates of avoidant leadership (0.86 ± 0.71) had a higher mean value than self-rating. To the subordinates the overall leadership outcomes rated a score of 3.03 ± 0.74 . **DISCUSSION:** Self-perceived as transformational, healthcare leaders prioritize individualised consideration and intellectual stimulation of their subordinates. However, as revealed in this study, they exhibit transactional leadership. Healthcare has strict and varied regulations transactional leadership is most likely to be dominant. Transactional leadership should evolve into transformational leadership, in order to be better and effectively manage an organization.

KEYWORDS: leadership style, MLQ5X, healthcare leaders

Abdominal Obesity Among Malaysian Elderly: The Contributing Factors

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ABSTRACT

BACKGROUND: The increase in the prevalence of abdominal obesity (AO) among Malaysians contributes to the increased rate of diabetes, hypertension, high cholesterol, heart disease and certain types of cancer. **METHODS:** A total of 3,977 elderly aged 60 years and above participated in this study. This is a cross-sectional study with two stratified random sampling. Socio-demography was obtained through face-to-face interview and waist circumference was measured using SECA measuring tape. AO was classified using cut-off values of ≥ 90 cm for men and ≥ 80 cm for women based on the recommendation from World Health Organization. Complex sample descriptive and multiple logistic regression analysis were performed for statistical analysis. **RESULTS:** The findings showed that 67.3% of elderly have AO. The prevalence of AO was higher among elderly from urban areas (69.7%, 95%CI: 66.01, 93.01), females (78.4%, 95%CI: 75.01, 81.39), and those were married (68.7%, 95%CI: 64.42, 72.66). Besides, the prevalence of AO was higher among elderly who had tertiary education (73.6%, 95%CI: 66.14, 79.86) and who were unemployed (70.9%, 95%CI: 63.84, 73.79). The complex sample logistic regression analysis shows that elderly from urban (aOR: 1.51, 95%CI: 1.21, 1.88), females (aOR: 2.72, 95%CI: 2.17, 3.40), who were unemployed (aOR: 1.21, 95%CI: 0.89, 1.40), with hypertension (aOR: 1.47, 95%CI: 1.22, 1.75), with hypercholesterol (aOR: 1.33, 95%CI: 1.09, 1.62) and with diabetic mellitus (aOR: 2.08, 95%CI: 1.62, 2.66) were significantly associated with AO. **DISCUSSION/CONCLUSIONS:** In conclusion, most of the socio-demographic factors and history of having non-communicable diseases were the contributing factors to AO among Malaysian elderly. Implementing of obesity intervention among pre-elderly and elderly is vital to combat the epidemic of AO in Malaysia.

KEYWORDS: abdominal obesity, elderly, National Health & Morbidity Survey, Malaysia

Achievements and Challenges of Verbal Autopsy in Penang After One Year of Implementation

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ABSTRACT

INTRODUCTION: Precise data on cause of death is essential in development and evaluation of health policy. Verbal autopsy (VA) was introduced to reduce the indistinct mortality causes and to improve medically certified deaths. The objective of this study is to review the performance and challenges faced in Penang since the implementation of VA. **METHODS:** This cross-sectional study utilised Death Data outside Medical Facilities in Penang from August 2017 to July 2018. Face-to-face interviews were conducted by trained medical staffs to the next of kin of the deceased using Validated WHO VA Questionnaire (with sensitivity 50-75%). Completed questionnaires were reviewed by trained Doctors who assigned the most likely underlying cause of death. **RESULTS:** There were 4,178 cases allocated for VA in Penang. Successfully interviewed cases were 1,530 (36.63%) while 2,610 cases (62.47%) were unsuccessful due to various reasons namely wrong or incomplete address (11.51%), next of kin not traceable (43.71%) and 303 cases refused for interview (noted 4.0% was due to language barrier). Out of the 1,530 cases interviewed, 256 cases (16.7%) were related to cancer, with the main cancer involving the Trachea, Bronchus and Lungs (3.9%), followed by Cancer of the Colon, Rectum and Anus (3.5%) and Breast Cancer (2.1%). The other major causes of death were acute coronary syndrome (15.6%), cerebrovascular accidents (8.6%) and pneumonia (5.9%). **CONCLUSION:** Additional effective approach is essential to detect the next of kin so that more interviews can be conducted, and in-depth training is also needed especially to determine the underlying cause of death.

KEYWORDS: Verbal Autopsy, Challenges, Causes of death

Addressing Climate Change and Health: A Coherence Between the Adopted International Agreements in Malaysia

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ABSTRACT

INTRODUCTION: Growing urbanisation, globalisation, and climate change have been identified as three major global trends since 2013. The international agreements signify as major global efforts to tackle existing issues and future challenges at different levels. This paper aimed to explore coherence between the adopted international agreements, and to develop a framework interrelated with climate change and health co-benefit. **METHODS:** This paper identifies the adopted international agreements in Malaysia, which addressing the climate change and public health impacts. We review the coherence in the activities, monitoring process and goals of the identified agreements, and subsequently develop a framework. **RESULTS:** Five international agreements are identified in leveraging climate change with health impact; the Sendai Framework for Disaster Risk Reduction, 2030 Sustainable Development Agenda, Paris Agreement, New Urban Agenda, and 2005 International Health Regulation. These agreements have created a significant opportunity and challenges to build coherence across different but overlapping sectors. Since the adoption, nationally synchronised efforts emphasised in reducing existing and preventing new environment and health risks, and strengthening environmental and community resilience, thus accomplishing the efforts in reporting and achieving goals. Integrated flood management, haze and heatwave action plan, and extreme weather warning system are among the response at national and local level. Malaysia also outlined public health adaptation measures by enhancing and sustaining health services, preparedness and response plans, monitoring and disease surveillance, and capacity-building. **CONCLUSION:** Synergies implementation and monitoring process of five international agreements will contribute to global and local health co-benefits in changing climate.

KEYWORDS: climate change and health, development goals, international agreements

Advancing in Urban Development: Health Profile Among Teenage Population in Selangor

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ABSTRACT

INTRODUCTION: Adolescents are the group of children transforming to adults, aged 10 to 19 years; they are healthy individuals but can face a number of health-related issues. There are more than 1.2 billion adolescents worldwide, and they make up 15% of 32 million Malaysia populations. Out of this, 920,700 are from Selangor which is 15.6% of 5,864,500 total populations. This study aims to determine the health profile among teenage population in Selangor. **METHODS:** A community screening was conducted in 2018. A total of 55,474 adolescents aged 10 to 19 years, who were screened in all government health clinics, were selected using convenient sampling. They were given structured questionnaires to complete; with the variables related to demographic characteristics and morbidity profile. Data was analysed using SPSS version 18.0. **RESULTS:** The screening coverage was more in sub-urban areas, with 55.8% were females, and 79% were in age group of 15-19 years. The morbidities were nutritional-related issues (27.5%), followed by high risk behaviour issues (2.8%) and physical-related issues (2.7%). More than half of respondents had normal body weight (74.1%) and none had stunted growth. A total number of 7609 (13.7%) respondents needed further management; most referral cases were seen by medical officers (57.5%), followed by dietician (25.8%). Least referral cases were seen by family medicine specialists (0.59%), counsellors (0.50%) and social welfare officers (0.01%). **CONCLUSION:** Based on this health profile of teenage population, there is a need of intervention program to improve their health and to be implemented comprehensively at all levels.

KEYWORDS: health profile, teenage population, primary health care

Age Differences in The Associations of Leisure-Time Physical Activity and Depressive Symptoms with Cognitive Decline in Older Taiwanese: Results from A National Cohort Study

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ABSTRACT

INTRODUCTION: The associations of physical activity and depressive symptoms with cognitive decline are likely age dependent. Understanding the age differences can be helpful to prevent cognitive decline effectively. The study aimed to investigate the age differences in the associations of leisure-time physical activity (LTPA) and depressive symptoms with cognitive decline in older Taiwanese. **METHODS:** A total of 3545 participants, aged ≥ 50 years, from 2003 (baseline) and 2007 (end-point) survey datasets were analysed. Cognitive decline was defined as a remarkable decrease on the Short Portable Mental Status Questionnaire. The long-term LTPA and depressive symptoms considered the pattern of change between the two time-points. Logistic regression analysis was conducted to evaluate the associations, stratified by age groups. **RESULTS:** The association between the long-term LTPA and cognitive decline was significant in the older group (aged ≥ 70), but not in the younger group (aged 50-69). Compared to those with inactive LTPA in both time-points, participants in the older group were less likely to have a cognitive decline if they were active in both time-points (odd ratio, OR: 0.27, 95% confidence interval, 95%CI: 0.14, 0.52), activity increased (OR: 0.32, 95%CI: 0.15, 0.71), and activity decreased (OR: 0.47, 95%CI: 0.23, 0.96). Meanwhile, significant associations were observed between the long-term depressive symptoms with cognitive decline in both the younger and older groups. **DISCUSSION:** These findings highlight the existence of age differences in the associations of LTPA and cognitive decline. The benefit of LTPA and impact of depressive symptoms should be taken into consideration for different age groups.

KEYWORDS: MERS COV, pneumococcal vaccination, influenza vaccination, respiratory illness, umrah/hajj pilgrimage

An Analysis of Measles Cases in Perak State, Malaysia, 2017-2018

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ABSTRACT

INTRODUCTION: Measles is currently a major public health issue globally including in Perak state, Malaysia. **METHODS:** Descriptive analysis of 2017-2018 Perak measles surveillance database. **RESULTS:** Total confirmed measles cases were 104. Twenty-two (21.2%) cases aged below 1 year, 31.7% 1-14 years, and 47.1% 15 years and above. Forty-six (44.2%) cases were treated as in-patient, 44.2% as out-patient, and 11.5% did not seek medical treatment. Nineteen (18.3%) cases had diarrhoea and 8.7% pneumonia. No information about otitis media or subacute sclerosing panencephalitis (SSPE). The source of infection was unknown in 51.9%, 26.0% exposed to household members or relatives, 14.4% including 2 healthcare workers had contact with health facility within 7-21 days before measles onset, 5.8% were exposed outside Perak, 4.8% at workplace, 5.8% at education institution, 1.9% while abroad. Twenty-six cases (25.0%) had history of measles immunisation, with 38.5% had documentation and 61.5% by verbal history. Another quarter were not immunised due to vaccine hesitancy (50.0%), missed vaccination (15.4%), born before measles vaccine introduction in the national immunisation programme (11.5%), medical reason (3.8%) and unknown reasons (19.2%). Twenty-one cases (20.2%) not yet eligible for immunisation while 29.8% unknown immunisation status. **DISCUSSION:** Measles is still a public health challenge in Perak. Healthcare providers should take the opportunity for measles immunisation during every encounter with children under 15 years old. Notified cases should be followed up to detect and treat complications, especially otitis media and SSPE. Further studies on potential nosocomial and occupational spread of measles in healthcare settings may be considered.

KEYWORDS: measles, measles vaccine, complications, exposure, immunisation

An Assesment of Food Safety Knowledge, Attitude and Food Handling Practices Among Food Handlers in School Canteen at Bera District

Wan Nadirah Wan Chik

Pejabat Kesihatan Daerah Bera

ABSTRACT

This cross-sectional study is to assess the food safety knowledge, attitude and food handling practices among food handlers of school canteen in Bera district. It is a common scenario for students in Malaysia to have their meals in school canteen within the school area. It is highly critical to investigate thoroughly the hygienic level in the school canteen so that to totally understand the level of risk students are exposed to when having their meals in the canteen. To get such information is fundamental in means to ensure the level of hygiene in the school canteen is at least, acceptable for non-harmful effects to the students. This has motivated the design and execution of this study. In this study, all school canteen in Bera district were evaluated for their level of hygiene. There was a total of 100 food handlers altogether included in the investigation. The KAP level was assessed by giving out properly designed questionnaires to the food handlers. It is important for food handlers to fit themselves with knowledge on good food handling practices. Knowledge and law enforcement, the attitude of the food handlers also is another important factor that may influence the occurrence of foodborne disease. Basically, knowledge, attitude and education, are compulsory to achieve safe food handling practice. Therefore, all these three aspects were taken into consideration in details for this study. Based on the findings, correlations between these aspects were established. Besides, appropriate recommendations to overcome the problems revealed from this study are also provided.

KEYWORDS: bera, food safety, school canteen, food handlers, KAP

An Assessment of Knowledge, Health Seeking Behaviour, and Risk Factors Among Orang Asli and Rural Community Regarding Pulmonary Tuberculosis in Bera District, Pahang

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ABSTRACT

BACKGROUND: Tuberculosis is still a major public health concern. Knowledge about disease is known to have significant impact on health seeking behavior among the disease sufferer. Currently, it is not known whether there is association of knowledge about tuberculosis and health seeking behavior among people living in rural community. Therefore, this study is conducted to determine tuberculosis knowledge, socio-demographic factors, and risk factors of tuberculosis among rural and orang asli community in Bera district. **METHODS:** This is cross sectional study and 126 samples were collected from 5 rural areas under operational areas of Klinik Kesihatan Purun which is comprised of FELDA locality and Orang Asli Village. Face-to-face interview by trained personnel using pretested structured questionnaire was used to obtain demographic, knowledge, and clinical data from respondents **RESULTS:** Out of 126 respondents, 107 (85%) had known about what tuberculosis is. 90 (72%) respondents know about correct knowledge about perceived cause of tuberculosis, correct knowledge about body parts could be infected by tuberculosis (n=69, 55%), mode of transmission of tuberculosis, (n=66, 53%), is it tuberculosis curable, (n=120, 96%), how tuberculosis is cured, (n=86, 69%), how tuberculosis is prevented (n=89, 71%), is it HIV/AIDS is related to tuberculosis? (n=64, 51%). Most of respondents shown appropriate health seeking behavior in response to tuberculosis symptoms (83%) **CONCLUSION:** Inadequate knowledge about tuberculosis among rural people should be tackled by health care workers. Health seeking behavior also needed to be addressed to improve early detection of tuberculosis.

KEYWORDS: Tuberculosis, Health Seeking Behavior, Knowledge, Rural, Orang Asli

An Insight into Prevention of Plasmodium Knowlesi Malaria Infection at Batang Padang District, Perak

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ABSTRACT

INTRODUCTION: Zoonotic malaria infection among human has contributed to public health burden in Malaysia. In Batang Padang district, *Plasmodium knowlesi* malaria cases was 600% increase in 2018, while observing reduction in human malaria since 2012. This case report aims to describe an epidemiological investigation and integrated management of knowlesi malaria clusters at Batang Padang district in 2018, following identification of patients whom did not have clear risks for knowlesi malaria. **METHODS:** Registered malaria cases in 2018 at Batang Padang were investigated and managed using integrated vector management approach for risk factors of *P.knowlesi* infection. Identified cases, hosts and vectors data was plotted into risk map using geographical information system. Multi-agencies actions were implemented to halt ongoing malaria infection. **RESULTS:** A total of 27 patients infected with *P.knowlesi* were included with median age of 40.0 (IQR:17.0), consisted of 17(63.0%) males and 10(37.0%) females, and predominantly Orang Asli (81.5%). Most of them were geographically clustered into two localities. 18(66.7%) patients had history of jungle tracking within incubation period of knowlesi malaria, but 2(7.4%) children below 12 years old and 6(22.2%) women did not go into jungles. Nearly half (45.5%) of 11 macaques were identified to host *P.knowlesi*, while breeding of *Anopheles leucosphyrus* larvae were detected within the localities. All macaques were destroyed, and vector control was undertaken to observe reduction of knowlesi malaria cases. **DISCUSSION:** This study suggested petting a macaque as a risk behaviour among Orang Asli in Batang Padang and may add information in knowlesi malaria prevention, especially among this population.

KEYWORDS: zoonotic malaria, *Plasmodium knowlesi*, Orang Asli, malaria prevention, risk behaviour

An Outbreak of Norovirus in Kindergarten in District of Perak Tengah, Perak

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ABSTRACT

BACKGROUND: An outbreak of acute gastroenteritis (AGE) was reported from one of the kindergartens in the district of Perak Tengah on 10th January 2019. This was the second outbreak caused by Norovirus recorded in the district. **METHODS:** Active and passive case detection, environmental inspection at school, inspection and rating of food premise and food handles were carried out. Sampling of water sources, food (proxy) and clinical sample were taken for confirmatory. **RESULTS:** In total 14 cases of AGE (11 school children and three family members) were affected between 7th and 11th January 2019 out of 64 people exposed. The first onset was recorded on 7th January lead to peak of an outbreak on 9th and 10th January and end on 11th January 2019. The attack rate was 22% with majority presentation was upper gastrointestinal symptoms such as vomiting (100.0%), abdominal pain (100.0%), fever (79.0%), diarrhoea (50.0%) and giddiness (14.3%). Clinical sample for rectal swab (PCR) was positive for Norovirus. **CONCLUSION:** Norovirus has high survival rate in environment and easily infected other people through direct contact with clinical secretion or indirect contact through surfaces and foods. Environmental factor such as high density and close contact between children at school facilitate the transmission of disease. Early identification of cases and notification of disease contribute to more effective and successful prevention and control measures.

KEYWORDS: Norovirus, Gastroenteritis, Outbreak, School, Kindergarten

An Outlook to Malbatt-Unifil Peacekeepers Repatriation on Medical Grounds from Year 2013 To 2018

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ABSTRACT

INTRODUCTION: The Malaysian Battalion (MALBATT) was established in October 2012 and it has been restructured since 2013 by increasing the military capacities and human resources. The MALBATT is deployed every year and based at the southern region of Lebanon. The battalion plays a major role in persevering peace in the region under the United Nations mandate and enforcement. In the military environment, repatriation can diminish the force of military readiness and tarnish the nation's image as well as pride in the perspective of international relationship and foreign policy. The objective of the study is to investigate the causes of medical repatriation in 5 years of MALBATT deployment and further plan of management to encounter a similar problem in the future. **METHODS:** A retrospective review of the repatriation data record of the military personnel involved in the MALBATT was conducted and the causes were determined. **RESULTS:** Information about MALBATT repatriation that was recorded during the years 2013-2018 was reviewed. There were 35 cases had been reported for repatriation due to various grounds such as medical reasons or disciplinary matter. From the cases, 51% repatriation was due to medical reasons and male gender contributes 100% of total repatriation on medical grounds. The medical disease (72%) is the major reason for medical repatriation. **CONCLUSION:** A preventive measure by doing a thoroughly pre-deployment health screening program on all military personnel selected and tightening the Standard Operating Procedure have been seen in reducing the incidence of medical repatriation.

KEYWORDS: Malaysian Battalion, UNIFIL, Repatriation

An Overview of Outbreaks in Kuala Lumpur and Putrajaya, 2018

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ABSTRACT

INTRODUCTION: Outbreak detection, response and reporting are key components of a state's public health capacity to prevent and control illness¹. This study aims to determine the 5-year trend of outbreaks reported in Kuala Lumpur and Putrajaya, to describe the epidemiological characteristics of outbreaks in 2018 and the possible relation with climate and serological changes. **METHODS:** This is a retrospective study on all outbreaks in Kuala Lumpur and Putrajaya from January to December 2018. Data was retrieved from E-Denggi for vector-borne diseases and E-wabak for other communicable diseases. Data was analysed on epidemiological characteristics and areas of outbreaks using EpiInfo and Excel Workbook. **RESULTS:** During 2018, there were more outbreaks reported than in the previous four years with an increase of 24.8% compared to 2017. Dengue fever (71.5%) followed by Hand foot mouth disease (HFMD) (22.8%) recorded the highest number of outbreaks. Most outbreak associated cases for Dengue Fever and HFMD were distributed between 25-60 years (53.9%) and 1-6 years (46.8%) age group respectively with a male predominance. The months of May through September reported the highest number of outbreaks throughout the year. Wangsa Maju and Setiawangsa parliament constituency had the highest number of communicable disease outbreaks. However, based on population size, the Federal Territory of Putrajaya recorded the highest outbreak rate per 100,000 populations (976/100,000). **DISCUSSION:** There was a remarkable increase in outbreak incidence in 2018 which could be influenced by climate change and serological changes.

KEYWORDS: outbreak, climate, serology, Kuala Lumpur and Putrajaya

Analysis of Capacity and Implementation of Early Warning Alert and Response System (EWARS)

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ABSTRACT

INTRODUCTION: Padang and Payakumbuh City has implemented Early Warning Alert and Response System (EWARS) in the surveillance system of public health centers in recent years, but there was public health centers that were not in accordance with the indicators. The aim of the study was to determine the capacity and implementation of Early Warning Alert and Response System (EWARS). **METHODS:** The study was conducted from March to April 2018 by using a cross-sectional design. Data analysis was carried out by univariate, bivariate using chi-square test and t-test. **RESULTS:** There are correlation between age ($p=0.004$), length of task ($p=0.015$), training frequency ($p<0.001$), double duty ($p<0.001$) and incentive ($p=0.037$) with EWARS data quality. The implementation of EWARS showed that the majority of public health center were not included data source from Private Clinic, 16,67% of respondents used the data processing application, data entry and disease case have done according to indicator, 86,67% have validation data and 13,33% unsuitable reporting indicator data. The data and analysis showed in graphic with descriptive analysis, feedback every week and evaluation from City Health Office. **DISCUSSION:** Lack of capacity such as human resources, and other equipment to be an obstacle for the implementation of EWARS, so the program implementation still needs improvement in terms of accuracy and completeness of the report. Health authorities need to pay attention to deficiencies contained in the capacity and monitor the implementation of the EWARS program regularly and make bulletins as feedback to the public health center.

KEYWORDS: EWARS, capacity, implementation

Anaemia in Pregnancy: 5 Years Reviews in Interior Districts of Sabah

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ABSTRACT

INTRODUCTION: Anaemia is one of the common hematological condition in pregnancy. Anaemia in pregnancy can be a mild condition and easily treated if caught early. It is often associated with other serious complications such as miscarriage, low birth weight, premature birth and maternal mortality. This has been a big challenge for antenatal care in Sabah which experienced highest percentage of antenatal mother with anaemia in Malaysia for the past years especially in interior districts. **METHODS:** Five years' data of antenatal mothers registered in public health clinic with anaemia at 36-week period of gestation for all four districts in interior division of Sabah reviewed from 2014-2018 and analysed retrospectively. **RESULTS:** The percentage of antenatal mothers with anaemia at 36-week period of gestation is continuously decreased for the past five years in all four districts, with a slight increase in year 2015. District of Nabawan shows major percentage drop in cases from 23.7% in 2014 to 8.7% in 2018; while District of Tambunan dropped from 18.3% to 5.7%. For district of Keningau and Tenom, both showed continuously decrease in trend with 11.8% to 8.8% and 8.8% to 7.0% respectively. Most cases contributed by beta-thalassemia carrier mothers, late booking mothers and lower income group mothers. **CONCLUSION:** Increasing awareness, strengthening the current approach and continuous long-term intervention involving multidisciplinary team are imperative in managing anaemia in pregnancy and improving antenatal mother health care.

KEYWORDS: anaemia, antenatal care, maternal health, Sabah

Assessing Knowledge on Type-2 Diabetes Mellitus Among Community Members of Mantin, Malaysia

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ABSTRACT

INTRODUCTION: With type-2 diabetes being an important public health concern in Malaysia, primary prevention plays a significant role in managing the burden of diabetes. Health education is a proven effective intervention to uplift the knowledge to prevent the disease occurrence. This study aimed to assess the knowledge on type-2 diabetes mellitus (T2DM) and to investigate the relationship between knowledge level and the sociodemographic factors among the community members in Mantin, Malaysia. **METHODS:** A cross-sectional study was carried out in eight housing areas in Mantin, Malaysia. A total of 380 participants were recruited using the convenience sampling method. A questionnaire to detect the sociodemographic characteristics of the respondents and to assess the knowledge level of the respondents was used. To assess the knowledge of T2DM, a validated 24-item Diabetes Knowledge Questionnaire (DKQ-24) was used. The data was analysed by Statistical Package for Social Science. **RESULTS:** The proportion of study population with poor knowledge level was 20.5%, moderate level was 71.3% and good level was 8.2%. Factors that were statistically and significantly associated with poor knowledge level were age ($p < 0.0001$) and household income ($p < 0.007$). **DISCUSSION:** Creating more awareness on diabetes risk factors is important among younger age group and lower income households. Further studies to explore the characteristics on this two significant groups of population are recommended. Interventions to carry out diabetes health educations is crucial to uplift the overall level of knowledge of Mantin population in Malaysia.

KEYWORDS: Knowledge, socio-demographics, type 2 diabetes, DKQ-24, Malaysia

Association Between Quality of Life and Diabetes Among Elderly in Malaysia

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BACKGROUND: Diabetes is a chronic metabolic disease with wide implications on well-being and social life. This study aims to assess the quality of life (QoL) among the elderly with diabetes in Malaysia. **METHODS:** We utilised data from the National Health and Morbidity Survey (NHMS) 2018 that include older people aged 60 years and above. The NHMS is a nationwide cross-sectional survey using multi-stage stratified sampling method. Respondents with diabetic status were captured by self-reported of being told or diagnosed by a medical practitioner. QoL was measured using the CASP-19 comprises of 4 domains: Control, Autonomy, Self-Realisation and Pleasure. Descriptive data analysis was done by accounting for complex sampling analysis using SPSS Version 24. **RESULTS:** There were 3746 individuals aged 60 years and above included in this study. The estimated mean QoL score for elderly was 46.76 (95%CI: 46.06, 47.45). The estimated mean QoL score of those with diabetes was 47.17 (95%CI: 46.37, 47.96) as compared to elderly without diabetes, 46.61 (95%CI: 45.93, 47.29). By domain, the QoL patterns decreased among elderly with diabetes: Control: 9.04 (95%CI: 8.74, 9.33), Autonomy: 12.22 (95%CI: 11.95, 12.48), Pleasure: 13.38 (95%CI: 13.15, 13.61) and self-realisation: 11.98 (95%CI: 11.70, 12.25). **CONCLUSION:** There is no significant difference of QoL between diabetic and non-diabetic respondents in Malaysia population. Further research is needed to explore and assess other factors that might influence QoL among the elderly in Malaysia.

KEYWORDS: quality of life, diabetes in older adults, NHMS, Malaysia

Association Between Sodium Intake with 24 Hour Urine Sodium Among Malay Adult Respondents; Findings from Mycoss 2018 Study

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ABSTRACT

INTRODUCTION: High sodium intake is a major risk factor for hypertension and other health related problems. 24-hour urine sodium is the gold standard to accurately estimate sodium intake of population. This study aims to determine the association between sodium intake with 24-hour urine among Malay respondents. **METHODS:** Data from MyCoss 2018 Study was analysed in a cross sectional study involved 556 adults. **RESULTS:** The descriptive data shows 235 (42.3%) were males and 321 (57.7%) were females. The mean BMI was 26.7 kg/m². Total of 363 (34.7%) respondents had normal BMI while 256 (24.5%) were obese. About a third of respondent were identified as housewives. The majority (25.7%) of respondent were in the age group of 55-64 years old. Most of the respondents received secondary education (50.0%). Mean household income of respondents was RM3033.04. The mean sodium intake among Malay respondents was 2982.21mg/d. Top five foods with highest sodium level consumed are nasi lemak, roti canai, fried vegetables, omelette and grilled fish from a list of 100 food items. Among these five foods, only nasi lemak ($p<0.032$) and roti canai ($p<0.044$) had significant association with 24-hour urine sodium. **CONCLUSION:** There is a significant difference between nasi lemak and roti canai with 24-hour urine sodium which are two main high sodium food consumed by Malay respondents.

KEYWORDS: 24-Hour Diet Recall, Sodium, 24 Hour Urine, MyCoss 2018 Study

Association Between Stigma, Psychological Well-Being and Quality of Life Among People Living with HIV in Kuala Lumpur

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ABSTRACT

INTRODUCTION: Quality of life (QOL) is important in the evaluation of the well-being of PLHIV. However, stigma and psychological well-being continue to be a barrier to obtain a good QOL. This study assesses the level and association between QOL, stigma and psychological well-being among PLHIV. **METHODS:** A cross-sectional study involving 305 PLHIV from infectious disease clinic and Community-Based Organisations (CBOs). Face to face interviews using quality of life scale (WHO-QOL HIV BREF), Depression, Anxiety and Stress Scale (DASS) and HIV Stigma Scale was conducted. **RESULTS:** Total QOL of respondents was low to moderate (mean=93.7; SD=15.6) and was significantly impaired by the social relationship domain (mean score = 12.9; SD=3.2). The overall stigma in this study was moderate (mean score 100.4; SD=17.3). Disclosure domain was the highest stigma where difficulty to disclose HIV serostatus may be influenced by the cultural and religious belief. Stigma was associated with higher odds of depression (aOR: 1.05, 95%CI: 1.02, 1.07), anxiety (aOR: 1.04, 95%CI: 1.02, 1.06) and stress (aOR: 1.03, 95%CI: 1.00, 1.06). Psychological manifestation was prevalent among PLHIV with 48.7% of respondents having depression, 58.4% anxiety and 30.5% stress associated with lower odds of good quality of life (aOR: 0.92, 95%CI: 0.89, 0.94) for depression, (aOR 0.94, 95%CI: 0.92, 0.96) for anxiety and (aOR 0.92, 95%CI: 0.90, 0.95) for stress. **DISCUSSION:** Stigma and psychological well-being make a distinctive, significant contribution to overall QOL. Therefore, efforts to diagnose and treat depression, anxiety and stress and measures to address disclosure stigma are strategies to improve QOL among PLHIV.

KEYWORDS: PLHIV, QOL, depression, anxiety, stress, stigma

Awareness and Perception of Potential Stem Cells Therapy for Diabetes Among Malaysians: A Pilot Study

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ABSTRACT

INTRODUCTION: Diabetes is a major global public health problem. According to International Diabetes Federation in 2017, nearly 3.5 million cases of diabetes reported in Malaysia. This metabolic disorder decreases insulin secretion due to impairment of β -Langerhans cells of pancreas or insulin resistance causing raise in blood glucose level leading to other health complications. Many stem cells (SC) researches being pursued as a potential treatment for diabetes by finding an adequate supply of β -Langerhans cells and protecting them from autoimmunity. The study aims to assess the awareness of SC and potential SC therapy for treating diabetes as well to assess the willingness to accept potential SC therapy among Putrajaya residents. **METHODS:** A cross-sectional study was conducted among 100 participants in Putrajaya aged 18 above through convenient sampling. **RESULTS:** Level of awareness on SC among Putrajaya residents, showed very significant association ($p < 0.001$) with level of education, their willingness to store their SC and their perceptions of the ability of SC therapy to improve quality of life. Although majority of 70% respondents were supportive towards potential SC treatment, 77% of the respondents were not aware or unsure of potential SC therapy for diabetes while 50% of them unwilling to undergo diabetic treatment using SC. **CONCLUSION:** Currently FDA approved hematopoietic SC for the treatment of blood and immunological diseases, while many including SC treatment for diabetic still in research and clinical trials. Persistent efforts need to be taken systematically to create awareness on approved and clinical trial of SC therapy among Malaysian via various educational programmes

KEYWORDS: Awareness, stem cell, diabetes

Bad Things Come in Threes: Food Poisoning Outbreak in Maahad Tahfiz Quran Darul Saadah

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ABSTRACT

INTRODUCTION: Food poisoning outbreaks in institutions are still common. Despite various policy and control measures implemented, recurrent outbreaks involving similar food handlers are still observed. Three different episodes of food poisoning outbreaks in Maahad Tahfiz Quran Darul Saadah and the lesson learnt are described. **METHODS:** In all three episodes, a retrospective cohort study was used. Epidemiological investigation was conducted. Students were interviewed and stool samples from patients were collected. Environmental investigation included premise rating, surface sampling of used utensil and handlers swab sample taken. Hazard analysis of food preparation, sanitation inspection and analysis were done to identify the food implicated. **RESULT:** Outbreak involving same food handlers occurred in first and third episodes. Alternative food handlers were used during the second episode. Hazard analysis of critical control point (HACCP) showed inadequate defrosting of chicken, insufficient cooking time and inadequate temperature during cooking. Cross contamination occurred due to unsanitary food handling. In all three outbreaks, the source of exposure was undercooked chicken. Food handlers in first and third episode were overburdened, while the alternative food handlers in second episode were inexperienced. **DISCUSSION:** The recurring food poisoning outbreak was most likely due to inexperienced handlers and organizational deficiency. Control measures were implemented, and suggestion were given to the organization. They were asked to ensure adequate number of handlers and organizational compliance to have an alternative handler to prevent recurrence in future.

KEYWORDS: food poisoning, outbreak, institutional

Body Mass Index Status and Its Relationship with Mode of Delivery, Birth Weight and Early Feeding History Among Children in an Urban Area of Pahang

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ABSTRACT

INTRODUCTION: The body mass index (BMI) of children is currently increasing in trends either globally or locally. In Malaysia, the number of children approaching unhealthy BMI is alarming. Despite the frequently conducted studies on children's BMI and factors such as diet and physical inactivity, limited studies were done focusing on birth related and early life factors. Thus, this research aims to study the body mass index status and its relationship with birth weight, mode of delivery and early feeding history among children in one of the urban residential area in Kuantan, Pahang. **METHODS:** A cross-sectional study with face-to-face interview using pre-tested structured questionnaires was conducted in October till November 2018. **RESULTS:** Among 92 participants, majority were male (52.2%), Malay (58.7%), have working parents (70.9%) and within M40 household income category (50.0%). Median age of the participants was 11 years old and mostly had appropriate birth weight, delivered via spontaneous vaginal delivery and weaned after six months with proportion of 87.0%, 77.2% and 75.0% respectively. Children who were wasted and severely wasted constitute 18.5% and overweight and obese 13.1%. Among the three main factors studied, it was found that only age of weaning has significant relationship with BMI status among these children ($\chi^2=7.58$ (2), $p=0.023$). **CONCLUSION:** Therefore, intervention as early as during infancy, particularly age of weaning, is important in maintaining the healthy BMI status among these children.

KEYWORDS: BMI, mode of delivery, birth weight, early feeding

Breastfeeding in Combat Boots: The Challenges

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ABSTRACT

INTRODUCTION: Role of women in military has undergone transformation and progressively recognized by the organization. However, it provides a unique environment to the women as it has always been considered as male dominated world. Hence, servicewomen faced challenges to balance their domestic role and career needs in the military. This study aims to look the effect of military life to the servicewomen on breastfeeding and the associated factors that influence the practice in Malaysian Armed Forces (MAF). **METHODS:** A cross-sectional study with face to face interview was conducted in September 2015. **RESULTS:** Among 435 servicewomen, 46% are from Army, 34.7% are Navy personnel and 19.3% are from Air Force. The mean (SD) age of the mothers was 33.2 (4.2) and mean (SD) number of children was 2.6 (0.9). Majority of them (92.2%) breastfed their children and 67.4% were able to breastfeed exclusively for six months. Mean (SD) duration of breastfeeding was 1.3 (0.74) years. The study found that majority described they were not comfortable of the surrounding working environment (98.3%), no appropriate place to express and store breastmilk (98.4%) as well as work demand that separates them from their children (98.0%) as the challenges faced to breastfeed. **DISCUSSION:** Efforts to create supportive environment and better facilities should be implemented in the intervention program to promote breastfeeding practice in MAF.

KEYWORDS: military women, breastfeeding, challenges

Brushing Teeth Among In-School Malaysian Adolescent.

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ABSTRACT

INTRODUCTION: Tooth brushing is an essential personal practice that contributes to individual good oral health. Good tooth brushing practice had been recommended at least twice daily by World Health organization to prevent the burden of oral disease. Therefore, the objective of the study was to determine the prevalence of brushing teeth and its associated factors among school-going adolescents in Malaysia 2017. **METHODS:** Cross-sectional designed national survey was conducted in 2017 among adolescents aged 13 to 17 years. Validated self-administered bilingual questionnaire adapted from the Malaysian Global School Health Survey with computer-scan-able answer sheets was distributed to 30,823 adolescents attending the government secondary schools in Malaysia and 89.2% responded to the questionnaire given. Complex sample analysis with multivariate were done using SPSS version 21. **RESULT:** 87% (87.1%; 95%CI: 86.2, 88.0) of the adolescents reported that they had brushed their teeth at least twice daily. Adolescents who was male (aOR: 2.54, 95%CI: 2.32, 2.77), reported ever used drugs (aOR: 2.55 95%CI: 2.13, 3.06), and eating fruits less than twice daily (AOR: 1.83 95%CI: 1.67, 2.00) significantly associated with higher odd chances of having unhygienic practice in oral health. **DISCUSSION:** The prevalence of tooth brushing among adolescents at least twice daily were lower with risk factors associated unhygienic practice were determined. Adolescents need to be encouraged and empowered to take responsibility of their own personal oral hygiene starting at the school level.

KEYWORDS: Tooth brushing, Oral Hygiene, Adolescents, Malaysia

Can Malaysia Mosquito Autocidal Traps Help to Reduce Dengue Cases? Preliminary Assessment, Jasin 2018

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ABSTRACT

BACKGROUND Populations of Aedes mosquitoes can be managed through reductions in adult mosquito survival and number of off-spring produced. Both can be simultaneously reduced by capturing gravid female Aedes with sticky gravid traps. Mosquito Autocidal Traps (MyMat) are a low-cost container with sticky rings on the inner surface to attract and capture the adult mosquitoes. The aim of this study was to report the preliminary effect of MyMAT in the number of dengue cases reported in the Taman Bemban Jaya and Taman Muhibbah Fasa 3, Jasin Melaka 2018. **METHODS:** We conducted a cross sectional study from 26 March 2016 to 2nd April 2017 in 2 dengue outbreak areas in Jasin District. Hundred MyMat were placed randomly indoors and outdoors per locality. Data were collected from the observation sheet and web-based reporting system. **RESULTS** A total of 12,374 female Aedes mosquitoes was collected throughout the study. The density of mosquitoes collected higher on trapped placed indoor (52.3%) compared to outdoors (47.7%). There were reductions in the number of dengue cases reported after implementation of MyMat. Taman Bemban Jaya showed 100% (2015:15 cases, 2018: no case) reduction and 92% reduction for Taman Muhibbah Fasa 3 (2015:12 cases, 2018:1 case). No outbreaks were reported after one year of MyMat implementation. **CONCLUSION** These preliminary findings suggest that MyMat might reduce virus transmission by reducing mosquito density and furthermore reduce the number of dengue cases reported. It can be used to complement source reduction efforts in controlling transmission.

KEYWORDS: MyMat, female Aedes, outbreaks, dengue cases

Carbonated Soft Drinks Consumption Among Adolescents in Malaysia: Finding from Adolescent Health Survey 2017.

Munawara Binti Pardi

ABSTRACT

INTRODUCTION: Soft drink is a major contributor to obesity and related health problems. This study aims to determine Carbonated Soft Drinks consumed among adolescents in Malaysia. **METHODS:** Data from National Health and Morbidity Survey 2017, (Adolescent Health Survey) were analysed. This cross-sectional study involved 27,462 school-going adolescents aged of 13-17 years; data was collected using self-administered questionnaire. Frequency of CSD consumption was assessed with the question. During the past 30 days, how many times per day did you usually drinks CSD. Adolescent who consumed CSD more than once per day was defined as taking carbonated soft drink. **RESULTS:** The descriptive and logistic regression analysis shows that the overall intake of CSD was 36.9% (95%CI: 35.04, 38.79) among adolescents in Malaysia. Higher intake was seen among boys (41.4%; 95%CI: 39.2, 43.8), Bumiputra Sarawak (63.6%; 95%CI: 54.7, 71.7) and age group of 13-15 years (39.8%; 95%CI: 38.0, 41.7). Adolescent in urban area significantly consumed lower CSD compared to rural (OR: 0.73; 95%CI: 0.060, 0.891). By nutritional status (BMI for age), the prevalence of CSD is highest among the thinness (40.6%; 95%CI: 37.3, 44.1) followed by normal BMI (36.9%; 95%CI: 35.04, 38.79) and overweight adolescents (35.8%; 95%CI: 33.7, 37.9). Adolescent from thinness group significantly consumed more CSD (OR: 1.17; 95%CI: 1.02, 1.33) compared to normal group. **CONCLUSION:** A message targeted on controlling CSD intake among adolescent should be a priority in future interventions targeting young adolescent to prevent unhealthy dietary choices.

KEYWORDS: Carbonated soft drink, Adolescent, Malaysia, NHMS 2017

Case Report: The War Against Mumps in Hospital Serdang

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ABSTRACT

INTRODUCTION: although sporadic transmission of mumps within hospitals to patients and staff is well documented, outbreaks of mumps within hospitals are rarely been reported. **OBJECTIVES:** We report an outbreak investigation and describe factors determining disease acquisition and control measures taken. **METHODS:** After seven cases of mumps reported in the radiology department, we performed an active case detection (ACD) among staff in involved department. We followed case definitions handbook which defined mumps as acute onset of unilateral or bilateral tender, self limited swelling of the parotid or other salivary gland, lasting for more than two days and without apparent cause for one month. Index case was a 32-year-old male medical officer presented with bilateral parotid swelling on 29/3/2019 and was given Medical Leave on the same day. **RESULT:** 11 cases out of 310 staff were confirmed mumps with an attack rate of 3.5%. One case was diagnosed while ACD, another two cases were diagnosed in staff clinic a week after ACD. No new case reported after that. There was no difference in gender (male 44%, female 56%) among attack group with mean age of 25 and no complications reported. Risk factors were close contact between the index case and colleagues in workplace and during organizing a symposium. Measures taken to control outbreak were terminal cleaning, Health Promotion and Education and enforcement from Infection Control team regarding coughing ethics, hand hygiene, wearing mask. **DISCUSSION:** early detection of mumps among staff and strictly adherence on the infection control practices is important to control the outbreak efficiently.

KEYWORDS: mumps outbreak, hospital

Characteristic of Leptospirosis Patients Admitted to Hospital Kuala Lumpur (HKL) From 2013 to 2018.

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ABSTRACT

INTRODUCTION: Rapid urbanisation lead to high density population in large cities. These changing environments influence the epidemiological pattern of leptospirosis, to move from rural to urban areas. Objective of this study is to determine the demographic and clinical characteristics of leptospirosis patients admitted to HKL. **METHODS:** This is a registry base retrospective study; carried out among all patients admitted with diagnosis of Leptospirosis to HKL between January 2013 and December 2018. A total list of 4270 suspected leptospirosis cases were downloaded from CDC-is in Excel-2013 format and then analysed using SPSS version 21.0. Only confirmed cases were included in this study, which were 1106 patients. **RESULTS:** The admitted patients were from Kuala Lumpur 715 (64.6%), Selangor 372 (33.6%), and other states 19 (1.7%); consist of 841 (76.0%) males and 265 (24.0%) females. The mean age was 34-year (SD 15.4year) with majority were in the age group of 18-30 (42.9%) and 31-60 (40.0%). Mostly was Malaysian 855 (77.3%) with ethnicity of Malays (55.5%), Indian (12.0%), and Chinese (5.9%). The most common clinical symptoms were fever 183 (35.95%), followed by diarrhoea 53 (10.5%), vomiting 61 (12.1%), myalgia 28 (5.5%), abdominal pain 26 (5.1%), headache 20 (4.0%), and arthralgia 28 (5.5%). Mostly admitted to Medical ward 912(82.5%), while 139 (12.6%) severe cases need intensive care, and death occurrence were 25 (2.3%). **CONCLUSION:** Based on age, the most affected groups were the active working population. Clinical presentation varied from mild illness to life-threatening complications.

KEYWORDS: Leptospirosis, Hospital Kuala Lumpur

Ciguatera Fish Poisoning Outbreak in Penampang District, Sabah - December 2017

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ABSTRACT

BACKGROUND: Ciguatera fish poisoning is caused by eating reef fish whose flesh is contaminated with ciguatoxin. A similar outbreak was reported in Kota Kinabalu District in 2012. On 15th February 2017, Area Health Office of Penampang received an unusual notification of suspected three food poisoning cases. Symptoms appeared after the cases had dinner at home. An investigation conducted aimed at verifying the outbreak, identifying the source and instituting control measures. **METHODS:** An investigation was conducted to identify factors associated with the outbreak. A suspected case was one who presented with at least one of these symptoms; muscle pains, numbness, diarrhoea, vomiting, itchiness or abdominal pain. Active case detection was conducted for household and fishmongers in the market. Blood and stool samples were sent for microbial infection. Food samples included fish at the cases' house and market were sent for confirmation. **RESULTS:** Four cases out of five people were identified in the same household. Fifty percent of the cases were males and between the age of 20-59 years. The mean incubation period recorded was 7.3 hours. Muscle pain and numbness were present in all cases. Diarrhoea, vomiting, itchiness and abdominal pain were present in 50% of the cases. Food history revealed that all cases ate the red snapper and laboratory showed that it was positive for ciguatoxin. **CONCLUSION:** This was a household ciguatera fish poisoning related to ingesting food snapper. Further actions were required to monitor high risk fishes sold in the markets.

KEYWORDS: food poisoning, Sabah, ciguatera toxin, red snapper

COMBI (Communication for Behavioural Impact) for Dengue Prevention in Bentong

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ABSTRACT

INTRODUCTION: In Malaysia, the COMBI approach has been used to control dengue. COMBI is a behavioural-focused social mobilization and communication programme for communicable diseases prevention and control. This study aimed to compare the knowledge and practice regarding dengue prevention between the communities with COMBI and those without COMBI. **METHODS:** This was an interviewer-administered, cross-sectional study in Bentong, Pahang involving 420 randomly selected respondents recruited from two communities with COMBI and two communities without COMBI. **RESULTS:** 262 respondents were selected from communities with COMBI while 158 from communities without COMBI. The mean age of the respondents from communities with and without COMBI were 45.49±17.62 and 47.94±16.70 years respectively ($p=0.783$). The education level was similar between both communities ($p=0.256$). Only 334(79.5%) of the respondents manage to correctly answer 75% of the questions. The mean knowledge score for communities with and without COMBI were 29.54± 8.33 and 30.07± 6.72 respectively ($p=0.498$). Mean dengue prevention practices score for communities with and without COMBI were 6.64± 1.81 and 5.01± 2.25 respectively ($p<0.01$). 95.8% respondents from communities with COMBI sought treatment within 3 days of fever as compared to 79% of respondents from communities without COMBI ($p<0.01$). This study found no association between knowledge with practice, ($r=-0.038$, $p=0.441$). **CONCLUSION:** The dengue knowledge was non-satisfactory. This provides an opportunity for enhancing health education and promotion. Furthermore, the implementation of COMBI appears to be an effective way to promote dengue prevention activities among the communities.

KEYWORDS: COMBI, dengue prevention, knowledge, practice

Community Engagement Programmes Under Cheras District Health Office in Year 2018: SWOT Analysis

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ABSTRACT

INTRODUCTION: Community engagement is a process of working collaboratively among groups of people affiliated by similar situations, conditions or region to address issues affecting their health. This study aims to describe community engagement programmes conducted under Cheras District Health Office in 2018 and analyse their strength, weakness, opportunity and threat (SWOT). **METHODS:** This is a qualitative case study design of purposively sampled thirteen community engagement programmes by using secondary data in form of manual, proposals, and reports. **RESULTS:** The general objectives of the programmes include primary and secondary prevention as well as community empowerment to care for their health. Level of engagement varies from inform (6), consult (1), involve (2), collaborate (2), and shared-leadership (2). Strength includes availability of manual with clear organisational structure. However, there were internal constraints in term of financial support, overlapping multitasking team and transportation. There were also lack of clear evaluation system as evidence-based guide for planning, implementation and future improvement. Despite having support from the top community leader, there was inadequate support from the grassroots' target community, possibly due to perceive non-important of the programme. **DISCUSSION:** Generally, there is a huge room for improvement as most community engagement programmes in Cheras District Health Office for year 2018 did not reach shared-leadership level. A comprehensive evaluation at planning stage (needs assessment), implementation stage (formative and process evaluation), and completion stage (summative, outcome and impact evaluation) should be considered to improve the level of engagement towards empowering community in taking care for their health.

KEYWORDS: community, engagement, public health, Cheras

Compare the Effectiveness of Influenza Vaccination for Elderly People with and Without Disabilities in Taiwan

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ABSTRACT

INTRODUCTION: Seasonal influenza vaccination (IV) is considered the most effective way in the prevention of influenza among older people. However, few studies have examined the effectiveness of IV on disabled populations. This study aimed to compare the effectiveness of IV for elderly people with and without disabilities on the risk of mortality and hospitalization in Taiwan. **METHODS:** This is a population-based, retrospective cohort study. By linking the National Disability Registration System and the National Health Insurance (NHI) Research Database, a total of 394,511 disabled and 2,741,425 free-of-disability adults age 65 or older in 2014, were identified. IV records were derived from the NHI database between October 1 and December 31, 2014, when the seasonal IVs were administered for free. Four comparison groups were formed by cross-tabulating the two dichotomies of vaccination-or-not and disability-or-not. Logistic regressions were used to compare these four groups of subjects on their health outcomes measured between January 1 and March 31, 2015. **RESULTS:** About 34.6% of the disabled elderly received IV in 2014, which was higher than that of free-of-disability elderly (30.8%). When compared to the unvaccinated disabled elderly, the vaccinated free-of-disability elderly had a 65% significant lower all-cause mortality; and 50.7%, 48.8%, 58.8%, and 36.7% lower risks of hospitalization for pneumonia and influenza, respiratory diseases, respiratory failure, and heart disease, respectively ($p < 0.001$). **DISCUSSION:** This study indicated IV could reduce the risk of all-cause mortality and hospitalization of influenza-related complications. Findings supported that promoting IV could narrow health disparities between the disabled and general elderly populations.

KEYWORDS: Influenza vaccination, Disability, Effectiveness, Health disparity

Comparison of Health Promotion Methods Using Audiovisual Media and Lecture Towards the Level of Elementary School Childrens Regarding Pulmonary Tuberculosis

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ABSTRACT

Tuberculosis is the leading of nine causes of death in the world and also known as the main cause of infectious agents. Indonesia is the country with the highest number of new cases in the world after India. This study aims to assess the effectiveness of the lecture methods and audiovisual with the level of children's knowledge regarding pulmonary Tb. The type of research that was used is quantitative research using a quasi experimental design. The nonequivalent pretest-posttest design technique was carried out by giving two different treatments totwo population of groups to see the influence of the intervention given. This study used a population of 6th grade elementary school children in SD Negeri 205 Palembang and YWKA Palembang Private school. The results of the analysis showed that children's knowledge about pulmonary tuberculosis disease was higher in the audiovisual health promotion methods compared to lectures in private elementary school ($p = 0.006$) and in public elementary school ($p = 0.002$). After conducting the significance test on the level of understanding of students regarding TB disease, it was obtained that in the Private Elementary School from the posttest conducted both in the audiovisual media group and the lecture method, there was an increase in the pretest value that was higher than the Public Elementary School ($p < 0.001$). It can be concluded that the audiovisual methods and lecture methods are equally effective with the value of effectiveness in the audiovisual media group higher than the lecture methods ($p < 0.001$).

KEYWORDS: Tuberculosis, knowledge, health promotion, lecture, audiovisual

Congenital TB: Where Did We Go Wrong?

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ABSTRACT

INTRODUCTION: Congenital tuberculosis (TB) is transmitted from mother to foetus via trans-placental or ingestion of infected amniotic fluid. Though the global incidence rate of congenital TB is very low, it poses high fatality rate. **CASE PRESENTATION:** A case of congenital tuberculosis in a baby born to a single underaged girl was reported in Gombak in 2018. Pregnancy confirmed coincidentally at government clinic when she sought treatment for cough and breathing difficulty in October 2017. She defaulted antenatal appointments till March 2018 when she presented with giddiness, lethargy, palpitation and breathing difficulty and immediately admitted to a government hospital. Treated for anaemia and discharged after blood transfusion the next day. TB screening not carried out nor advised by both the clinic and hospital although it was documented that her father was a TB patient who had defaulted treatment in 2005 and 2013. Upon delivery, the baby had breathing difficulties and diagnosed to have congenital pneumonia. Baby was discharged after five days to adopted parents. On day 20 of life, the adopted parents brought the baby to another government hospital for intermittent fever last 4 days. Baby was diagnosed to have congenital TB (sputum positive with chest x-ray findings bilaterally) and passed away on day 86 of life in NICU. The case highlights the importance of vigorous defaulter and contact tracing mechanism and prompt TB work out among antenatal mothers once positive history is elicited. **CONCLUSION:** TB screening must be part of routine antenatal care and the slightest suspicion should warrant prompt assessment.

KEYWORDS: congenital tuberculosis, antenatal screening, case report

Contributing Factor of Dengue Hotspot in Tanjung Aru Sub-District in 2018

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ABSTRACT

INTRODUCTION: Dengue infection is caused by dengue virus which is a mosquito-borne flavivirus transmitted by female Aedes mosquito that can lead to dengue fever. Tanjung Aru Sub-district is a priority-one area that erupts one episode of dengue hotspot in February 2018 with 18 cases. **METHODS:** Prevention and reducing dengue virus transmission depends entirely on controlling the mosquito vectors or interruption of human-vector contact. The investigator responsibilities are to conduct a case investigation to identify the potential source of infection, initiate control and prevention measures to prevent the spread of the disease and record the data into e-dengue. **RESULTS:** From the database, noted shortfall in quality in search and destroy operation. They only achieved 65 % of houses which is 217 houses out of 335 houses. Vector control team uses Acetylic as an insecticide and 20 caj or five teams are the standard of operational to cover for 200-metre radius, but vector team is under the standard that only three teams or 12 caj. **DISCUSSION:** The reason that this operation does not achieve target is due to control team had discovered nine other outbreaks at the same time. Community participation is vital to prevent and control the spread of dengue in the outbreak area. Integrated vector management (IVM) incorporate social mobilization and behavioral change at the community level as part of a wider strategy to control dengue. These strategies aim to improve the efficacy, cost-effectiveness, environmental impact and sustainability of vector control strategies.

KEYWORDS: Dengue Hotspot, Integrated Vector Management, Community participation

Coverage of Diabetic Nephropathy Screening in Malaysia 2015-2018

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ABSTRACT

INTRODUCTION: The Malaysian Clinical Practice Guideline (CPG) for Type-2 Diabetes Management emphasizes the importance for annual proteinuria testing for early detection of diabetic nephropathy. Annual proteinuria and micro-albuminuria screening have been incorporated into the model of good care for diabetes patients in primary care. This study aims to describe the coverage of nephropathy screening among type-2 diabetes patients receiving treatment at MOH health clinics, and factors influencing the coverage. **METHODS:** Data on proteinuria testing was extracted from the National Diabetes Registry for year 2015 to 2018. Feedbacks on the test coverage were elicited from each State Health Department using a standardised format. **RESULTS:** Overall, nephropathy screening coverage in Malaysia was low at 69.1% for 2018, but with an increasing trend from 66.5% in 2015. There are variations between states, with several states showing an increasing trend over time, some relative unchanged, and of concern some states showed decreasing trend. Huge variations were observed between districts as well. Several factors were identified to contribute to influencing the trend of coverage within the domains of healthcare facilities and systems, healthcare provider factors and patient-related factors. **DISCUSSION:** This paper highlighted the variations of quality of care in diabetes management in terms of nephropathy screening between states and districts over the time period of 2015 to 2018. Improving and narrowing the variations in nephropathy screening coverage would require addressing the multiple factors, and solutions have to be customised for each specific setting.

KEYWORDS: diabetes, proteinuria, primary care, nephropathy

Dengue Vector Control Campaign During Post Typhoon Haiyan in the Philippines: Lessons Learnt and Challenge

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ABSTRACT

BACKGROUND. In November 2013, the Central Region of the Philippines particularly Samar and Leyte devastated by typhoon Haiyan. Given the endemicity of dengue in Eastern Samar, and the increased risk factors as consequence of the typhoon Haiyan, Médecins Sans Frontières (MSF) decided to start a dengue vector control program in Guiuan Inter Local Health Zone (ILHZ). This study aimed to describe the dengue vector control campaign supported by MSF in Guiuan ILHZ in post-typhoon Haiyan from December 20, 2013 to June 30, 2014. **METHODS.** The intervention site was in Guiuan ILHZ composed of five municipalities (Guiuan, Mercedes, Salcedo, General Mac Arthur, Hernani) in the Province of Eastern Samar, Philippines. The study population included all households which received dengue control activities during the intervention. **RESULTS.** MSF dengue vector control interventions that have been implemented in Guiuan ILHZ after disasters were heterogeneous with an important component of social mobilization destroying mechanically thousands of breeding sites complemented with chemical control of the Aedes population. The chemical control activities varied in their intensity over the months and were multifaceted as well as utilizing only WHOPEs approved insecticides in the recommended application doses using the appropriate formulation for its use. Both chemical as bacteriological products were used for the larviciding campaign. The Indoor Residual Spraying (IRS) and space spraying were targeted in its application and focused around health structures, schools and houses of infected cases. **CONCLUSIONS.** This study ratified the feasibility and appropriateness of the MSF dengue vector control strategy in the aftermath of a typhoon. MSF dengue control intervention was done according to an established strategy defined at the onset of the intervention but with the required agility to adapted to contextual factors.

KEYWORDS: Dengue vector control campaign, Typhoon Haiyan

Depression Among the Urban Elderly Living in Malaysia: Findings from NHMS 2018

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ABSTRACT

INTRODUCTION: Depression is a mood disorder that is can affect daily physical and psychological well-being. Depression among elderly is common but often not recognised or treated. Many previous studies have reported prevalence of depression among Malaysian elderly between 6% to more than 50%. This study aims to evaluate the prevalence of depression among elderly living in urban areas in Malaysia and the factors that are associated with it. **METHODS:** A cross-sectional study was done among elderlies living in urban areas of Malaysia aged 60 and above. The validated Geriatric Depression Scale-14 questionnaire was used to screen for depression. A total score of 6 and above is classified as depression. Chi square analysis was done to analyse all factors associated. **RESULTS:** Out of 1690 urban elderlies interviewed, 169 were found to have depression giving a prevalence rate of 10.1%. Elderlies who were female (10.7%), Bumiputra Sarawak (26.9%), without spouse (15.6%), no formal education (22.1%), unemployed (11.8%) and had an income of less than rm1000 (14.7%) were more likely to be depressed. It was also found that marital status, education level, employment status and income level were found to be significantly associated with depression among urban elderly ($p < 0.05$). **CONCLUSION:** Depression is common among urban elderlies in Malaysia. Recognising these associated factors may indicate that low economic and educational status can contribute to depression among urban elderlies. Creating specialised programs and guidelines for detecting and treating depression can ensure successful management of this common but serious condition among our urban elderly population.

KEYWORDS: elderly, depression, Malaysia

Depression Severity and Substance Use Among School-Going Adolescents in Malaysia

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ABSTRACT

INTRODUCTION: Depression is among the most common mental health disorders. Substance use, especially, alcohol use is common in adolescence and it was found to have association with depression. The aim of this study is to determine the prevalence and association of depression severity with substance use among school-going adolescents in Malaysia. **METHODS:** A secondary data analysis of the Malaysian National School-Based Health Survey 2012 was carried out. A total of 21,764 school-going adolescents between the ages of 12 to 18 participated in the study. Complex sample ordinal logistic regression was employed for analysing and quantifying the odds ratio, in which 95% confidence interval was achieved. **RESULTS:** This study discovered that the prevalence of mild, moderate and severe depression were 16.6%, 12.8% and 3.8% respectively. Multivariable analysis showed that those who smoked (OR: 1.30, 95%CI: 1.15, 1.46), drank alcohol (OR: 1.30, 95%CI: 1.14, 1.48) and used drug (OR: 1.81, 95%CI: 1.24, 2.65) were found to be more likely to experience severe depression. **CONCLUSION:** The exposure to substance usage should be taken into consideration while designing an intervention package to manage adolescents with depression.

KEYWORDS: Adolescent, Depression Severity, Ordinal Regression

Development and Validation of a Training Tool on Adolescent Education for Healthcare Provider: SEDAR Module

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ABSTRACT

INTRODUCTION: High risk behaviour among adolescent poses a serious threat to these future generation, community and our country. It warrants greater public health concern as it gives impact to the health and psychosocial development of adolescent. To our knowledge, there is no integrated module available at national level focusing few high-risk behaviours including pre-marital intercourse, smoking and substance abuse. This study aims to develop a new integrated module for Health Care Providers in promoting awareness and knowledge regarding high risk behaviour among adolescent. **METHODS:** A new module constructed in Malay language including the sexual education, smoking cessation, substance abuse and HIV-AIDS. The module was developed based on literature review, experts' opinion and theoretical framework. The process was conducted in five phases: 1) Identification of domains. 2) Verification of identified domains. 3) Defining the domains. 4) Identification of relevant and representative items for each domain. 5) Final verification of domains and items. **RESULTS:** All four domains were agreed upon by experts; considering relevant literature, pre-existing modules and experience. Content validation, cognitive debriefing and pre-testing assessment were conducted. Overall response process assessment was good. Content, module arrangement and formatting easily readable and well understood by all respondents. The resulting module named as SEDAR that covered "Seksual, Dadah, Arak/AIDS dan Rokok". **DISCUSSION:** SEDAR is a new potential module to develop awareness and knowledge regarding high risk behaviours among adolescent and it can be use in future intervention program involving adolescent.

KEYWORDS: adolescent, training tool, health care provider

Diabetic Retinopathy - Who is at Risk?

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ABSTRACT

INTRODUCTION: Diabetic Retinopathy is a leading preventable blindness and the most common complication in Type 2 Diabetes Mellitus. The prevalence of diabetic retinopathy in Malaysia reported by the Diabetic Eye Registry in 2007 was 36.8%. Other local studies showed prevalence ranging between 12.3% and 16.9%. However, since Kedah has the highest prevalence of diabetes and leading state for occurrence of blindness, it is time for the stakeholders to focus on strategies to improve. The aim of this study is to determine the prevalence of diabetic retinopathy and associated risk factors among type 2 diabetes patients in public health clinics in Kedah. **METHODS:** This cross-sectional study was carried out among type 2 diabetes patients across 58 public health clinics in Kedah. Subjects were selected from the National Diabetes Registry (NDR) using random sampling which gathered information on demographics, physical and biochemical parameters. Patients registered in the NDR with at least one visit within a 12-month period from August 2016 to July 2017 were included. **RESULTS:** Of the 23,557 subjects, 63.4% were female, mean age was 52 years and mean duration of diabetes was six years. The prevalence of diabetes retinopathy is 12.6%. About 70% of the subjects have uncontrolled glycaemic level. **DISCUSSION:** Based on the findings, the modifiable risk factors identified were glycaemic level and duration of DM. These data highlight substantial public health burden on diabetic retinopathy. Hence, the need to improve diabetes care and strengthen preventive efforts to reduce complications.

KEYWORDS: diabetes, retinopathy, public health clinics, risk factors, NCD

Distribution of Diseases Among Followed Up Patients in Malaysian Field Hospital During Operation Starlight-2

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ABSTRACT

INTRODUCTION: The Malaysian Field Hospital (MFH) Mission provides humanitarian assistance through a Level-3 referral hospital within the Rohingya refugees' safe zone in Cox Bazar, Bangladesh since 2017. The latest rotation, Ops Starlight-2 was run by Malaysian Armed Forces Health Services from 28th August 2018 until 28th February 2019. This paper describes the distribution of out-patient cases received during Ops Starlight-2. **METHODS:** A cross-sectional study was conducted. Patient health records over the period of 6 months were examined systematically. The inclusion criteria include only ethnic Bangladeshi and Rohingyas, whom require regular follow-up for chronic diseases, pre-op assessments, post-op review/ care and any acute cases which require post treatment reviews. Descriptive analysis was used. **RESULTS:** MFH received 63,200 patients during Ops Starlight-2. A total of 1520 cards were analysed. Approximately 55% came for subsequent follow up, while 12% defaulted. Demographically, 85% were Rohingyas. 70% were >15 years of age, 21% between five to 15 years old, and 9% were <5 years old. 60% female and 40% male. 85% were Non-Trauma Cases, 51% required further interventions in which 99.4% from them were surgical patients. Common diseases seen were thyroid disease (20%), followed by hernia (11%), fractures (10%), cancer (7%), abscess (6%) and splenomegaly (3.5%). Hence, among the interventions done were thyroidectomy (9%), hernial repair (8%), immobilisation (6%), implant/plating (5%), incision and drainage (4.7%), excision (4.5%) and splenectomy (2.5%). 99% were given medication upon visits. **CONCLUSION:** Ops Starlight-2 treated wide range of diseases in which majority of the cases required surgical interventions.

KEYWORDS: Distribution of Diseases, Rohingya, Ops Starlight-2, Malaysian Field Hospital, Surgical

Do 'Z- Generation' Understand HIV?

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ABSTRACT

INTRODUCTION: The trend of new HIV cases in Wilayah Persekutuan Kuala Lumpur and Putrajaya (WPKL&P) based on age group is now shifting to younger population. The prevalence of HIV in the group of 20-29 years old is doubled from 2014 to 2018. Hence, a program named Generasi Tanpa HIV/ AIDS (GenTHA) under City Getting to Zero Project was conducted with several interventions to improve the knowledge of HIV and high-risk behaviour among 14 and 16 years old students. **METHODS:** 40 students aged 14 and 16 years old were selected from four different schools in Cheras. Survey consisting of questions regarding general knowledge of HIV and the attitude towards PLHIV was conducted in early phase (pre- test) and at the end of the program (post-test). **RESULTS:** All of the students were Malay and Muslim. Majority of them (70%) were 16-year-old with equal distribution of gender. Among them, 5 students (12.5%) admitted they have been involved in sexual activity. At the end of the program, we found that their knowledge of HIV has increased up to 100% on most questions. However, the percentage of stigma is still high (62%) towards PLHIV. **DISCUSSION:** Issue on stigma has to be strengthened in future program in order to succeed in preventive program among younger population.

KEYWORDS: HIV, adolescents, stigma

Do Features of the Food Environment have an Influence on Body Weight and Fast Food Consumption Among Adolescents in Malaysia?

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ABSTRACT

INTRODUCTION: Neighborhood food environments may be related to obesity among adolescents and be potentially related to other health disparities. Greater access to fast food outlets has been associated with less favorable diet quality and an increase prevalence of obesity. The purpose of this study was to investigate the spatial relationship between food environment features around schools with weight status and fast food consumption among adolescents. **METHODS:** This is a cross sectional study with 995 adolescents who were recruited and completed a questionnaire on sociodemographic information, fast food intakes besides height and weight measurements. Geographic Information System was used to geocode for spatial cluster analysis with a 400 and 800-m-radius buffer around each school. We examined the relationship between the presence of fast food outlets with fast food consumption and BMI using multivariate analysis. **RESULTS:** Fast food outlets density was not associated with BMI. BMI z-scores were positively associated with the presence of fast food outlets within a 1.6km buffer. Spatial analysis showed no significant difference in food environment features and weight status among adolescents. The results showed the median distance from any school in urban areas to the nearest fast food outlets was 0.52km and about a third of schools were surrounded by at least one fast food outlets within 800m. **CONCLUSION:** Although a negative association between density of fast food outlets with weight status among adolescents was observed, policies and interventions that encourage adolescents and parents to eat at home could serve as effective prevention against a poor diet.

KEYWORDS: Food environment, obesity, adolescents, fast food, Geographic Information System (GIS)

Does a Structured Module Program for the Elderly Works? The Kuala Pilah Experience.

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ABSTRACT

INTRODUCTION: This is a review on the implementation and progress of a structured module program implemented in Kelab Warga Emas (KWE) Health Clinic Kuala Pilah. **METHODS:** Module was conducted from March 2018 till present. Recruitment done by universal sampling among elderly registered under KWE. Only active members were selected. They underwent a five components module, each assessed by the following tools; physical (Time Up and Go Test (TUGT) and Modified Barthel Index- MBI), mental (ECAQ), dental (Dental Health Camp), nutrition (BMI) and health promotion activities. **RESULTS:** There are 35 elderly registered under the KWE. Age ranges from 60 to 85 years old. Majority were female (70%) and Malay (75%). Each component had different numbers of participation. The TUGT which assessed balance showed 96.4% achieved more than 20 seconds with only 1 with normal result of <10 seconds. All 23 whom performed ADL test, scored normal for the MBI with >95 marks. 21 tested cognitively via ECAQ scored normal marks 7/10. Eleven elderly attended dental health camp with seven screened and four for dentures. 60.6% with BMI more than 25 were detected and referred. **CONCLUSION:** Challenges lies on recruitment to join KWE and difficulty in ensuring regular participation for all 5 components. Thus, affecting commencement of intervention leading to poor progress evaluation. Poor accessibility for the elderly to join KWE can be improved via KOSPEN and engaging Health Clinics 'Panel Penasihat' to bridge the gap. Financial support allows staffs to be trained and ensures sustainability of this program.

KEYWORDS: Elderly, structured, module, Kelab Warga Emas, Healthy aging.

Does Good Knowledge on Dietary Risk Factors for Diabetes Translate into Good Dietary Practice? Findings from a Suburban Community in Tampin, Negeri Sembilan

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ABSTRACT

INTRODUCTION: Poor dietary habit is a common risk factor for major non-communicable diseases. The government continuously promotes good dietary habits to further reduce the risk of disease development. This study aims to describe the level of knowledge, attitude and practice on dietary risk factors for type-2 diabetes mellitus and their associated factors among adult population in a suburban community in Tampin, Negeri Sembilan. **METHODS:** In this cross-sectional study, 256 adults were interviewed using pre-tested, structured questionnaire using systematic random sampling of houses in a suburban housing estate in Tampin district, Negeri Sembilan. The questionnaire contained five sections namely socio-demographic details, medical history, knowledge, attitude and practice on dietary risk factors for type II diabetes mellitus. Knowledge, attitude and practice scores were transformed into percentage. **RESULTS:** The mean (s.d.) level of knowledge, attitude and practice on dietary risk factors were 78.75 (13.64), 72.25 (8.46) and 62.59 (7.64) respectively. Knowledge has weak positive correlation with dietary practice ($r=0.166$, $p=0.008$). Higher knowledge was associated with lower age ($r -0.2$, $p=0.001$), female vs male (81.63 (11.16) vs 75.54 (15.38), $p<0.001$) and ethnicity ($p<0.001$). Having diabetes is not significantly associated with better knowledge, attitude or practice on dietary risk factors. **CONCLUSION:** In this suburban community, higher knowledge on dietary risk factors for type 2 diabetes mellitus may not necessarily translate into better dietary practice. Current health campaigns could focus more on practical skills on dietary habits rather than just focusing on improving the knowledge.

KEYWORDS: dietary risk factors, diabetes, non-communicable diseases

Effectiveness of Group Cognitive Behavioral-Based Therapy on Pain and Functional Disability Among Knee Osteoarthritis Patients in Malaysian Government Hospitals

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ABSTRACT

INTRODUCTION: Evidence of effectiveness of cognitive behavioral-based therapy in treating OA knee pain is lacking. This study aimed to develop, implement, and evaluate the effectiveness of a cognitive behavioral-based therapy module in treating knee pain and functional disability for patients with knee OA. **METHODS:** Three hundred patients aged 35 to 75 years diagnosed with knee OA (Kellgren grade ≥ 2 and visual analogue scale (VAS) score 40 or more) were randomly assigned to intervention group ($n=150$) and control group ($n=150$). Data was collected at baseline, immediate, one-month and six-month post treatment for knee pain intensity and functional disability (daily living and sport). Data collected was analysed using SPSS software with the application of mixed design repeated measured analysis of variance. **RESULTS:** One hundred and nineteen (79%) participants in the intervention group and 111 (74%) participants in the control group were included in the analysis at six months. The Knee injury and Osteoarthritis Outcome Score (KOOS) knee pain scores improved substantially in the intervention group, but not in the control group. The mean change in the KOOS knee pain score was 8.9 points (95%CI: -11.23, -6.62, $p=0.0001$) higher (less knee pain intensity) in the intervention group. Functional disability in daily living improved significantly in the intervention group ($p<0.05$). Functional disability in sport did not differ significantly between groups ($p>0.05$). **DISCUSSION:** The cognitive behavioral-based therapy module is effective in reducing knee pain intensity and functional disability in daily living in this knee OA population.

KEYWORDS: pain, functional disability, knee osteoarthritis, cognitive- behavioral

Effectiveness of Influenza Vaccination on Absenteeism of Health Care Workers in Tertiary Hospitals in Perak, Malaysia

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ABSTRACT

Healthcare workers (HCWs) are at high risk of influenza infection and can easily spread the disease. Malaysia Ministry of Health has been introducing a free influenza vaccination program for HCWs. However, the uptake remains low due to the doubt in the effectiveness of the influenza vaccine. The objective of this study is to determine the effectiveness of influenza vaccination in reducing influenza-related work absenteeism among HCWs. A cross-sectional study was carried out in two tertiary hospitals in Perak. It involved 774 nurses and assistant medical officers who were selected using simple random sampling. The study used a self-administered questionnaire that contained a section on sociodemographic characteristics, uptake of the influenza vaccination based on the 2016/2017 influenza season and the number of sick days due to influenza symptoms in the year of 2017. The influenza vaccination uptake was 25.5%. A total of 136 (17.6%) HCWs reported taking sick leave in the past 12 months. Sick leave was reported more often by non-vaccinated HCWs (18.1%, mean 0.41 ± 1.25) than by vaccinated HCWs (16.2%, mean 0.27 ± 0.75) ($p = 0.3881$), although the difference was not statistically significant. However, the total number of workdays lost due to influenza among non-vaccinated HCWs was four times higher than that among the vaccinated group in the studied hospitals (225 days/year in the non-vaccinated group vs 53 days/year in the vaccinated group). This finding could motivate policy makers to strengthen the implementation of an influenza vaccination programme among HCWs and to encourage HCWs to be immunised against influenza.

KEYWORDS: influenza, vaccination, healthcare worker, prevalence, effectiveness

Effectiveness of Physical Activity Intervention Module on Physical Activity Level Among Overweight and Obese in Malaysian Armed Forces

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ABSTRACT

INTRODUCTION: About 18% of Malaysian Armed Forces (MAF) personnel are diagnosed with either hypertension, diabetes or coronary artery disease, while another 8% are obese. The rising prevalence necessitates intervention. **METHODS:** This is a single blinded randomized controlled trial among overweight and obese MAF personnel attending medical checkup in MAF hospital in Kuala Lumpur. An intervention module was developed to increase their physical activity level. Short version of International Physical Activity Questionnaire was used to measure physical activity in metabolic equivalent of task score (METs score), while blood pressure and body mass index (BMI) were also obtained. These parameters were measured at baseline and again at six months. Generalized estimating equations (GEE) statistical test were used to evaluate the effect of the intervention. **RESULTS:** Response rate was 100%. Most of participants were aged above 40 years, male, from Malay ethnic group, completed secondary education and had monthly income above RM4000. Most of the respondents were obese and had moderate level of physical activity at baseline. All variables compared between groups at baseline showed no significant difference. At six months, after controlling for covariates, the significant difference was only in METs score. The odds of having high METs score in the intervention group after receiving intervention was nearly 3 times higher than those in the control group, after adjusting for interaction between time and group as well as other covariates (aOR:2.908, 95%CI: 1.323, 6.391, $p=0.008$). **CONCLUSION:** Intervention was effective in increasing physical activity among overweight and obese military personnel.

KEYWORDS: Physical Activity Intervention, Malaysian Armed Forces, overweight, obese

Effectiveness of Workplace Interventions for Treating Work-Related Rhinitis and Rhinosinusitis.

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ABSTRACT

INTRODUCTION: The impact of non-pharmacological interventions instituted at the workplace to alleviate symptoms and shorten the recovery process of work-related rhinitis and rhinosinusitis is not well-described. Workplace interventions for treating work related rhinitis and rhinosinusitis might be receiving, may be effective in alleviating symptoms. This review was conducted to assess the effects of workplace interventions on the severity of symptoms of rhinitis or rhinosinusitis. **METHODS:** MEDLINE, CENTRAL, EMBASE and PsycINFO using keywords and MeSH headings. Other databases searched were OSH UPDATE + FIRE, ClinicalTrials.gov and WHO International Clinical Trials Registry. Selection criteria: Randomised controlled trials, cluster-randomised controlled trials and controlled cohort before after studies. **RESULTS:** A total of 1506 records were screened and one study that recruited 80 office workers was eligible. The study examined the use of active air filter in the electrostatic cleaner in the office to see if it reduced nasal and sinus symptoms in the affected office workers. There were no clear differences in the severity of the airway symptoms, measured indirectly using a set of symptoms, in the participants who worked with active filter versus those without active filter (RR 0.68, 95%CI: 0.35, 1.32). When the participants' noses were examined closely for the size of congested area or volume, there were also no clear and consistent differences between the two groups of participants (RR 3.50, 95%CI: 1.30, 9.45). **CONCLUSION:** No clear conclusion can be made regarding the use of active filter in an electrostatic cleaner in the office in reducing the severity of rhinitis and/or rhinosinusitis among office workers.

KEYWORDS: workplace interventions, work-related rhinitis, work-related rhinosinusitis

Effects of IMB Based Lifestyle Intervention on Blood Pressure Among Pre-Hypertensive Patients in Maran, Pahang

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ABSTRACT

INTRODUCTION: Although evidence suggested that lifestyle interventions can reduce blood pressure, there is little information about feasibility of such interventions on pre-hypertensive patients using the Information, Motivation and Behavioural Skills Model. By introducing lifestyle modification using the IMB Model this may increase healthy behaviour practice and prevent elevation of blood pressure. **METHODS:** A cluster RCT was conducted at health clinics in Maran in which 410 participants from 10 clinics were randomly allocated into intervention and control group. The intervention arm received the lifestyle intervention and the control received the usual care. The primary outcome was change in SBP and DBP. Secondary outcome was changes in behavioural factors and IMB score. Non-parametric analysis was used to compare the median within and between groups at three months follow up. Multivariable analysis was analysed using GEE. **RESULTS:** At three months follow up there was reduction of 3.75mmHg of systolic blood pressure as compared to baseline ($p=0.01$) and sodium reduction by 68mg as compared to baseline ($p=0.001$). There were significant group changes in information, motivation and behavioural skills score ($p=0.001$). **DISCUSSION:** The intervention was effective in increasing knowledge, motivation and acquiring the behavioural skills on healthy lifestyle to reduce blood pressure but not able to look into the effectiveness of changes in SBP and DBP. Findings suggest that implementation of IMB based intervention has potential benefits, but present gaps based on the result of study. Further long-term research is needed to determine the effect on SBP and impact on pre-hypertension prevalence in Malaysia.

KEYWORDS: IMB Model, Pre-hypertension, lifestyle intervention, Adults, Malaysia

Effects of Sanitation Practices on Adverse Pregnancy Outcomes in Urban India

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ABSTRACT

INTRODUCTION: Several risk factors predisposing women and their live-born to adverse outcomes during pregnancy have been documented, little is known about sanitation as a factor contributing to adverse pregnancy outcomes. The role of sanitation in studying adverse pregnancy outcomes remains largely unexplored in Indian context. This study is an attempt to bring the focus on sanitation as a factor in adverse pregnancy outcome.

METHODS: The study is based on fourth round of National Family Health Survey covering 26,972 women in the age-group 15-49. The study variables include the mother's age, Body Mass Index (BMI), education, anaemia, and Antenatal care (ANC) visits during the last pregnancy. Children study variables include Low Birth Weight (LBW), the order of birth (Parity), and the death of the children occurred to the women in last five years.

RESULTS: Findings from the study show that women who do not have access to the toilet within the house have a higher risk of adverse pregnancy outcome. In the multivariable model, there is no association found for adverse pregnancy outcome among women who do not have access to toilet and women who are using a shared toilet. Teenage (15-19 years), uneducated, underweight and anemic mothers are more likely to face APO as compare to other mothers in similar characteristics group.

DISCUSSION: Our findings contribute to the decidedly less available literature on maternal sanitation behaviour and adverse pregnancy outcomes. Our results support that sanitation is a very significant aspect for those women who are about to deliver a baby.

KEYWORDS: Adverse Pregnancy Outcome, Sanitation, Low Birth Weight, Urban India.

Erectile Dysfunction Among Methadone Maintenance Patients

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ABSTRACT

BACKGROUND AND OBJECTIVES: Erectile dysfunction is one of the adverse effects of methadone. Erectile dysfunction affects more than half of methadone patient population. However, their behavior for seeking treatment is little known. This study aims to assess prevalence, risk factors as well as health seeking behavior for erectile dysfunction among methadone patients.

METHODS: This is a cross-sectional questionnaires-based study. Seventy-six methadone patients from three primary health cares were assessed by using the International Index of Erectile Function 5 (IIEF-5). Patient with erectile dysfunction was further assessed with health seeking behavior questionnaire. **RESULTS:** The prevalence of erectile dysfunction was 46.1%. Age was found to be the only significant risk factor associated with erectile dysfunction in methadone patient ($p < 0.05$). More than half patients (66.7%) with erectile dysfunction thought their sexual life was affected with the condition. Fifty-three percent of methadone patient had ever sought treatment for erectile dysfunction. Herb was the most popular self-treatment options among those with ED. **CONCLUSION:** The health seeking behavior for erectile dysfunction among methadone patient was at unacceptable level. The strategies are needed to increase awareness and detection of erectile dysfunction among methadone patients

KEYWORDS: Erectile dysfunction, opioid use disorder, methadone maintenance therapy

Escherichia Coli Outbreak Among Camp Attendees in Sungai Congkak, Selangor

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ABSTRACT

INTRODUCTION: Hulu Langat District Health Office was notified of students presented with acute gastroenteritis symptoms from three different institutions on 28th February 2019. All the affected students went to the same motivational camp in Sungai Congkak on the 22nd-25th February 2019. A study was conducted to describe the outbreak, identify risk factors, and implement control measures. **METHODS:** Case control study was used. Case was defined as any individual who attended the camp on the 22nd-25th February 2019, presented with either nausea, vomiting, diarrhea, or abdominal pain from 23rd February 2019. Active case detection was conducted, and students were interviewed. Hazard analysis and critical control points (HACCP) and environmental investigations were done. **RESULTS:** Attack rate was 30.8% (124/403), 116 cases (93.5%) did not seek for any medical attention, and another eight cases (6.5%) was treated as outpatient. Main symptoms were abdominal pain (64.52%), diarrhoea (58.06%) and vomiting (47.58%). Food premise rating was 70.1%. The investigation found that the usage of untreated water in several process without sanitation process caused cross contamination. The laboratory result showed isolation of *Coliform Sp.* from two environmental swabs, and isolation of *Coliform Sp* and *E. Coli* from five different water samples from the Gravity Feed System (GFS) supported the analysis. **CONCLUSIONS:** The outbreak was most likely due to usage of untreated contaminated water from the GFS as the only source of water at the camp, and the suspected bacteria is *E. Coli* Health education was given on safe water practices and basic sanitation to the camp owner and food handlers.

KEYWORDS: E. Coli, Outbreak, Sungai Congkak, Gravity Feed System, Selangor

Estimating Burden of Disease Attributable to Physical Inactivity in Malaysia, 2015

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ABSTRACT

INTRODUCTION: Regular physical activity is a well-established protective factor for the prevention and treatment of the noncommunicable diseases. Globally, 23% of adults do not meet the WHO global recommendations on physical activity for health. The objective of the study was to estimate the BOD attributable to physical inactivity in adults aged 30 years and older in Malaysia. **METHODS:** The calculation of BOD in term of Disability Adjusted Life Years (DALYs) was done using the methodology used in the Global BOD Study whereas the calculation of attributable burden of physical inactivity was done using the World Health Organization Comparative Risk Assessment methodology. Mortality and population data were provided by the Department of Statistics, Malaysia and data on inactivity was obtained from National Health and Morbidity Survey 2015. **RESULTS:** Physical inactivity was estimated to have caused 7.8% of BOD among Malaysian population (7.4% in males and 8.3% in females). By age group, the highest BOD attributable to physical inactivity was in the 60-69 years old. Ischaemic Heart Disease was the largest contributors for DALYs attributable to physical inactivity in both males and females at 52.5% and 32.52% respectively. **DISCUSSION:** This study shows the importance of physical inactivity as a major risk to health particularly among females. Priority should be given on the implementation of effective policy and practice regarding the prevention of physical inactivity in the population.

KEYWORDS: Physical Inactivity, Attributable Burden of Disease, DALYs

Evaluate the Effectiveness of Regular Health Examination Among the Newly Diagnosed Diabetes Patients in Taiwan

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ABSTRACT

INTRODUCTION: Studies indicate that Health Examination (HE) is associated better health outcomes over shorter period of time among general populations. In this study, we evaluate the effectiveness of regular HE on health care expenditure and all-cause mortality among a group of newly diagnosed diabetes patients over a 6-year period. **METHODS:** Newly diagnosed diabetes patients aged 70 or older between 2003 and 2007 were identified from the National Health Insurance Research Database. The selected cases were divided into four groups: (1) those who never had HE; (2) those who received one HE; (3) those who received two HEs; and (4) those who received 3 HEs over the past three years. Proportional hazards and linear regression models were used to compare the risk of all-cause mortality and their diabetes-related health care expenditure across the four groups. **RESULTS:** Among the 13,349 newly diagnosed diabetes patients, 29.9% of them never had HE and 22.7% receiving 3 HEs over the past 3 years. Patients received 3, 2, and 1 HE over the past 3 years spent 43%, 31%, and 23% less, respectively, when compared to those who never had annual, HE. For all-cause mortality, patients with 3, 2, and 1 HE was 33%, 26%, and 13% less likely to die, respectively, when compared to those who never had HE over the 3-year period. **DISCUSSION:** Our analyses confirm that, for the newly diagnosed diabetes patients, regular HE seems effective in reducing their health care spending on diabetes and mortality.

KEYWORDS: health examination, newly diagnosed diabetes, regular, effectiveness

Evaluation of Different Concentration of Pyriproxyfen, An Insect Growth Regulator (IGR) Against Immature Stages of *Aedes Aegypti* and *Aedes Albopictus*

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ABSTRACT

INTRODUCTION: Pyriproxyfen is an insect growth regulator that has proved promising for controlling vector mosquitoes such as *Culex*, *Anopheles*, and *Aedes* species. In this study, the efficacy of pyriproxyfen at different concentration were evaluated against dengue vectors, *Aedes aegypti* and *Aedes albopictus*. **METHODS:** Eggs, larvae and pupae were exposed to 100, 50, 40, 30, 20, 10, 5, 1, 0.9, 0.8, 0.7, 0.6, 0.5, 0.4, 0.3, 0.2 and 0.1mg/L of pyriproxyfen. Bioassay was carried out to determine the concentration-mortality response of immature stages of *Aedes* mosquito towards pyriproxyfen. **RESULTS:** Following the exposure, 100% of eggs from both species were prevented from hatching in all petri dish treated containing at least 0.7mg/L of pyriproxyfen while ~95% of eggs hatched from the control group within 24 hours. Within 48 hours, larvae from both species treated with minimum 3mg/L of pyriproxyfen shows 100% mortality with LC₅₀ recorded in *Ae. aegypti* and *Ae. albopictus* are 0.740 (0.683-0.803) and 0.901 (0.817-1.000) respectively. LC₅₀ for pupae in *Ae. aegypti* and *Ae. albopictus* are 0.924 (0.789-1.092) and 1.183 (1.027-1.380) with minimum 4 mg/L of pyriproxyfen required for 100% mortality within 48 hours. An additional study showed that 100 gravid female mosquitos, exposed to 100mg/L pyriproxyfen transfer enough chemicals to new oviposition sites containing uncontaminated water to prevent 100% of adult emergence. The existence of pyriproxyfen in uncontaminated water is assessed using Ultra Performance Liquid Chromatography (UPLC). **DISCUSSION:** The actual efficacy of insecticide in field application can be reflected from laboratory test and evaluation.

KEYWORDS: Insect growth regulator, pyriproxyfen, *Aedes aegypti*, *Aedes albopictus*

Evaluation of The Management of Gonorrhoeal Infection in Pahang-To Ascertain the Management for HIV Anticipation

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ABSTRACT

INTRODUCTION: Gonorrhoeal disease is an infection acquired through risky sexual practices. Even though it is treatable, it must be well managed as a primary HIV prevention strategy. The aim of this study is to evaluate the management of gonorrhoea infection in Pahang to ascertain the management for HIV anticipation. **METHODS:** We conducted a cross sectional study consists of 109 gonorrhoeal confirmed cases in Pahang in the year 2018. Data was collected by face-to-face interview using structured investigation form. **RESULTS:** Majority of cases were male (91%) with mean age 25.2±6.719. The main mode of transmission was heterosexual (97%) while the remaining 3% were homosexual. 75.2% of cases had history of sexual intimacy with illegal sex partner while 19.3% had intimacy with commercial sex workers. The remaining 5.5% had sexual intimacy with legal partners. All cases were educated with HIV/STI knowledge and screened for HIV. Two cases were found to be HIV positive. Total number of 127 sexual contacts identified but only 12 were screened for gonorrhoeal and HIV. **CONCLUSIONS:** Management of gonorrhoeal patients as a primary HIV prevention strategy needs to be strengthened. Proper counseling and education on risk of HIV to all gonorrhoeal patients are mandatory. Repeat HIV testing after window period should be done aggressively including defaulter tracing. Adequate contact identification and investigation should be a priority as other infectious diseases despite of the difficulty.

KEYWORDS: prevention strategy, sex partner, risk of HIV, window period.

Exclusive Breastfeeding and Gross Motor Development

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ABSTRACT

INTRODUCTION: Breastfeeding is recognized as an unmatched means of feeding due to the protective and personalised properties of breast milk. However, global and national breastfeeding pattern indicate substantial room for improvement. This study sought to investigate the impact of exclusive breastfeeding on neurodevelopmental attainment level of toddlers. **METHODS:** This cross-sectional study recruited 360 Malaysian mothers with children aged six to 36 months old. Information on sociodemographic distribution, child and obstetric characteristics, home stimulation and breastfeeding practices in terms of duration and exclusivity were obtained through interviewer-assisted questionnaire administration. The “Ages and Stages Questionnaire-3”, a global child developmental screening tool was used to assess child gross motor attainment level. Multiple logistic regression methods were used for data analysis. **RESULTS:** Mothers who did not breastfeed at all make up 5.4% of total respondents. The prevalence of six months exclusive breastfeeding was 36.4%. 31.7% children aged above two years old received continued breastfeeding for at least 24 months of life. Duration of breastfeeding is positively associated with gross motor scoring, $p=0.004$. Odds of children exclusively breastfed for six months to acquire gross motor milestones advancement is 2.55 times higher compared to children who are not exclusively breastfed for the same duration, OR 2.55 (95%CI: 1.02, 6.40), $p=0.045$. **DISCUSSION:** The positive impact of exclusive breastfeeding towards gross motor development of toddlers revealed in this study is hoped to provide an insight in overcoming issues of early cessation of exclusive breastfeeding through community empowerment and policy development.

KEYWORDS: breast milk, breastfeeding, child development, gross motor

Exploring the Understanding About Routine Health Data Quality: Oral Healthcare Personnel Perspective

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ABSTRACT

BACKGROUND: A high-quality routine oral health data is critical for planning, financing, monitoring, and evaluation of programs and activities. However, the term quality is subject to various interpretation and meaning by a different individual involved in the process. Therefore, this study intended to explore the understanding of health data quality among oral healthcare personnel. **METHODS:** A phenomenology study conducted from March to April 2019 among the public oral health facilities in Kelantan, Malaysia. A total of 64 oral health care personnel invited to eight focus group discussions (FGD) to collect the desired data. Purposive sampling technique was applied to identify the eligible participants. The obtained data were then analysed using the thematic analysis methods using ATLAS.ti software Version 8. **RESULT:** A total of 59 (92.1%) participants consented to participate. The study revealed 16 codes related to the understanding of health data quality (correctness, timeliness, work process, as a measurement tool and indicator of excellence, quantity or amount of data, traceability, transparency in reporting, data user needs, completeness, reproducible, usability, speed, objectivity, standardise and understandable). These codes clustered into three themes; content of the data, comprehension of the data handler and the work process in generating the data. **CONCLUSION:** This study demonstrates the multifaceted nature of health data quality understanding among participants. These findings may be of use to researchers and decision-makers who wish to comprehend the value of health data quality or recommend intervention for quality improvement.

KEYWORDS: qualitative research, healthcare personnel, data accuracy, focus groups

Factors Associated with Delayed Sputum Conversion Among Smear Positive Pulmonary Tuberculosis in WP Labuan

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ABSTRACT

INTRODUCTION: In Labuan, smear positive tuberculosis (TB) is one of the major health problems. Smear positive tuberculosis carries high morbidity and mortality. Sputum smear conversion at the end of the intensive phase is also an indicator of TB programme performance. The rationale of the study is to describe the sociodemographic characteristic of smear positive and to determine factors associated with delayed sputum conversion among smear positive PTB in WP Labuan. **METHODS:** A cross-sectional study with universal sampling of all smear positive PTB cases from January 2015 to September 2017 excluding smear positive PTB that did not complete intensive phase and MDR TB. **RESULTS:** Among 176 smears positive PTB cases, 68.9% cases are Malaysian with majority are male (73.2%), non smokers (62.5%), non substance abuser (96.6%) and with no past history of tuberculosis (92.6%). We found that in delayed sputum conversion cases (51 cases), majority present with high smear grading (3+) (49.0%) with absent cavitation (60.8%) in radiological findings but what strike out to be significant factor is the present of bilateral radiological involvement (76.5%). **DISCUSSION:** From the study, males and bilateral radiologic lesion are identified as significant factors associated with delayed sputum conversion among patients with smear positive pulmonary tuberculosis in WP Labuan. Therefore, enhance community screening and empower community awareness are important steps in controlling tuberculosis at WP Labuan.

KEYWORDS: smear positive pulmonary tuberculosis, labuan

Factors Associated with Poor Glycaemic Control: A Study Among Diabetic Outpatients in WP Putrajaya

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Pejabat Kesihatan WP Putrajaya

ABSTRACT

INTRODUCTION: Among the therapeutic goals of diabetes management is to achieve good glycaemic control to prevent development and progression of diabetic complications. In 2018, Putrajaya had successfully achieved national optimum standard for good glycaemic control (HbA1C \leq 6.5) quality assurance prevalence of 35.4%. Nevertheless, there is a worrying increased trend of diabetes prevalence rate among the Putrajaya population. Thus, we examined factors associated with poor glycaemic control among diabetic outpatients in Putrajaya. **METHODS:** A cross-sectional study was carried out among the audited National Diabetes Registry samples. Total of 1264 patients aged over 18 years old attending four outpatient government diabetic clinics in Putrajaya between June 2017 and June 2018 were selected as samples **RESULTS:** Our study found that 64.6% of the samples had poor glycaemic control. Obesity (aOR 7.60; 95%CI: 1.71, 33.75), use of insulin (aOR 6.47; 95%CI: 4.28, 9.80), overweight (aOR 6.03, 95%CI: 1.36, 26.67), age less than 40 years old (aOR 1.55, 95%CI: 1.09, 2.20) and longer diabetic duration (aOR range 1.36 - 2.94; 95%CI: 1.01, 5.07) were found to be the factors associated with poor glycaemic control. **CONCLUSION:** Findings of this study indicate a high prevalence of poor glycaemic control among the Putrajaya population. Targeted intervention should focus more towards patients with obesity and for education in proper use of insulin to improve glycaemic control among the patients here.

KEYWORDS: Diabetes, glycaemic control, obesity, insulin

Factors Influencing Attitude Towards Organ and Tissue Donation Among Patients in Primary Health Clinic, Sabah

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ABSTRACT

INTRODUCTION: Malaysia is one of the countries that suffer from low deceased organ donation rates. Success rate of organ or tissue procurement not only depends on approach rate by healthcare providers, but it is also highly relying on the awareness among the public whereby it can be a platform for family initiation of organ donation. Aim of the study is to assess the knowledge and determine the factors influencing attitude towards organ and tissue donation among patients in primary care clinic. **METHODS:** A cross-sectional analytical study with self-administered questionnaires was conducted in April 2018. **RESULTS:** Among 383 patients with a mean (SD) 32.69 (9.239) age, 155 (40.5%) were males and 228 (59.5%) were female. Monthly income, education level, occupation and knowledge level are significantly associated with attitude of the respondents towards organ and tissue donation. Knowledge on organ donation and brain death both significantly affected attitude towards organ donation. **CONCLUSION:** The higher the knowledge on organ donation and brain death, the more positive impression or attitude toward organ donation. Hence, it is important for public health units to promote and deliver public education on organ donation, changed public misconceptions and work parallel with hospitals to increase organ donation rates in Sabah.

KEYWORDS: Attitudes, Organ Donation, Patients, Knowledge, Brain Death, Sabah

Factors Leading to Clinic Appointment Default Among Patients Attending MOPD Clinic Hospital Jitra

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ABSTRACT

INTRODUCTION: Regular follow up is one of important strategies in managing diseases. Studies showed significant number of patients do not attend clinic appointments. The study aims to investigate the incidence rate of appointment default and identifies the reasons behind it. **METHODS:** This is a cross-sectional telephone survey among patients at MOPD Hospital Jitra who missed clinic appointment between 1 June 2018 to 30 September 2018. **RESULTS:** A total of 643 appointments given out for patients to attend MOPD Clinic for aforementioned period. From 643, 78 cases or 12% did not turn up to the clinic. The incidence is higher among female patients as compared to males which is 52.6% and 47.4% respectively. For females, the majority is from the age group of 21-40 years old as compared to male whereby the majority is from the group of 41-60 years old. Forgetfulness is the most common reason given by defaulters which is 35 cases, followed by 'no specific reason' and 'transportation problem' which consists of 14 and nine cases respectively. **DISCUSSION:** There is significant number of cases do not attend clinic appointment. Various steps should be taken to tackle such problem that potentially dangerous to patients' health. A gentle reminder via mobile phone messages and 'what's up' application can be useful tools to deal with forgetfulness issues. Further interviews can be attempted to explore in detail for the group of 'no specific reason'. Patients and family members should be advised and counselled more thoroughly upon discharge to make sure their returns.

KEYWORDS: default, appointment, MOPD

Factors Related to Work Accidents in Illegal Gold Mining in Kecamatan Koto VII Sijunjung in 2018

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ABSTRACT

INTRODUCTION: High rates of work accidents happened in the mining sector. Beside the high risks of the job, the workers are also directly exposed to potential hazards. The purpose of this study is to find out the relation of unsafe action and unsafe condition with work accidents in illegal gold mining in Kecamatan Koto VII Sijunjung in 2018. **METHODS:** This study used a cross-sectional study method with a population of 47 gold miners in Nagari Tanjung dan Nagari Limo Koto. The sampling technique was total sampling which used the entire population. Data collection by questionnaire, observation, and checklist. Processing and analysis of data using chi-square test with 95% confidence level. **RESULTS:** The results showed that most of the gold miners (87.2%) experienced work accidents, more than half of the respondents (68.1%) did unsafe actions, and most of them (74, 5%) are in an unsafe condition. From the results of statistical tests known that there is a significant relationship between unsafe action and work accidents ($p=0.013$), and there is a significant relationship between unsafe conditions and work accidents ($p=0.003$). **DISCUSSION:** There is a relation between unsafe action and work accidents, and unsafe conditions with work accidents ($p<0.05$). It is suggested that the owners to supervise the equipment and oversee the work process. Workers should also be careful when working.

KEYWORDS: Accidents, Illegal Gold Mining, Unsafe

Food Poisoning Outbreak Among Hulu Langat Preschool Students

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INTRODUCTION Food poisoning is a type of gastroenteritis, usually caused by contaminated food. Hulu Langat district health office had received an online notification of food poisoning on 28 Jun 2018. An investigation team was mobilized immediately to determine the causal agent, identify risk factors and implement control measures. **METHODS** Case control study design was used. Cases were defined as any individual from the eight preschools affected presented with either symptoms of vomiting, diarrhoea, abdominal pain or fever since 27 Jun 2018. Active case detection was conducted. Laboratory analysis of stool, food, surface sampling of utensils, hazard analysis and critical control points (HACCP), and an interview with patients was carried out. Data was analysed using SPSS. **RESULTS** In total, 72 cases were identified among students and teachers from 544 who was exposed. The attack rate was 13.2%. A total of 29(40%) students were admitted and 25(35%) treated as outpatient in eight different hospitals in Klang valley. Main symptoms were diarrhoea (98.6%), fever (86.1%), vomiting (83.3%), abdominal pain (62.5%) and premises rating was 82.7%. The highest risk was from egg (OR 9.6; 95%CI: 2.34, 41.37, $p < 0.05$). Fried rice sample showed *Bacillus cereus* while stool sample positive for *Salmonella sp.* **CONCLUSIONS** The outbreak was most likely due to fried tomato egg which was served for lunch earlier. There might be cross contamination because of improper egg cleaning methods and prolonged food holding time. Suspected bacteria is *Salmonella* based on incubation period with a predominant of lower gastrointestinal symptoms. Action was taken including closure of premises and health education was given to food handlers.

KEYWORDS: Food poisoning, Outbreak, Hulu Langat, Preschool, Students

Friends or Family in an Ageing Asia: A Systematic Review.

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ABSTRACT

INTRODUCTION: Older adults in western countries have been shown to rely on friends support as they age. However, the culture of filial piety in Asia may result in reliance on family support among older adults in Asia. This study aims to identify the source of social support and the type of social support associated with depression among community-dwelling older adult in Asia. **METHODS:** A systematic review was conducted in six databases on 11th January 2018. Inclusion criteria were English studies conducted in Asia among community-dwelling older adults examining the association between social support and depression. Studies were screened, analysed and reported according to the PRISMA guidelines. **RESULTS:** A total of 16356 articles were screened and a final 24 articles were included in the review. The results revealed that older adults who have larger social network consisting of mostly family was associated with reduced depression compared to having friends. Higher family social support was associated with lower depressive symptoms compared to friend's support. The most common type of support measured was emotional and instrumental support. Both were found to be associated with reduced depressive symptoms. **CONCLUSION:** Family support, emotional and instrumental support are associated with lower depressive symptoms among community-dwelling older adults in Asia. Our review emphasised the importance of family support in reducing depressive symptoms. Therefore, policies which encourage family support must be included in developing programmes of preventing depression among older adults in Asia.

KEYWORDS: Older adults, systematic review, social support, depression, Asia

Functional Limitation and Dependency in Older Persons and Their Relationship with Depressive Symptoms

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ABSTRACT

INTRODUCTION: As society ages, older persons may be more dependent and experience functional decline which could be aggravated by other underlying conditions such as having depressive symptoms. This study will look at the prevalence of functional limitations and its relationship with depressive symptoms. **METHODS:** Data was obtained from the National Health Morbidity Survey (NHMS) 2018, a cross-sectional survey on older persons. Data was collected using face to face interview with validated tools namely Barthel's index of activity of daily living (ADL) and Lawton's scale for instrumental of daily living (IADL) to assess the respondents' functional ability; and Geriatric Depression Scale (GDS) to assess depressive symptoms. Data analysed using descriptive and simple logistic regression. **RESULTS:** The overall prevalence of limitations in ADL among older persons was 17% and IADL was 42.9%. Those who are female, living in urban area, not living alone and those with a spouse has a higher prevalence of functional limitation and dependence compared to their counterparts. The prevalence of limitation in ADL among older persons with depressive symptoms was 32.3% (95%CI: 26.4, 38.9) and in IADL was 18.2% (95%CI: 14.9, 21.9). Older persons with depressive symptoms have 4.5 times odds of having limitations in ADL (OR:4.53; 95%CI: 3.67, 5.6) and three times odds of having impairment in IADL (OR:3.01; 95%CI: 2.45, 3.70) **DISCUSSION:** Functional limitation and dependency should be identified especially among older persons with depressive symptoms. Early detection is vital in order to provide necessary support to prevent further decline and improve quality of life.

KEYWORDS: Elderly, Activity daily living, Functional Limitation, Depression,

Gingivostomatitis Outbreak in A Religious Teaching Institution Seberang Perai Utara.

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ABSTRACT

BACKGROUND: Gingivostomatitis is the presence of oral mucosa and gingiva ulcerative lesions. Usually self-limiting and heals within two weeks the commonest caused is by bacteria or virus. Gingivostomatitis in a boarding school suggested primary herpetic gingivostomatitis. Other possible causes of an outbreak in an institution are varicella-zoster virus infection and hand-foot-and-mouth disease. Spread by close physical contact 90% of gingivostomatitis are caused by herpes simplex virus type I. Objectives: The objective of the study was to describe epidemiological and control the gingivostomatitis outbreak. **METHODS:** Descriptive study was conducted together with laboratory testing and an environmental survey to investigate the outbreak and institute necessary control measures. **RESULTS:** A total of 15 cases was identified. The attack rate was 42.9%. Students aged 10 years to 15 years old presented with mouth ulcer (100%), sore throat (53.3%) and headache (40%). The first onset occurred on the 5.2.2019 and the last onset was on the 14.2.2019. Throat swab and mouth ulcer scrapping failed to isolate any virus. Environmental investigation was satisfactory. Conclusion: Close contact from the index case and the practice of sharing food utensils was noted to be the source of the outbreak. Student recovered by symptomatic treatment and personal hygiene was stressed upon. Earlier laboratory sample to be taken upon symptom appears for an accurate result.

KEYWORDS: gingivostomatitis, herpes simplex, oral ulcer

Global Landscape of Urban Health Research: A Bibliometric Analysis

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ABSTRACT

INTRODUCTION: Rapid urbanisation and poor city planning exposed the urban population to hazards and risk which lead to poor health outcomes. This paper aims to provide an overview of the global research trends and to evaluate the urban health research outputs by countries, institutions, authors, collaborations, highly cited papers and popular issues in this research field. **METHODS:** The bibliometrics data for this paper is derived from the Scopus database. For ease of analysis, publications published in 2019 were excluded. The publications outputs were explored over time and analysed to summarize the overall research characteristics. **RESULTS:** The systematic search identified 10,331 documents related to urban health. The number of publications was stagnant until the 1960s and then increased steadily. The United States was the most active country working in the field of urban health followed by the United Kingdom and China. The three most leading institutions were Columbia University, Centers for Disease Control and Prevention, and New York City Department of Health and Mental Hygiene. The three most active journals were Journal of Urban Health, American Journal of Public Health and Social Science and Medicine, whereas the top three prominent authors are Kruger A, Delany-Moretlwe S, and Steyn K. The most common authors keywords in the publications were “urban health,” “mental health,” and “epidemiology”. **DISCUSSION:** We came to an understanding that there is dearth in the number of publications over various regions. More efforts are needed on urban health research in particular at the area of rapid conurbation.

KEYWORDS: Bibliometric analysis, urban health, urban population

Growth Data of Healthy Orang Asli Children in Pahang Compared to Who Child Growth Standards.

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ABSTRACT

INTRODUCTION: World Health Organization Child Growth Standards (WCGS) states that under five years old children globally grow similarly when their health and care needs are met regardless of ethnicity, socioeconomic status or food. Orang Asli (OA) children in Malaysia tend to suffer stunting, wasting and severe thinness when referred to these standards. This study aims to explore the differences between WCGS and the growth data of OA children below 5 years old in Pahang. **METHODS:** A cross-sectional study was conducted among children under five years old in OA settlements and recruited 932 samples from 11 districts of Pahang. Parameters of height-for-age, weight-for-age, and BMI-for-age for both male and female were recorded and plotted on WCGS. Percentage of sample fall in z-score less than negative two standard deviations (SD) were recorded. **RESULTS:** The median age for boys (n=493) was 24 months and showed SD of 16.1. The median age for girls (n=439) is 23.0 months with SD of 15.9. All growth data among boys elicit statistically significant differences compared to WCGS ($p < 0.001$) as well as weight-for-age and BMI-for-age for girls ($p < 0.001$). The percentage among boys and girls of height-for-age $z \leq -2SD$, weight-for-age $z \leq -2SD$ and BMI-for-age $z \leq -2SD$ were (38.3% and 30.8%), (23.1% and 20.5%) and (11.0% and 9.3%), respectively. **CONCLUSION:** The study showed substantial lower median anthropometric z-scores when compared to WHO Child Growth Standards except height-for-age for girls.

KEYWORDS: growth data, Orang Asli children, WHO Child Growth Standards

Haemoglobin Level Among Anaemic Pregnant Women in Sepang- A Baseline Data of a Quasi-Experimental Study

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ABSTRACT

INTRODUCTION: Anaemia is one of the most common health problems during pregnancy. In 2011, about 27% of pregnant women in Malaysia was anaemic and therefore constitute to a significantly moderate public health problem. The provision of iron supplements and educational intervention strategies were implemented, however, it differs throughout the country. Therefore, a quasi-experimental study was conducted to evaluate the effects of a theory-based health educational intervention on hemoglobin level among anaemic pregnant women in Sepang. This paper reports the baseline findings. **METHODS:** This study involves a pre-post intervention with control involving two groups of antenatal mothers (control and intervention) from two health clinics in Sepang, with 81 subjects per group. Data was captured using self-administered questionnaire and haemoglobin level obtained from participants' antenatal card. Primary outcome was haemoglobin level. Secondary outcome includes knowledge regarding anaemia, dietary practice and iron supplementation compliance. Baseline data was analysed descriptively and differences between the intervention and control group were analysed using bivariate analysis. **RESULTS:** One-hundred-and-seventy-two respondents were analysed. Baseline median (IQR) haemoglobin level was 10.2(0.80). Majority used iron tablets. Regarding the baseline comparison of the intervention and control group, there were no significant difference in mean age ($p=0.27$), ethnicity ($p=0.11$), education ($p=0.69$), haemoglobin level ($p=0.06$), knowledge score ($p=0.11$) and compliance towards iron supplementation ($p=0.90$). However, the intervention and control group differ significantly in the proportion of employment status ($p=0.004$) and family income ($p=0.003$). **CONCLUSION:** The haemoglobin level at baseline showed that majority of the respondents had moderate to mild anaemia and uses iron tablets.

KEYWORDS: Anaemia, Pregnancy, Hemoglobin level, quasi-experimental study

Health Care Providers Satisfaction On Mobile Health Services for Community

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ABSTRACT

INTRODUCTION: Ministry of Health Malaysia initiated mobile health services for the rural population particularly to the remote areas by land, water and air to increase access to Primary healthcare. The targeted groups for these services are the marginalized groups, who live in in the estates, villages and Orang Asli. In total, 239 mobile health teams were providing health services to the identified locations on scheduled basis. In 2017, a survey was conducted to determine the level of satisfaction among health care providers who are providing mobile health services by land and water. **METHODS:** It is a cross-sectional population survey conducted in ten states. Self-administered questionnaire and qualitative questionnaire were used as study instruments. The data collection was done from March to Jun 2017 in excel format and computed to statistical software format for analysis. **RESULTS:** 507 respondents (98%) participated in this survey of which 55% were females and 45% were males. The largest age groups involved were between 21 to 29 years old. Overall 98.2% of health care providers were satisfied with the services provided to the community. While the qualitative findings suggested that, there is a need to improve infrastructure for better conducive working environment and personal development **CONCLUSION:** This survey shows that health care providers are highly satisfied to provide health services to the rural population through mobile health services. However, the percentages of dissatisfaction of the health care providers need to be addressed for improvement of quality and increasing their productivity of health services.

KEYWORDS: Mobile health services, 1Malaysia mobile health clinic and Mobile health clinic

Health Literacy Module On Diabetic Patients: Is It Cost-Effective?

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ABSTRACT

INTRODUCTION: Economic burden of diabetes was expected to continue to grow. A study had shown that up to 73% of diabetes-related healthcare costs result from hospitalization and ambulatory care, as a result of complications due to poor blood sugar control. Analysis has shown that improved glycemic control would be likely to bring substantial clinical and economic benefits to the patients, arising primarily from the reduced incidence of diabetes complications. 1% reduction in HbA1c was associated with reduced costs of treating diabetes complications and an increase in life expectancy. Health literacy module is one type of diabetic education approach which integrates self-efficacy and self-care behaviour into the module. The aim of the module was to reduce the HbA1c by giving knowledge on how to manage their own diabetes. **METHODS:** Study was done at a tertiary hospital in the Malaysian Armed Forces (MAF). The study design was a cost-effectiveness analysis where the cost-effectiveness ratio (CER) and incremental cost-effectiveness ratio (ICER) were calculated. The costs per unit of reducing HbA1c (%) was evaluated in both intervention and control groups. **RESULTS:** Total cost at final cost centre for the intervention group was RM68,113 while the total cost at final cost centre for the control group was RM67,206. The intervention was cost-effective with CER of 0.12 and ICER of RM 1,225 per HbA1c improvement. **DISCUSSION:** Therefore, health literacy module was cost-effective in reducing HbA1c among type 2 diabetic patients at MAF Tertiary Hospital.

KEYWORDS: cost-effectiveness, HbA1c, diabetes, health literacy, MAF Hospital

High and Rising Healthcare Costs: What Can Malaysia Learn?

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ABSTRACT

INTRODUCTION: Escalating healthcare costs has always been a concern to all health systems globally including Malaysia. Rising healthcare costs will have significant effects on Malaysian households, businesses, and governments and will eventually reduce healthcare affordability. This study aimed to explore the factors, cost drivers and possible strategies to control healthcare inflation. **METHODS:** Using a systematic review approach, extensive electronic and manual citation searches were performed to identify relevant studies. Four keywords were used to develop screening questions which were Inflation, Healthcare, Factors, and Strategies. Screening, data extraction, and quality assessment were undertaken by two reviewers at a time. Inclusion criteria consisted of studies from the year 2000 till 2018, while non-English, editorials, newspapers and non-retrievable articles were excluded. **RESULTS:** From a total of 1070 articles, 22 were included in the full review. Three main factors were identified to be associated with healthcare inflation. All these factors were related to either the healthcare market, health provider, or patient. Among these factors, medical technology advancement, aging population, and declining health status were repeatedly mentioned. Apart from that, a lack of enforcement in price regulation and payment system, increasing demand, and ineffective services were the main contributing factors. Various strategies such as strategic purchasing, effective legislation and enhancing cost-effectiveness services were implemented to control healthcare inflation. **DISCUSSION:** A country like Malaysia can learn from other countries' experiences to control inflation in healthcare. Effective policies, robust implementation and close monitoring on the factors and strategies are the important mechanisms to control inflation in healthcare.

KEYWORDS: healthcare costs, healthcare inflation, factors influencing, strategies to control, curbing inflation

How Many Deaths Were ‘Avoidable’ In 2017?

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ABSTRACT

INTRODUCTION: ‘Avoidable’ mortality is used as an indicator of the effectiveness of healthcare systems. It is based on the concept that premature deaths from certain causes ideally should not occur in the presence of timely and effective medical and public health interventions. This poster presents an overview of avoidable deaths that occurred in Malaysia in the year 2017. **METHODS:** All deaths registered in 2017-which occurred before age 75-were classified using a modified selection of ‘avoidable’ causes based on previously published lists, which had been revised in keeping with local disease patterns and burden. ‘Avoidable’ deaths are further classed as ‘amenable’ (potentially avoided through the efforts of healthcare services), ‘preventable’ (potentially avoided through public health programs or policies), or both. **RESULTS:** In 2017, more than half (53.0%) of all deaths were from causes considered avoidable. Males were more likely to die from an avoidable cause-62.8% of all male deaths were considered avoidable, compared to 45.9% of all female deaths. Deaths from cardiovascular and circulatory diseases were the leading cause of avoidable deaths (39.2%) followed by neoplasms (15.1%), unintentional injuries (15.1%), and infectious diseases (13.1%). **DISCUSSION:** There are obvious limitations to using avoidable mortality to measure how effective our healthcare system is; for example, advances in education, road safety and housing also have a big impact on overall levels of health. Still, observing avoidable mortality trends over time and across the socioeconomic spectrum may provide new insights into inequalities in access to care within populations in Malaysia.

KEYWORDS: avoidable mortality, amenable deaths, healthcare systems, preventable deaths, Malaysia

Impact of Biomass Fuel and Second Hand Tobacco Smoke on Adverse Pregnancy Outcome, Respiratory Morbidity, and Developmental Growth Among Children in India

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ABSTRACT

INTRODUCTION: About 41% of households globally, mainly in developing countries rely on solid fuels for cooking with consequences for fetal growth and development. Smoke from biomass burning has been associated with low birth weight and many similar growth outcomes. Exposure to indoor air pollution due to open burning of biomass fuel is common in India. **METHODS:** We assessed the association between exposure to biomass fuel sources and second-hand tobacco smoke (SHTS) in the home and adverse health outcomes among children from 0-5 years of age. Data from National Family Health Survey-IV (NFHS-IV) has been used for the study. Cross Tabulations and logistic regression models were used to explore associations between fuel and birth outcomes. **RESULTS:** The result found that mothers who are using unhygienic fuel are more likely to have stunted, underweight, and wasted children. Availability of a separate kitchen in the households significantly decreases the odds of adverse pregnancy outcome among mothers. The U-shaped curve forms for the association between Mother’s age and the occurrence of adverse pregnancy outcome. The occurrence of adverse pregnancy outcomes is higher among teenage mothers and old age mothers as compared to mothers in the age group 20-34 years of age. **DISCUSSION:** The study contributes to the growing literature demonstrating an association between biomass fuel use and adverse pregnancy outcome. This association persisted in models that accounted for significant socio-demographic differences between women cooking with wood and those cooking with gas.

KEYWORDS: Adverse Pregnancy Outcome, Respiratory Morbidity, Developmental growth, Second-Hand Tobacco Smoke.

Impact of Overcrowding Among Staff in Hospital Serdang

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ABSTRACT

BACKGROUND: Urbanisation itself brings an advantages and disadvantages which lead to hospital overcrowding. It has been described as the most serious problem that endangers the reliability of health system worldwide. As 2018, Hospital Serdang documented a very high bed occupancy rate (BOR) more than 100% for almost every day. **OBJECTIVES:** To study the impact of overcrowding among staff in Hospital Serdang. **METHODS:** This a one-year retrospective cross-sectional study from January 2018 until December 2018. The data was collected from Occupational Safety and Health (OSH) Unit Hospital Serdang through Depression Anxiety Stress Scale (DASS) questionnaire and other data such as road traffic accident, needle stick, and mercury and splash injury among staff were also collected. The sociodemographic data, comorbid, type of occupation was analysed. The exclusion criteria are those with incomplete data. **RESULTS:** Out of 562 staff, 5.7% were screened to have bad DASS score, which comprises of 0.9% stress, 6.6% anxiety and 1.8% depression and referrals to psychiatrist and counsellor were made. About 2.8% of the staff had Needle Stick and splash Injury (NSI), 0.1% had mercury injury while 0.7% had involved in road traffic accident (RTA). **CONCLUSION:** More than 94% of staff in Serdang Hospital are having good mental status with low incidence of NSI, mercury injury and RTAs. Even though DASS scoring is a clinical assessment that that used for screening, it cannot be under looked as mental ill health is a growing problem and need urgent attention.

KEYWORDS: Overcrowding, staff, impact

Imported Human Malaria in Sarawak, 2013-2017

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ABSTRACT

INTRODUCTION: Sarawak embarked on the elimination of autochthonous human malaria in 2012 and had set 2020 as its deadline for elimination of human malaria transmission in Sarawak. The objective of this study was to describe the epidemiology of imported human malaria in Sarawak. **METHODS:** This was a retrospective descriptive study conducted on the malaria epidemiological surveillance data in Sarawak State Health Department between January 2013 and December 2017. **RESULTS:** There were 994 imported human malaria cases reported in Sarawak in 2013-2017 with an increasing trend from 182 cases in 2013 to 218 cases in 2017. 978 (98.4%) cases were males. The distribution of the cases by species were *Plasmodium vivax* (48.6%), *Plasmodium falciparum* (35.3%), *Plasmodium malariae* (7.0%), *Plasmodium ovale* (5.6%), Mixed Species (2.6%), and *Plasmodium knowlesi* (0.8%). The age-group distribution of the cases was "0-19 years"(1.0%), "20-39 years"(35.6%), "40-59 years"(59.9%) and "60 years and above"(3.5%). 92.3% of the cases were Malaysians. **DISCUSSION:** Autochthonous human malaria had been on the decline in Sarawak from 2012 to 2015, and the elimination of autochthonous human malaria in Sarawak has been successful in which there was no reported autochthonous human malaria since 2016. The persistent burden of imported malaria in Sarawak may contribute to introduced malaria which could further contribute to autochthonous malaria cases which could prevent Sarawak from achieving malaria elimination in Sarawak by 2020.

KEYWORDS: imported malaria, sarawak, elimination

Improving Diabetic Retinopathy Screening Coverage in Malaysia

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ABSTRACT

INTRODUCTION: Guidelines for regular diabetic retinopathy (DR) have been published in Malaysia, and screening for DR were strengthened in the year 2000 with the provision of fundus cameras in selected Ministry of Health (MOH) health clinics throughout Malaysia. This study aims to describe the coverage of DR screening among type-2 diabetes patients receiving treatment at MOH health clinics, and factors influencing the coverage. **METHODS:** Data on rates of DR screening was extracted from the National Diabetes Registry for year 2015 to 2018. Comments on the screening coverage were elicited from each State Health Department using a standardised format. **RESULTS:** Overall, DR screening coverage in Malaysia was low at 55.9% for 2018, but with an increasing trend from 50.0% in 2015. There are huge variations between states, however most states showed an increasing trend. For 2018, Putrajaya showed the highest coverage, while Pahang showed the lowest. For most states, there are huge variations of screening coverage between districts as well. Several factors were identified to contribute to an increasing trend of coverage within the domains of healthcare facilities and systems, healthcare provider factors and patient-related factors. Likewise, several factors were also identified that negatively influenced DR screening coverage. **DISCUSSION:** This study highlighted the huge variations of DR screening between states and districts over the time period of 2015 to 2018. Improving and narrowing the variations in DR screening coverage would require addressing the multiple factors, and solutions have to be customised for each specific setting.

KEYWORDS: diabetes, fundus screening, primary care, retinopathy

Incidence and Predictors of Mortality Among Elderly Population in Malaysia: A Community-Based Longitudinal Study

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ABSTRACT

INTRODUCTION: In general, factors such as old age, male and other illnesses have shown to be associated with an increased risk of mortality among elderly population. However, limited information is available from longitudinal studies regarding the incidence and predictors of mortality in older Malaysian adults. Thus, a community based longitudinal study was conducted to determine the incidence and predictors of mortality among older adults in Malaysia. **METHODS:** Subjects were chosen using multi-stage random sampling **METHODS:** from four states in Malaysia (Perak, Selangor, Kelantan and Johor). Analysis of data obtained from the Towards Useful Aging (TUA) study (2014-2016), wave 1 (baseline) and wave 2 (1 Ω years of follow-up) was conducted. Parameters investigated were cognition, lifestyle, nutrient intake, physical performance and medical conditions. For the baseline, comprehensive interview-based questionnaires were administered to 2,322 subjects (≥ 60 years old). The study then performed a logistic regression analysis to examine the effect of each possible predictor of mortality. Binary logistic analyses followed hereafter. **RESULTS:** During the follow-up after 1 Ω years, 55 of the 2,322 subjects have died. The incidence rates of mortality were 1.6 per 100 person-years. Low physical performance (chair stand test) (OR: 0.826; 95%CI: 0.746, 0.913) and multimorbidity (OR: 3.076; 95%CI: 1.541, 6.138) were predictors of mortality. Conclusion: Low physical performance and multimorbidity were possible predictors in the incidence of mortality. There is a need to formulate effective preventive management strategies to decelerate mortality among older adults through healthy lifestyle and optimal fitness level.

KEYWORDS: incidence, predictors, older adults, mortality

Incidence of Tuberculosis Among the Household-Contact of Tuberculosis Patients in Malaysia

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ABSTRACT

INTRODUCTION: Screening of selected high-risk groups including contacts of Tuberculosis (TB) cases are in line with the end TB Strategy. The systematic and actively tuberculosis contact investigations contributed to the early identification of active TB. This study aims to measure the incidence of TB among the household-contacts of TB cases and determined the risk factors for transmission of TB. **METHODS:** Retrospective analyses were conducted of abstracted data from the National TB information System (TBIS) following a contact investigation intervention for TB cases diagnosed in Malaysia from year 2016 to 2018. Various proportions and yield from number of contacts needed to screen (NNS) and number needed to test (NNT) to detect a TB case were assessed. Incidence of TB among the contacts were determined. **RESULTS:** Overall, out of the 216,131 listed contacts of 25,837 index cases, 179,423 (99.1%) were screened and 1519(0.8%) were identified as presumptive TB. Out of these, 1,100 (72.9%) underwent sputum smear microscopy/evaluation and 298 TB cases were diagnosed. Of these, 67.1% had sputum smear-positive TB, 28.8% had sputum smear-negative TB. Among the 177904 asymptomatic, 115,577 (64.9%) underwent TST and 5415 (4.7%) were positive. Among the positive TST, 64 (1.2%) actually had TB while remaining keep as latent. Overall the TB incidence among the contacts (216,131) was 167 per 100,000 populations. **CONCLUSIONS:** The study demonstrates that contact identification and prioritization components of a contact investigation were feasible. The household contact investigation is a great approach to detect and treat tuberculosis and best methods to control TB in Malaysia.

KEYWORDS: Incidence of Tuberculosis, Household-contact, Tuberculosis, Malaysia

Increase in Chikungunya Cases in Kelantan, Malaysia 2018

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ABSTRACT

INTRODUCTION: Chikungunya (CHIK) virus belongs to genus Alphavirus under the family of Togaviridae. The disease is self-limited, and it will developed life-long immunity to the infected person. Malaysia experienced the first outbreak of CHIK in late 1998-1999 due to CHIK virus of Asian genotype. Objectives of the study were to describe the situation of Chikungunya infection in Kelantan for 2018, to identify reasons giving rise to outbreaks and to give recommendation to prevent future outbreaks. **METHODS:** We analysed the secondary data from Chikungunya database (E Vekpro, E Notification), Outbreak and investigation report 2018 and Entomology Risk Assessment report 2018. Case was defined as those with fever and joint pain and/or rashes with positive laboratory result either IgM serology, RT PCR Test, viral isolation or 4-fold rise in IgG in three weeks apart. **RESULTS:** Total cases registered were 77 with median age of 40 years old. Majority of cases presented with fever, arthralgia, rash and myalgia. The cases located in Tumpat, Pasir Putih, Kota Bharu and Machang. Ninety percent of cases were from the outbreak localities in Tumpat and Pasir Putih. Majority of cases were diagnosed after seven days. Thirty percent of cases were self-medicated. Entomological study showed more than 50% of mosquito in outbreak area were positive for virus isolation or nucleic acid detection. **CONCLUSION:** There were 77 cases of Chikungunya registered in Kelantan in 2018. There was a delay in diagnosis of some cases which contribute to increase number of cases in 2018 in Kelantan.

KEYWORDS: Chikungunya, Kelantan, 2018

Infant Health and Mother Contraception: Effect On Exclusive Breastfeeding (Case in Indonesia)

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ABSTRACT

INTRODUCTION: Exclusive breastfeeding has an important role in children's lives both in the short and long term. The Indonesian National Socio-Economic Survey 2014-2016 noted that the achievement of breastfeeding in Indonesia has exceeded 90 percent, but this was not followed by the achievement of exclusive breastfeeding which only reached half. This indicates the failure of exclusive breastfeeding by giving food/drinks other than breast milk before the baby is exactly six months old. Previous research has found that the use of hormonal contraception causes reduced milk production so that it can affect breastfeeding performance. The purpose of this study was to study the effect of maternal contraceptive use on the continuity of exclusive breastfeeding in infants aged 0 to 5 months which are controlled by social, economic, and demographic characteristics. **METHODS:** This study uses the Indonesian Demographic Health Survey (IDHS) 2017 data and analysed using the Cox regression. **RESULTS:** Babies whose mothers use hormonal contraception have a smaller risk to have a failure of exclusive breastfeeding. Other variables that are significant in influencing the continuity of exclusive breastfeeding are maternal age, parity, wealth quintile, and father's education. Although the residential area variables were not significant, the results showed that infants living in rural areas had a greater chance of failing exclusive breastfeeding when compared to babies living in an urban area. **DISCUSSION:** This study suggests the importance of paying attention to the age of first marriage to the mother, education, and husband's support in the continuity of exclusive breastfeeding.

KEYWORDS: Exclusive breastfeeding, contraception, Cox regression.

Inter-Rater Reliability of the Bahasa Malaysia Version of Patient Education Materials Assessment Tool

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ABSTRACT

INTRODUCTION: The Patient Education Materials Assessment Tool (PEMAT) is an instrument to evaluate understandability and actionability of patient education materials (PEMs). It has two versions: PEMAT-P for printable materials and PEMAT-A/V for audio-visual materials. The study aimed to determine inter-rater reliability of the Bahasa Malaysia version of PEMAT, designated as PEMAT-P(M) and PEMAT-A/V(M) using percent raw agreement, Fleiss' kappa and Gwet's AC1. **METHODS:** Nine health care workers from various health disciplines involved in provision of patient education at the Ministry of Health facilities were recruited to evaluate 13 printable PEMs and 13 audio-visual PEMs using PEMAT-P(M) and PEMAT-A/V(M) respectively. **RESULTS:** PEMAT-P(M) and PEMAT-A/V(M) generally showed substantial to almost perfect agreement (percent raw agreement), slight to almost perfect agreement (Fleiss' kappa), and fair to almost perfect agreement measured (Gwet's AC1). For PEMAT-P(M) understandability, the range of percent raw agreement, Fleiss' kappa and Gwet's AC1 were 0.615 to 0.966, 0.017 to 0.885 and 0.259 to 0.965 respectively. The range of percent raw agreement, Fleiss' kappa and Gwet's AC1 for PEMAT-P(M) actionability were 0.697 to 0.983, 0.208 to 0.891 and 0.394 to 0.980 respectively. For PEMAT-A/V(M) understandability, the range of percent raw agreement, Fleiss' kappa and Gwet's AC1 were 0.641 to 0.944, 0.012 to 0.904 and 0.397 to 0.931 respectively. The range of percent raw agreement, Fleiss' kappa and Gwet's AC1 for PEMAT-A/V(M) actionability were 0.795 to 0.915, 0.247 to 0.658 and 0.651 to 0.908 respectively. **CONCLUSION:** The PEMAT-P(M) and PEMAT-A/V(M) are reliable instruments for measuring understandability and actionability of Bahasa Malaysia PEMs.

KEYWORDS: psychometrics, inter-rater reliability, patient education, Malaysia

Intracluster Correlation Coefficient in A College-Based Cluster Randomised Controlled Trial

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ABSTRACT

INTRODUCTION: Most of the public health research is conducted at the population level. More study has utilized cluster design in which a group unit is randomized instead of individuals to avoid contamination effect and more practical. However, not many studies publish their Intracluster correlation coefficient (ICC) which is the measure of the relatedness of clustered data. It is important to report the ICC that can be used to calculate effective sample size in future cluster study. Here, we aim to report the ICC from a smoking intervention among young adult. **METHODS:** Based on a college-based quit smoking intervention, a single level model – student nested within colleges was used. There are 10 cluster which is the community college and 16 smokers within each college. The Intracluster correlation coefficients were measured for three outcomes namely motivation to quit smoking, number of cigarette smoke per day and number of quit attempts. The ICC was measured in R studio using ICCbin package. For the binary outcome ICC was measured using variance components from the ANOVA method and Smith confidence limit equation. **RESULTS:** For the proportion of motivation to quit smoking, the ρ (rho) was 0.026 (95%CI: 0.00, 0.11), mean number of quit smoking, $\rho=0.013$ (95%CI: 0.00, 0.08) and mean number of quit attempts, $\rho=0.01$ (95%CI: 0.00, 0.07). **DISCUSSION:** The ρ in this study was small and almost similar to other reported study. The researcher must calculate and report the ICC to enable others to use in future research.

KEYWORDS: Statistics, cluster analysis, research design

Iodine Status and Thyroid Volume Among School Children: Approach in Methodology of Sarawak Iodine Deficiency Disorder Survey 2018

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ABSTRACT

INTRODUCTION: Iodine deficiency disorders (IDD) among Sarawakian school children has been highlighted as substantial public health problem. It has mandated universal salt iodization (USI) implementation in Sarawak started since 2008. This paper describes the approach in methodology of Sarawak IDD Survey 2018 which aimed to determine the current status of IDD among school children in Sarawak after 10 years of USI implementation. **Methodology:** The IDD survey was a cross-sectional study design. It was conducted between July and September 2018 among school children age 8 to 10 years old, involving all 12 divisions in Sarawak. Multistage proportionate-to-population size sampling technique was applied. First stage was the selection of schools (primary sampling units) and the second stage was the selection of students (secondary sampling units). A total of 1200 school children involved in the study. **RESULTS:** All selected schools participated in the survey, 100% school's response rate. A total of 988 school children participated in the survey with response rates of 82.3%. **Conclusion:** The present study findings will highlight the impact of mandatory USI towards the iodine level among school children in Sarawak.

KEYWORDS: Iodine deficiency disorders, universal salt iodization, Sarawak.

Is Malaysia Ready to Become an Aged Nation?

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ABSTRACT

INTRODUCTION: The World Health Organization (WHO) proposed active ageing framework to address the issue of rapid population ageing, which aims at achieving the highest quality of life (QOL) in the extra years gained by the older persons. Malaysia is going to be an aged nation in 2030. Therefore, this study is going to measure the QOL of Malaysian future older persons which subsequently determine factors associated with the QOL. **METHODS:** The cross-sectional study was conducted among the support group of public employees in Malaysia with sample size of 700. The outcome was measured using the WHOQOL-BREF questionnaire. **RESULTS:** The response rate for this study was 74%. The mean age (SD) was 52.8 (5.9) with almost equal in gender distribution (female: 52.8%). The prevalence of QOL was moderate in all 6 outcomes. The percentage of participants rated good QOL and satisfied with their health was 72.8% and 65.8% respectively. The mean (SD) of QOL in other domains were: (a) physical health = 70.9 (12.2), (b) psychological = 71.5 (11.8), (c) social relationship = 74.4 (14.6) and (d) environment = 65.8 (12.0). Multiple regressions analyses found that health literacy and financial security were positively associated with all six outcomes. **CONCLUSION:** The current QOL of the study population will decline in the future due to the natural change of ageing, given that the other contributing factors remain constant. In order to prepare Malaysia to become an aged nation, early intervention with collaboration with other agencies, whose interest is in addressing ageing issues is crucial.

KEYWORDS: active ageing, quality of life, ageing, population, older person

Is Not-For-Profit Aged Care Facilities Are Not Necessarily Worst Off Than For-Profit Counterparts in Achieving Respectable Quality of Life of Their Residents?

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ABSTRACT

OBJECTIVE: To compare quality of life in for-profit and not-for-profit aged care facilities. **DESIGN:** Cross-sectional study using stratified random sampling of aged care facilities in the state of Kuala Lumpur and Selangor investigating quality of care in for-profit versus not-for-profit nursing homes. Staff and residents were interviewed using adapted questionnaire and the WHOBREFF on Quality of Life (QOL) measurements. **RESULTS:** The for-profit aged care facilities were operated by better trained nurses and professionals and were equipped with wide-ranging services. These however, do not comensurate with the findings of QOL of the residents. Only 31% of the residents in the for-profit claims they are satisfied in contrast with 44% in the nonprofit facilities. Similarly, only 22% were satisfied with their health versus 42% are satisfied in the nonprofit facilities. **CONCLUSIONS:** This study within its limitation, showed evidence to suggest that on average, not-for-profit aged care facilities residents, were having higher QOL and better perception of health. Many factors may, however, influence this relation in the case of individual institutions. The evidences do, however, raise questions about whether structure alone need not necessary improve residents' Quality of Life (QOL) but the process, the holistic nature of the services for the aged are important elements to look at more deeply.

Job Content in Female Secondary School Teachers of Selected Schools in Dhaka, Bangladesh

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ABSTRACT

INTRODUCTION: Role of a teacher is very significant in society. Teachers help build a strong foundation for individuals. Studies show that a content teacher will perform best. The current study looked into the psychological demands, decision latitude, social support, physical demands, and job insecurity among female secondary school teachers of selected schools in Dhaka, Bangladesh. In addition, it also studied if demographic variables such as age, education, marital status, number of children, family type and the roles in the school were correlated with perceived work stress. **METHODS:** A cross-sectional study with face to face interview was conducted in November 2018 through a questionnaire adapted from the Job Content Questionnaire. **RESULTS:** Among 150 respondents, 54% was very clear about work directions, 35% received high support from co-workers, 32% received high support from supervisor, 15% faced general job insecurity, 6.25% felt that their skill is obsolete, almost 62% had mother or mother-in-law's support and about 27% felt that their job is tolerable. Only 11% of the teachers thought that they were part of decision-making. The study showed that level of education, number of children and marital status did not directly affect job content. Teachers with higher participation in decision making showed higher job content. Lower support from colleagues showed lower job content. **DISCUSSION:** Findings will help in developing materials for having more satisfied teachers in the job. Tailor-made mental wellbeing and counselling program can be developed. Future research can be recommended.

KEYWORDS: teacher, job content

Knowledge and Attitude On Infant-Vaccination Among Staff in Universiti Putra Malaysia, Serdang, Selangor

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ABSTRACT

Vaccination is important to stimulate the body's immune system to protect the person against subsequent infection or disease. Recently, there are reported cases where parents refuse to complete their children's vaccination. Seeing that the childhood vaccination is not made compulsory in Malaysia, it leaves the options open for parents to reject vaccination for their children. Thus, in 2016, Ministry of Health of Malaysia identified almost 1600 unvaccinated children, an increase from about 1500 in 2015. Due to that, this study was conducted to determine the level of knowledge and attitude regarding infant-vaccination among staff in science-based and non-science based faculties in Universiti Putra Malaysia (UPM). Science-based faculty consist of Faculty of Biotechnology and Science Biomolecule and Faculty of Science, while for non-science based were Faculty of Economics and Management and Faculty of Language and Communication. A cross-sectional study was used in this study. Total of 97 respondents were involved. The level of knowledge was high which is 80.4% (74) while the level of attitude was moderate which was 50.5% (49). There were significant association between educational level and the knowledge ($p < 0.05$, $p = 0.019$). Meanwhile, there was no significant association between sociodemographic and the attitude. On the other hand, there was no association between knowledge and attitude among two different type of faculty ($p > 0.05$, $p = 0.256$, $p = 0.597$). However, there were four respondents who refused the infant-vaccination where three of them come from non-science-based faculty. The main factors for the refusal was because of time constraints and poor quality of information. Therefore, the educational level plays an important role for the decision of immunization among parents for their children.

KEYWORDS: Infant-vaccination, knowledge, attitude, UPM staff

Knowledge On HIV Among Adolescents in A Health Camp: Does It Matter?

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ABSTRACT

INTRODUCTION: Adolescents are among the risk populations for HIV transmission and infection. Enhancing knowledge on HIV through health promotion could prevent them from HIV transmission and infection. Studies have shown health promotion and intervention improve their knowledge on HIV eventually change their behaviour. This study aims to assess the knowledge on HIV among adolescents at college after intervention and their behaviour towards HIV screening test. **METHODS:** A 3-days camp was conducted in December 2018 involving 29 male adolescents whose age 18 years old from a college at Jelebu. An intervention package consisted of talk and group activities on HIV was developed and applied throughout the camp. A self-administered questionnaire consisting questions about HIV was given to the participants at pre and post interventions. **RESULTS:** There were 20.7%, 31.0%, 24.1% and 24.2% of the participants who had monthly parent's income of <RM1000, RM1001-2000, RM2001-RM3000 and >RM3001 respectively. There was significant difference in mean score at pre-intervention based on monthly parent's income with the p-value of 0.010. The mean score at pre and post interventions were 33.79 (± 25.13) and 85.52 (± 15.02) accordingly which showed significant increment at post intervention with the p-value of 0.000. All (100%) participants had been tested voluntarily for HIV at the end of the camp and all results were negative. **DISCUSSION:** Thus, health promotion improves the knowledge on HIV among adolescents and encourages them to perform HIV screening test voluntarily.

KEYWORDS: HIV, intervention, adolescents, knowledge

Knowledge, Attitude and Behaviour for Prevention of Typhoid Disease Among Food Handlers: A Systematic Review

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ABSTRACT

INTRODUCTION: Typhoid fever is one of the six foodborne diseases monitored in Malaysia beside acute gastroenteritis, hepatitis A, cholera, dysentery and food poisoning. This disease still become a public health issue in developing countries such as South-Central Asia, Southeast Asia and South Africa contributed by factors including poor sanitation and hygiene, unsafe water supply, congestion and poverty. **METHODS:** A systematic review was conducted in four major electronic databases namely EMBASE, PubMed, CENTRAL and Google Scholar. Two authors independently screened title and for inclusion. Another two authors independently read and include full text. Any disagreements will be referred to the third author for final decision. **RESULTS:** A total of 379 records were screened for titles and abstracts. Only nine full texts articles were assessed for eligibility. Of these, two studies were included. No study done on attitude was found. Olalekan AW et al., reported that 52.7% had poor level of knowledge on transmission, prevention and control measures of Salmonella infections. Study by Smith SI et al. showed 90% of the respondents were aware of typhoid disease but only 38.9% respondents noted that typhoid disease can be acquired through contaminated water and contaminated food. One included study measured behavioral practices as one of their outcomes. **CONCLUSION:** Knowledge and behaviour regarding typhoid disease remain low among food handler. The available evidence is extremely limited, more studies are needed to evaluate the long-term benefits of knowledge, attitude and behaviour focusing on typhoid disease.

KEYWORDS: knowledge, attitude, behaviour, typhoid, food handler

Knowledge, Attitude and Practice Study Towards Malaria and Its Drug Prophylaxis Among Malaysian Army Trainees

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ABSTRACT

INTRODUCTION: Malaria is one of the most important public health problems in term of morbidity and mortality. Military are exposing themselves to multiple hazards, with the risk of getting infected with Malaria. Researcher has assessed the basic and general knowledge, attitude and the practices (KAP) of army trainees towards Malaria and drug prophylaxis given. **METHODS:** A cross sectional study using questionnaire survey form was done with the Malaysian Army trainees in PUSASDA Camp. Total number of one thousand four hundred and seventy-five (n=1475) trainees participated in this survey using universal sampling method. Using SPSS software version 24, descriptive and inferential analysis was done. **RESULTS:** Majority of army trainees (86.6%) at PUSASDA had good knowledge (Mean Knowledge Score = 10.98 ± 1.46), positive attitude (65.5%) (Mean Attitude Score = 4.08 ± 0.69) and good practice (81.3%) (Mean Practice Score = 4.11 ± 1.07) towards Malaria and anti-Malaria medicine, and there is a positive association of army trainees' sociodemographic factor and their KAP towards Malaria and its drug chemo prophylaxis (Education; $p=0.024$, Marital status; $p=0.0007$). **DISCUSSION:** It is found that the trainees who have positive knowledge and positive attitude towards Malaria and anti-Malaria medicine, they have completed the intake of antibiotic drugs (Doxycycline) as advised by the doctor ($\chi^2(4) = 16.5, p < 0.05$).

KEYWORDS: Malaria, Military, KAP, Prophylaxis drug, Military medicine

Knowledge, Attitude and Practices (KAP) of Dengue Prevention Among Malaysia Adult

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ABSTRACT

INTRODUCTION: Dengue fever cases are increasing every year despite various preventative control efforts been carried out by the responsible parties. Community involvement is important in reducing dengue in Malaysia. This study was conducted to assess the knowledge, attitude and practices (KAP) on dengue prevention among Malaysian adults. **METHODS:** A cross-sectional study was conducted between October and November 2018 among Malaysians aged 18 years old and above. Participants were randomly selected via online and they were invited to participate and completed the online reliable and validated Dengue KAP Survey. Descriptive analysis and multiple linear regression analysis were done by SPSS version 23 software. **RESULTS:** There were 856 respondents participated in the survey and 98% (n=837) respondents were eligible and had completed all the survey items. The mean score of respondent's knowledges on dengue prevention and control was $14.1(SD \pm)$. The mean score for practices domains was $3.91(SD \pm)$. There was a significant positive correlation between knowledge score and practices score ($p < 0.001$), age ($p < 0.003$), income source less than RM2000 ($p < 0.001$) and income source between RM4000 to RM8000 ($p < 0.042$). **DISCUSSION:** Several variables such as age and income status influence the knowledge on dengue prevention. Knowledge on dengue prevention also affects individual's practices on dengue prevention. Empowerment on health promotion and continuous community mobilization program is vital to encourage the community to participate in dengue prevention activities.

KEYWORDS: dengue control, dengue preventive, knowledge attitude and practice, health promotion

Knowledge, Attitude and Practices On Home Based Management of Acute Respiratory Infection Among Mother in Bera, Pahang

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ABSTRACT

INTRODUCTION: More than 12 million children die every year due to acute respiratory illness (ARI) in developing countries before they reach their fifth birthday. **METHODS** The cross-sectional study was conducted among mothers who attending the Mother and Child Health Clinic in Bera District, to receive the routine healthcare service of their under five children. Interviewer-administered questionnaire was used for data collection and simple random sampling was applied. The questionnaire was divided into four sections which included socio-demographic, level of knowledge, attitude and practices (KAP) on home-based management of ARI. **RESULTS** One-hundred-fifty respondents were studied. Approximately three quarter (74%) of the respondents were housewife while 26% were working mothers. Mean age of the children was 18 months with mean birth weight of 2.9kg. Majority of the children were delivered at term (82%), all (100%) of them took immunization and more than half (64%) have experienced ARI. The majority of the mothers (41%) have moderate level of knowledge on home-based management of ARI, while 37% have low and 21% have high knowledge level. More than half of the mothers have poor level of attitude (71%) and practices (78%) on ARI management. **DISCUSSION** Mothers' KAP on managing their children's ARI are crucial to prevent under-5 children mortality but the KAP level were low to moderate among the mothers in Bera District. **CONCLUSION** Home-based educational intervention provided by qualified medical practitioners should be conducted to improve the mothers' KAP level on ARI management.

KEYWORDS: Upper respiratory infection, mortality rates under five, Bera

Larvaciding Is Still Only Complimentary Program in Dengue Control?

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ABSTRACT

INTRODUCTION: Larvaciding program is one most costly effective strategy to reduce the number of dengue cases in Kota Kinabalu. The aim of the larva management is to interrupt the mosquito cycle despite fogging action. **METHODS:** The **METHODS:** was implemented every three months at 67 priority-1 area in Kota Kinabalu started on October 2018. **RESULT:** From the database, noted reducing dengue cases in Januari until March 2018 from 114 dengue cases to 74 dengue cases this year. Thus, no uncontrolled dengue outbreak erupted from the 67 areas. **DISCUSSION:** These strategies aim to improve the efficacy, cost-effectiveness, environmental impact and sustainability of vector control strategies.

KEYWORDS: Larvaciding, cost effectiveness, vector control

Level of Knowledge, Attitude, Health Seeking Behaviour and Practice of Rabies Prevention Among Adolescent Students In Sarawak

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ABSTRACT

INTRODUCTION: In Malaysia, rabies had been eradicated since 2012. Since then, the population knowledge of rabies and dangers of rabies had been declined. Rabies was reported to be one of the public health concerns that need formulation of intervention strategy in Malaysia. **METHODS:** A cross-sectional population-based study was done from 1st September 2018 to 31st November 2018 using a new and validated tool to collect data from adolescent age between 10 to 17 years old which involving primary and secondary schools in Sarawak. **RESULTS:** Study reveals, 69.3% (7,629) of respondent own at least a pet at home. From that numbers, 49.7% (3,788) claimed they confined their pets at house compound, 28.2% (2,155) leash their pet during walk it and on 27.1% (2,065) vaccinate their pet routinely. During the study, it showed the average \pm SD of knowledge: 16.00 \pm 2.99, attitude: 54.53 \pm 7.64, practice: 38.41 \pm 5.93, and health seeking behaviour: 1.65 \pm 1.10. There is weak correlation between knowledge with attitude($r=0.361$), practice ($r=0.429$) and health seeking behaviour($r=0.150$). Weak correlation also observed between attitude with practice ($r=0.377$) but no correlation observed between attitudes with health seeking behaviour ($r=0.067$). **DISCUSSION** Overall, the level of knowledge, attitude and practice on rabies prevention are good in Sarawak. However, there are more effort need to be done to improve the health seeking behaviour among adolescent in Sarawak.

KEYWORDS: Rabies, Sarawak, Adolescent student, KAP

Lifestyle Affects the Static and Dynamic Balance Among Malaysian Youth Population

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UTAR, MAHSA, AIMST

ABSTRACT

INTRODUCTION: A good balance is crucial in falls and injury prevention. Although the ability to maintain balance can be determined by various factors, there are lack of information on the lifestyle in relation to balance which will be the objective of this study. We postulate that lifestyle affects the static and dynamic balance in youth population. **METHODS:** A cross-sectional study where 216 healthy participants age between 15 to 24 years were recruited via convenient sampling. They were interviewed on their lifestyle and their static and dynamic balance were measured using balance error scoring system (BESS) and star excursion balance test (SEBT) respectively. To prevent biasness, interviewer and assessors were blinded from each other. The results were interpreted using Chi-square test with SPSS version 23 software. All significant levels were set at a p-value of less than 0.05. **RESULTS:** Our results reported no significant association between BESS and sedentary lifestyle ($p>0.05$) however, participants who performed ball sports have poorer static balance (OR (crude) =0.55, 95%CI: 0.28, 1.05, $p<0.05$), while those who participates in swimming and cycling have better static balance (OR (crude)=2.55; 95%CI: 1.06, 6.14, $p<0.05$). The relationship between static balance and sports frequency was no significant ($p>0.05$) however sports frequency greatly affects the dynamic balance ($p<0.01$). Also, participants who visits the gym for weight training have superior dynamic balance (OR (crude) =12.12; 95%CI: 1.83, 80.18, $p<0.05$). **DISCUSSION:** Despite our findings, a more detailed study on how our choice of physical activity affects balance should be conducted.

KEYWORDS: sedentary, physical activity, static balance, dynamic balance, lifestyle

Living Arrangements of Older Persons in Malaysia: Living Alone in The Golden Years

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ABSTRACT

INTRODUCTION: In Malaysia, most older persons reside within their own homes, as institutionalisation of older persons is uncommon. This study aims to describe the characteristics of community dwelling older persons living alone. **METHODS:** A nationwide cross-sectional study using stratified cluster sampling was conducted from June to October 2018 among 3977 older persons aged ≥ 60 years. Face-to-face interview utilising a structured questionnaire via mobile devices was performed by trained interviewers. **RESULTS:** An estimated 6.3% of older persons were found living alone. This was significantly higher in rural (8.8%, 95%CI: 5.29, 7.47) compared to urban areas (5.4%, 95%CI: 4.16, 6.89), females (8.2%, 95%CI: 6.52, 10.17) compared to males (4.3%, 95%CI: 3.35, 5.59), and those not married (17.7%, 95%CI: 14.84, 20.91) compared to married (0.9%, 95%CI: 0.60, 1.43). It was highest in Bumiputra Sarawakians (9.9%, 95%CI: 6.39, 14.99), Bumiputra Sabahans (8.9%, 95%CI: 5.92, 13.22) and ethnic Chinese (7.1%, 95%CI: 4.50, 10.99) compared to Malays (5.9%, 95%CI: 4.63, 7.61). By type of house, longhouses (11.3%, 95%CI: 9.62, 13.31) followed by detached (bungalow/traditional) houses, (7.6%, 95%CI: 6.45, 9.01) were the most prevalent. **DISCUSSION:** Maintaining independence of older persons is important to allow them to age in place in their own homes, in line with active ageing. Living alone in longhouses may still provide a sense of community compared to those in detached houses. Measures to enhance community support would ensure older persons living alone are not marginalised, thus improving their overall well-being.

KEYWORDS: living arrangements, living alone, older persons, National Health and Morbidity Survey (NHMS), Malaysia

Living Conditions of Sugarcane Harvesting Migrants in The State of Maharashtra

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Migration provides subsistence to the workers and their families, but exposes them to vulnerable existence, in which living conditions is worst. The living condition of sugarcane migrants is very basic and small with just a temporary hut-tent like structure. Such surroundings result in unhealthy and morbidity conditions for them as they have minimal access to clean drinking water or hygienic conditions. Thus, an exploratory primary study is conducted in two districts of Maharashtra, India to capture the scenario of such vulnerable population. It is observed that around 32 percent sugarcane harvesters have pucca house at their native place but only 13 percent have when they migrate to destination. The main source of drinking water at villages is bore-well (54%) but at destination it is common tank (57%) and for reaching these sources 30 percent in village and 35 percent at destination have to walk. The main source of lighting at destination is hearth on which most migrants cook. When examined the hygiene conditions of living area at destination, around 77 percent reported of having fly problem near cooking area. 65 percent reported of open defecation and 89 percent of having bath in makeshift bathrooms. Around 69 percent reported feeling unsafe during toilet visit showing lack of security and safety. Thus, showing unhygienic condition and lack of basic sanitation in the living areas of migrants, affecting their health conditions as they are deprived of many basic facilities like access to health centre, electricity, potable water, housing reflect their substandard living conditions.

KEYWORDS: Vulnerable population, Migrants, living conditions

Living in Lack: How Poverty Affects the Mental Health of Urban Youth

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ABSTRACT

INTRODUCTION: In tandem with rapid urbanisation, the figures of Malaysian youths experiencing poor mental health have escalated substantially. This study highlights the incidence of mental distress among youth from urban poor backgrounds, and reviews possible underlying social determinants. **METHODS:** An integrative literature review, using both quantitative and qualitative local and international studies. **RESULTS:** Evidence from three Malaysian public health surveys (NHMS 1996, 2006 and 2011) revealed that mental distress among youths from urban localities almost doubled in prevalence from 1996 to 2006, going from 10.5% to 19.7%. Among other factors, these patterns were found to be strongly correlated with membership of low socioeconomic status (SES) households. Specifically, youths belonging to lowest income quartile SES households registered escalating mental health problems over the years, rising from 17.2% to 19.0% and finally 24.6% in 2011. Research links early exposure to problematic social and environmental factors (e.g. family breakdown, hazardous living conditions, and unstable neighbourhoods with high levels of crime and violence) to the onset of non-specific, longer-term youth mental distress. While not absolute, these factors tend to occur synonymously with poverty. For instance, based on NHMS, mental health problems among children of caregivers with no formal education (a phenomenon typically seen in less affluent households) almost tripled between 2006 and 2011, rising from 12.4% to 33.5%. **CONCLUSION:** Though non-conclusive, these findings should serve as a starting point for urban public health policymakers to discuss effective planning for interventions to reduce mental distress and improve overall outcomes for urban poor youth in Malaysia.

KEYWORDS: youth, urban poverty, mental health, risk, socioeconomic status (SES)

Main Meals Intake and Its Association with Nutritional Status Among Adolescent in Malaysia. Finding from Adolescent Nutrition Survey 2017

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ABSTRACT

INTRODUCTION: The main meal is an important ally to ensure optimum nutrition intake obtained by adolescent for their normal growth. Therefore, the objective of this study is to determine the prevalence of main meals intake and its association with nutritional status among adolescent in Malaysia. **METHODS:** Nationwide cross-sectional survey namely National Health and Morbidity Survey (NHMS) was conducted in 2017 and focused on adolescent nutrition. This survey recruited about 40,000 student range of standard-4 to form-5 from selected school in the country. Standard question on meal pattern was asked and anthropometric measurement were taken. **RESULTS:** Descriptive analysis found 30.0%, 47.7% and 52.8% adolescents in Malaysia to practice daily consumption of breakfast, lunch and dinners respectively. There is also 10.1% or 1 in 10 adolescents did not take breakfast at all in a week and it was higher in urban area compared to rural and higher among girls compared to boys. Those who skip breakfast, lunch and dinner also found to have high prevalence of overweight and obesity. Binary logistic regression after adjusted for age, locality, sex and ethnicity found those who skip breakfast tend to 1.168, skip lunch tend to 1.157 and skip dinner tend to 1.329 more likely to become overweight or obese. **DISCUSSION:** Skipping any main meals should be avoided by adolescents as it gives negative result in their growth and development. Family, school and other related agency must play a role and give strong support for adolescents to practice regular main meals consumption.

KEYWORDS: Main meal, nutritional status, adolescent, Malaysia

Malaysia Armed Forces Preparedness On CBRNe Threat

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ATM

ABSTRACT

Malaysia Armed Forces is committed to address any possibility of potential threat that may adversely affect Malaysia sovereignty, independence and prosperity including CBRNe threat. History of CBRNe weapon and threat used in conventional war started as early in World War I in 1910-1918, World War II 1939-1945, Iraq-Iran War and also have been used in terrorist attack Aum Shringkyo in Japan 1995 and series of murder case and trial worldwide using CBRNe agent. CBRNe threat also deliberated by any possibility of accident, leakage, spillage or explosion. Toxic gas leak at Carbide's site cause Bhopal Tragedy in India 1984, nuclear reactor accident in Chernobyl, Ukraine 1955 and nuclear plant explosion in Fukushima, Japan in 2011 illustrate the danger of such release. With increasing number of proliferating nation and increase industrialisation, toxicological problem extends beyond those CBRNe warfare. In Malaysia, a series of chemical toxic gas leakage have been reported and the recent incident in March 2019 at Pasir Gudang arise the public concern and reflect the preparedness of Malaysia Rescue Team, Health Service, Environmental Department and NGO toward mass casualty incident management related to CBRNe threat specifically chemical industrial agent. Malaysia Armed Forces have full capability of handling and managing any CBRNe threat provided with good training and competency in a way of doing surveillance and detection, decontamination, medical countermeasure and equipped with complete PPE, special device, machine and equipment mainly for conventional war and counter-terrorism and are looking forward to give support and develop their capability in HADR mission and Industrial Incident too that mainly handled by HAZMAT and PDRM.

KEYWORDS: CBRNe, ATM, Industry

Malaysian Armed Forces Health Care Services: Towards A Holistic Skin Care

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ABSTRACT

INTRODUCTION: Skin is the largest organ in the body. Everybody is beauty conscious. They seek treatment for a minor lesion to big ones. Lesions can be distressful to some, especially if on exposed areas. Skin disorders can affect patient's career, e.g., service industry, hair stylist, military personnel, and also their quality of life. **OBJECTIVE:** A study was conducted on prevalence and demography of patients seeking treatment at the Dermatology Clinic, Hospital Angkatan Tentera Tuanku Mizan (HATTM), Kuala Lumpur from the years 2014-2018. **METHODS:** HATTM is a military hospital that treats staffs from MINDEF, veterans and their families, as well as public. These patients, from all walks of life in Malaysia, are referred cases as the HATTM is a tertiary hospital. Records from the years 2014 to 2018, were reviewed and manually categorised into types of patients as per their occupation. **RESULTS:** Though the patients were from all walks of life, military personnel were lesser. The patients were predominantly of military personnel's family, veterans and families of veteran. The number of military personnel seeking treatment were lesser, which may be due to them seeking treatment at government tertiary hospital. **CONCLUSION:** Skin disorders are multifactorial. A holistic approach is needed to improve and minimise the recurrence. Patients should be empowered to address their skin condition. They should be encouraged and not shy away from society as some skin disorders are non communicable. **Keyword:** Prevalence, Malaysian Armed Forces, Medical Board

KEYWORDS: Malaysian Armed Forces, Medical Board

Managing Outbreak of Pulmonary Tuberculosis in Military Setting: Issues and Challenges

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ABSTRACT

INTRODUCTION: Tuberculosis is considered a curable and preventable infectious disease in the world. Malaysia is classified as a country with an intermediate Tuberculosis burden compared to other ASEAN countries and Malaysian Armed Forces are no exception. Apart from an Active Tuberculosis, Latent Tuberculosis is seen as another health problem and on the rise during the outbreak management of Tuberculosis. **METHODS:** There was a Tuberculosis outbreak occurred in the Malaysian military camp in October 2018 involving 111 students and trainers attending four months career course. All these students came from six different army camps around Malaysia. An outbreak investigation was conducted to look into the causes, issues and epidemiological link with another Tuberculosis outbreak happened in another military camp. **RESULTS:** The index case was diagnosed during the course and the contact tracing done diagnosed another two cases of Active Tuberculosis with another 15 students (13.5%) diagnosed with a Latent Tuberculosis. Active Tuberculosis management was conducted on three cases (2.7%) of Active Pulmonary Tuberculosis while chemo prophylaxis was commenced on all Latent Tuberculosis cases for 6-month duration. No epidemiological link can be seen related to a similar outbreak happened in another camp. Control and prevention were conducted by the medical element at the military camp and the patients were followed-up for six months after the completion of treatment. **CONCLUSION:** Vigorous Tuberculosis outbreak management involving government stewardship and accountability, with monitoring and evaluation at the military camp are needed to ensure prompt treatment and control can be delivered.

KEYWORDS: Malaysian Armed Forces, Pulmonary Tuberculosis, Latent Tuberculosis

Measles Cases in Bintulu, a Sudden Surge in 2018

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ABSTRACT

INTRODUCTION: Measles is one of the vaccine preventable diseases that is a public health burden in Bintulu, Sarawak. The main aim of this study is to describe the epidemiology of measles cases in Bintulu for 2018 including age group, ethnicity, immunisation status and type of residential area. **METHODS:** A descriptive study is done based on the database collected by the CDC unit of Bintulu Divisional Health Office using the standard Measles Investigation Form from the Ministry of Health. **RESULTS:** The prevalence rate of measles in Bintulu in 2018 was 58.66 per 100,000 populations. From 152 positive cases, 49 cases (32%) of positive measles occurred in children below 12 months, and 47 cases (31%) in adult age more than 20 years old. About 39 cases (26%) were ineligible for vaccination while 18% (27 cases) were unvaccinated. Only 16% (25 cases) of the cases were vaccinated and the remaining 40% (61 cases) status was unknown. Iban ethnicity has highest positive cases at 71.1% followed by Malays (14.5%), Chinese (6.6%) and Indonesians (5.9%). Approximately 11.2 % of cases happened in workplaces, while 81.6% of cases occurred in residential areas including housing areas, villages, long houses and government quarters. **CONCLUSION:** Measles cases has escalated up to 623% in Bintulu in 2018 compared to previous year.

KEYWORDS: Measles outbreak, ineligible children, adult

Measles Outbreak Investigation in Rural Area of Marudi District, Sarawak in May 2018

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ABSTRACT

INTRODUCTION: Measles incidence per million populations for Marudi district was 266 in 2018. We aim to describe the Measles outbreak investigations performed at rural village of Marudi district in September 2018. No Measles cases reported from the village for past five years.

METHODS: A cross-sectional study of the village population was performed. Case definition was any individual with fever and rash and either cough or coryza or conjunctivitis from Long Banyok Village, Marudi from 28 August until 02 October 2018. Active case detections and mopping up activity were performed. Clinical samples were taken for laboratory analysis. **RESULTS:** The overall attack rate is 1.48%. 100% of the cases were children ranging from five months old to 17 years old. 67% were males and 33% were female. Symptoms were fever (100%), maculopapular rashes (100%), cough (67%), coryza (67%) and conjunctivitis (67%). 100% of the cases were categorised as lab-confirmed measles. Total 212 contacts were identified, and none had symptoms. 100% coverage for mopping up activity achieved within 1km radius. No defaulters found. The primary case from Miri urban town centre was positively identified. Transmission occurred during a funeral gathering at the village. **DISCUSSION:** The cases were contained within the visitors as the herd immunity among children in the rural village was strong. There is high risk of disease transmission to rural areas due to population mobility. **CONCLUSION:** The strategy for Marudi district is to focus on intensified vaccination activity among high risk groups.

KEYWORDS: measles, outbreak, vaccination, rural, marudi

Mobile Phone Dependency, Depression, Anxiety and Stress Among Young Working Adults in Seremban

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ABSTRACT

INTRODUCTION: Global usage of mobile phones (MP) in the past decade posed major influences on mental health of its users. Previous studies are scanty and equivocal. Therefore, the aim of this study is to investigate MP use and mental health by measuring depression, anxiety and stress among young working adults. **METHODS:** This questionnaire consisted of socio-demographics, pattern of MP use, Cell Phone Dependency Questionnaire (CPDQ) and Depression, Anxiety and Stress Scale (DASS-21). Data was analysed and significance is determined at $p < 0.05$. **RESULTS:** Among 160 respondents, they are mostly females (75.6%), married (51.2%), have tertiary education (50%) and earning RM2000 to RM4999 monthly (32.5%). Majority them owns a MP for 1 to 3 years (34.4%); and have daily habit of receiving calls less than 5 mins (41.9%), receives more than 40 messages (52.5%), browse the internet for more than 2 hours (52.5%). Most respondents reported to have MP dependency (93.1%) and was anxious (54.4%); however, they are mostly not depressed (58.1%) and not stressed (72.5%). MP dependency was associated ($p < 0.05$) with gender; females were more dependent (95.9% versus 84.6%). Depression was associated ($p < 0.05$) with marital status, monthly income and MP dependency; higher scores were reported among singles (52.6%) and those earning less than RM2000 (57.6%). Ironically, those with healthy MP habits were associated ($p < 0.05$) with depression. Anxiety and stress were not associated with any socio-demographics, pattern of MP use and MP dependency. **DISCUSSION:** MP dependency was evident among respondent; however, it did not affect their psychological well-being.

KEYWORDS: mobile phone dependency, depression, anxiety, stress

Neonatal Outcomes in Women with Gestational Diabetes Mellitus in Kepong District in 2015

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ABSTRACT

INTRODUCTION: Gestational Diabetes Mellitus (GDM) is defined as a state of carbohydrate intolerance resulting in hyperglycaemia resolved within the puerperium period. In some cases, GDM can result in poor perinatal outcomes such as macrosomia and higher rates of caesarian section. This study aims to describe maternal and neonatal outcomes in women with GDM in Kepong District. **METHODS:** The study is a retrospective cross-sectional study of all pregnancy with GDM in Kepong District from January until June 2015 using antenatal and postnatal data derived from the patient's card. **RESULTS:** Among 124 women, 72.6% were between 25-35 years old, 20.2% were above 35 years old and 7.3% were below 25 years of age. 72.6% of the women were multipara, 19.4% were primid and 8.1% of them were grand multipara. 32.3% achieved adequate gestational weight gain (AGWG), 50.8% had low gestational weight gain (LGWG) and 16.9% had high gestational weight gain (HGWG). Methods of delivery for 69.4% of these GDM women were through spontaneous vaginal delivery (SVD), 25.8% through lower segment cesarean section, and 4.8% had instrumental deliveries. 90.3 % of these GDM mothers also delivered a full-term baby while 9.7% had a pre-term baby. Neonatal outcomes showed that 7.3% delivered <2.5kg babies, and 14.5% babies were born as macrosomic. 16.9% neonates had an Apgar score of <9 at 1 minute and 10.5% had a score of <10 at 5 minutes. **DISCUSSION:** GDM inflicts a risk for both mother and child as the threat of neonatal outcome is higher.

KEYWORDS: neonatal, outcomes, gestational diabetes mellitus

No Woman Should Die Giving Life: A Case Series Study of Maternal Mortality in Bera, Pahang

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ABSTRACT

INTRODUCTION: No woman should die giving life. Bera district has fortunately been introduced as one of the most successful districts in achievement of reduction in maternal deaths with zero case reported since 2010, but the concern raises when there were two maternal deaths in year 2018. Hence the need to investigate the roots more precisely and to plan specific strategies accordingly. **METHODS:** This research is a case series study. The required data were collected by referring to the medical files of the expired mothers and interviewing the related staff and family of the deceased. The causes of maternal death were determined based on clinical, non-clinical remedial factors and patient factors. **RESULTS:** The underlying disease status of the deceased mothers (uncontrolled Type-2 Diabetes Mellitus and Systemic Lupus Erythematosus flare) were identified as the main contributing factors of maternal deaths in this study, followed by healthcare services-related issues (lack of a follow-up system and inadequate supervision on the implementation of preconception clinics at primary healthcare setting) and sociofamilial aspects (patient's lack of compliance with treatment for their underlying comorbidities). **DISCUSSION:** Preconception care is recognized to improve and optimize a woman's health status prior to conception. This study revealed that lack of emphasis on preconception care was the most important root of defect leading to the repeatedly and potentially avoidable maternal deaths in Bera district. **CONCLUSION:** A comprehensive and specific plan of actions focusing on preconception services including health promotion and identification of high-risk clients is of main priority of intervention.

KEYWORDS: Maternal mortality, preconception, Bera

Non-Medically Certified Causes of Death from January to June 2018 in Labuan

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ABSTRACT

INTRODUCTION: Mortality indicators are essential for monitoring population health. However, close to half the deaths in Malaysia in 2017 (47.2%) occurred outside a health facility and are unable to classify the cause of death (COD) into a medically certified death. To overcome the issues Ministry of Health Malaysia has implemented the Verbal Autopsy (VA) questionnaire as a system to increase the percentage of medically certified deaths. In Labuan, for 2017, 39.7% deaths are non-medically certified. Review data from January to June 2018 done to show how verbal autopsy can help in improving Labuan death registry. **METHODS:** Review data from non-medically certified death using VA questionnaire. Sample were all non medically certified deaths from January to June 2018. **RESULTS:** Out of 45 total deaths recorded in first 6 months of 2018, 7 (15.6%) were unable to reclassify due to failure to conduct VA interviews, undetermined and losses to follow up. The “symptoms and ill-defined” COD initially classified as ‘old age’ 21 (46.6%) and others 17 (37.8%) were able to reclassify into the International Statistical Classification of Diseases and Related Health Problem, 10th Revision (ICD-10) category. Common COD after reclassifying, were ischemic heart diseases (17.8%), cerebrovascular diseases (13.3%), different type of cancer (13.3%) and pulmonary diseases (13.3%). **DISCUSSIONS:** The use of VA was able to reclassify most of the ill-defined deaths to a specific cause. The use of VA in Malaysia is feasible and would help increase the accuracy of the vital mortality statistics in the country.

KEYWORDS: Verbal autopsy, non-medically certified death, Labuan

Nutrition Education with Booklet to Improve Knowledge on Anaemia and Haemoglobin Level: A School-Based Study in Padang, Indonesia

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ABSTRACT

INTRODUCTION: One of the causes of anaemia is low knowledge on the impact of anaemia, its causes and prevention among adolescents. This study aimed to assess the effectiveness of nutrition education intervention on knowledge of anaemia prevention and on hemoglobin level among adolescents. **METHODS:** This research was a quasi-experimental study which used research design of non-equivalent control group designs. This research was done in Padang, Indonesia from March-May 2017 and the intervention was nutrition education using booklet. The sample consisted of 62 teenage girls selected using simple random sampling technique. The data were analysed by paired sample t-test. **RESULTS:** The average scores of knowledge before and after giving health education was 3.7 and 4.5 point. Haemoglobin level before and after experiments were 13.17 and 13.86g/dl. There was significant improvement on knowledge about anaemia ($p=0.001$) and hemoglobin level ($p=0.03$). **DISCUSSION:** Nutrition education played an effective role in increasing knowledge about anaemia and increase hemoglobin level in adolescents.

KEYWORDS: Nutrition education, Anaemia, Haemoglobin

Nutritional Status of Elderly Individuals in Malaysia: Findings from National Health & Morbidity Survey (NHMS) 2018

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ABSTRACT

INTRODUCTION: Nutritional status of elderly individuals can be determined through non-invasive, universally acceptable anthropometric indicator; Body Mass Index (BMI). This study aimed to determine the nutritional status of elderly individuals (≥ 60 years old) using BMI by sociodemographic characteristics. **METHODS:** Data for 3648 respondents in this study were drawn from the NHMS 2018, a nationwide cross-sectional study conducted among those aged 60 years and above in Malaysia. Respondents were recruited using two-stage stratified cluster sampling, covering urban and rural areas from all states in Malaysia. Data collection was from July-September 2018. BMI was calculated by weight (kg) divided by the square of height (m²) and categorised according to WHO 1998 guideline. Information on sociodemographic characteristics was collected by interviewer-administered questionnaires. Descriptive and logistic regression analysis were used to analyse the data in SPSS Version 21. All statistical analysis was performed at 95% confidence intervals. **RESULTS:** Prevalence of underweight, normal, overweight and obesity was 5.2% (95%CI: 4.18, 6.46), 40.2% (95%CI: 37.72, 42.72), 37.0% (95%CI: 34.96, 39.01) and 17.6% (95%CI: 15.81, 19.63) respectively. Elderly individuals from rural areas, female, married, with no formal education or with primary/secondary level education and with less than RM1000 individual monthly income are at higher risk of being overweight/obese. **DISCUSSION:** This study shows sociodemographic factors play a vital role in determining nutritional status of the elderly. All aspects need to be taken into consideration in formulating appropriate nutritional interventions for the elderly.

KEYWORDS: nutritional status, sociodemographic characteristics, elderly, Malaysia

On-Site Experiences: Can Moh Clinics Keep Up with Urbanisation?

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ABSTRACT

INTRODUCTION: Malaysia's urban population share grew from 26.8 percent (1970) to 70.9 percent (2010). In 2014, there was a total of 3178 Ministry of Health Malaysia clinics (of all categories) nationwide, as compared to a total of 1167 MOH clinics (1970). This showed that the Ministry was able to keep up with population growth, but the real question is: Can the facilities in the clinics keep up? **METHODS:** These findings were obtained qualitatively via focus group discussion and in-depth interview sessions. The activity was part of the larger Enhanced Primary Healthcare (EnPHC) Process Evaluation study to evaluate the EnPHC initiative's implementation process in twenty selected intervention clinics. **RESULTS:** Healthcare providers informed that their current workforce in the clinics has increased and may perhaps be comparable by ratio to their local population. Concerns regarding the clinics' physical infrastructure were raised as the physical space remained unchanged, despite the workforce increase. It was common for a consultation room in the evaluated clinics to be shared concurrently by 2-3 doctors, which may be the most sensible decision to overcome the space limitations. Patients viewed it otherwise; the space-sharing approach caused discomfort and shyness among the patients due to the lack of privacy, especially for discussing illnesses that they perceived as personal and sensitive. **CONCLUSION:** Strategies for service improvements must also consider the physical infrastructure's readiness; either via building expansion or new constructions - for the staffs and for patients' comfort.

KEYWORDS: urbanisation, primary healthcare clinics, infrastructure, Enhanced Primary Healthcare

Oral Nutritional Supplement (ONS) Reduced Weight Loss and Optimised Preoperative Energy and Nutrient Intakes in Colorectal Cancer Patients Undergoing Surgery

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ABSTRACT

INTRODUCTION: Malnutrition is common among patients undergoing surgery for cancer. ONS is usually prescribed but more evidence for the intervention is needed. This study aimed to assess ONS effect on body weight, energy, protein and micronutrients intake. **METHODS:** Newly diagnosed adult colorectal cancer patients (N=30) at risk for malnutrition and scheduled for surgery were randomized into two groups. The ONS group consumed two packs/day of ONS in addition to their usual diet, 7-14 days preoperatively and continued postoperatively when oral feeding resumed. The control group continued with their diet without ONS. Both groups received dietary counselling. Diet and ONS consumption, anthropometric parameters, patient-generated subjective global assessment score, hand grip strength, serum albumin and transthyretin were determined at baseline, a day before surgery, and postoperative day seven. Repeated measures ANOVA were employed to look at changes within and between groups. **RESULTS:** ONS group showed less weight loss postoperatively (ONS group -0.0±0.7 kg, control group -3.1±0.6 kg (p<0.05). Preoperatively, the energy intake increased in the ONS group (576±108 kcal/day, p<0.05) whereas the control group showed a decline (-188±106 kcal/day, p<0.05). Postoperatively, the decline in energy intake continued in both groups (ONS group -276±194 kcal/day, p>0.05; control group -585±187 kcal/day, p<0.05). Similar trend in protein intake was observed. **DISCUSSION:** ONS supplementation reduced weight loss and optimized nutrients intake preoperatively before the onset of surgical trauma. However, a more comprehensive study is required to confirm the findings.

KEYWORDS: Oral nutritional supplement, Nutritional support, Colorectal cancer patients

Parental Mental Health and Quality of Children in Indonesia

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ABSTRACT

INTRODUCTION: Several studies suggested that household income was not the most important factor in determining the quality of children. It seems that family income did not affect directly to the quality of the children but by means of behavioural parenting of the parents based on their psychological condition. Several studies found that parental depression could affect both positive and negative impact on the quality of children. This research aims to know the influence of mother depression and father depression against cognitive score of children in Indonesia. **METHODS:** This study used data from IFLS 2014 and the number of samples in this study amounted to 5,474 children. This study used a regression model of OLS analysis method. **RESULTS:** Mother depression had a significant effect on children's cognitive score (b= -0.004874, p=0.043). It means that the nurturing which the mother gave to her children was an important factor to determine the quality of children compared to the nurturing the father gave. **DISCUSSION:** Mother depression is an important factor in determining the quality of children so that maternal mental health need to be considered to produce a better quality of children. Hopefully this research could be a contribution to the policy makers and families in Indonesia in order to pay more attention to the mental wellbeing of the mother so that the quality of children would increase.

KEYWORDS: mental health, parental depression, child cognitive

Physical Inactivity Among Malaysian Older Adults: Which Domain Is the Worst?

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ABSTRACT

INTRODUCTION: Physical inactivity in older adults is related to increased risk of chronic diseases, disability and poor health outcomes. Physical inactivity is undertaken from different domains of daily life, i.e., work-related, travel-related, and leisure time domains; however, little is known about domain-specific physical inactivity among older people. Hence, this study aims to determine the overall physical inactivity and domain-specific physical inactivity among Malaysian older adults aged 60 years and above. **METHODS:** Data on Malaysian older adults aged 60 years and above (n=3977) were obtained from the National Health and Morbidity Survey (NHMS) 2018, a population-based cross-sectional survey. Physical inactivity was assessed using the Global Physical Activity Questionnaire (GPAQ). GPAQ assessed the total physical inactivity and physical inactivity levels in the above mentioned three domains. **RESULTS:** Overall, three out of 10 Malaysian older adults were physically inactive. The overall physical inactivity was significantly higher in rural population compared to urban population (37.2% vs 27.1%, p=0.002). There was no significant difference in overall physical inactivity between male and female elderly. The prevalence of physical inactivity for work-related, travel-related and leisure time domains were 45.7%, 84.8% and 86.3% respectively. Only 3.2% of older adults were active in all three domains, with another 14.3% active in two domains and 45.0% active in only one domain. **CONCLUSION:** Although the overall physical inactivity level was relatively low, inactivity by domain was still high especially in the travel-related and leisure time domains. Domain-specific physical activity programmes and interventions to reduce physical inactivity among older adults are needed.

KEYWORDS: Physical inactivity, GPAQ, NHMS, Malaysia

Plain Water Intake Among Elderly

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ABSTRACT

BACKGROUND: Adequate hydration is essential for maintain good health and kidney function. Water is the main source of fluid intake in all age groups. This study aims to determine plain water intake among elderly in Malaysia. **METHODS:** Data from the Elderly Health Survey (EHS), nationwide cross-sectional survey using multi-stage stratified sampling **METHODS:** was used for this study. The target population was community dwelling adults aged 50 years and above. A pre-tested face-to-face interview questionnaire was used to collect information on socio-demographic background and self-reported plain water intake. Adequate plain water intake was determined based on Malaysia Dietary Guideline (≥ 6 cups/day). Only data from respondents aged 60 years and above were used for conducting descriptive analysis using SPSS software. **RESULTS:** A total of 3,946 respondents participated into this study which comprised of 52.9% females and 66.0% married. The findings showed that about two third of elderly in Malaysia drank adequate plain water. Prevalence of adequate plain water intake was significantly higher among elderly from urban areas (72.4%) and male elderly (74.2%). Elderly with spouse (73.8%) and with employment (79.5%) have significantly higher prevalence of adequate plain water intake. However, elderly without formal education (57.3%) and earned less than RM1000 per month (62.5%) have significantly lower prevalence of adequate plain water intake. **DISCUSSION:** Only two third of community dwelling elderly in Malaysia drank adequate plain water. Plain water intake is different by a variety of factors, including strata, sex, marital status, education achievement, employment status, and monthly income.

KEYWORDS: plain water intake, older adults, socio-demographic characteristics

Poor Social Support Among Elderly in Malaysia; Findings from NHMS 2018

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ABSTRACT

INTRODUCTION: Social support is an exchange of aids between at least two individuals which is perceived by the recipient, intended to enhance the well-being of the recipient. Evidence has shown social support moderates the effect of health-related strain on mental health in elderly. This study aims to examine the social support among elderly population in Malaysia. **METHODS:** A cross-sectional study addressing two major sub-scales; Social Interaction and Subjective Support towards selected socio-demographic variables. The instrument used to measure social support was 11-item DUKE Social Support Index (DSSI). **RESULTS:** There were 3959 respondents recruited into NHMS 2018. The prevalence for poor social support among elderly is 30.76% (95%CI: 27.24, 34.52). The overall estimated mean score for Social Interaction subscale is 8.35; 95%CI: 8.20, 8.51. Males had significantly higher estimated mean score (8.59; 95%CI: 8.39, 8.78) compared to females (8.13; 95%CI: 7.96, 8.31). The overall estimated mean score of Subjective Support sub-scale is 19.30; 95%CI: 19.11, 19.49. The highest estimated mean score was reported among those who has monthly income more than RM2000. Unmarried elderly and elderly with tertiary education achievement have highest mean scores for these two subscales. However, no significant difference in strata and occupation. **DISCUSSION:** The results showed that most elderly in Malaysia had inadequate network as well as low satisfaction towards their family, friends and community. Therefore, active participation and engagement with community is imperative to boost up social support and networking among elderly.

KEYWORDS: social support, networking, elderly

Positive Predictive Value of the Dengue Notification System in Kepong District, Kuala Lumpur

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ABSTRACT

INTRODUCTION: The Malaysia Prevention and Control Disease Act 1988, requires notifying dengue case to health district office (PKD). All notified cases which fulfil the case definition will be register and control action will be initiated, after the verification case. Purpose of this study to determine the effectiveness of notification system and evaluate associated factors with the discarded cases. **METHODS:** The e-notification and e-dengue system were used as the database for review of all cases notified by various healthcare facilities for the year 2018. Proportion of discarded notifications can be expressed as the positive predictive value (PPV) of the notification system. Therefore, we quantified the proportion of discarded to calculate the positive predictive value (PPV). The PPV was used to assess the efficiency of the system. The significant reasons for discarding notifications were analysed by reviewing the notifications forms which were abstracted from the system. Result Overall receiving 5311 notifications, 80.6% transferred in cases and 19.4% notified by local. Overall PPV was 36% (minimum-maximum = 15.2-54.7% across the year). 63% notification received were discarded, where 1932 (36%) were registered in the systems. Of 3397 discarded cases, most of them discarded because of negative serology (32.3%), duplicate (19.5%), no serology (10.5%), IGG +ve (7.7%) and failed to reach (3.7%). Conclusion Adaptation of the legal framework concerning notifications may increase the efficiency of the notification system since many notifications that do not lead public health action. Thus, provide useful surveillance data and may lead to better use of data from notified cases.

KEYWORDS: Dengue, Notification, Discarded, Positive Predictive Value

Practice of Disciplinary Methods and Factors Associated with Belief for Physical Punishment Among Malaysian Parents

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ABSTRACT

INTRODUCTION: A topic often highly debated has been the use of violent punishments towards children. An important predictor for the use of violent punishment by parents is the belief in its effectiveness. The objectives of this study were to describe the prevalence and factors associated with the belief for physical punishment among Malaysian parents towards children 1 to 5 years of age. **METHODS:** Two stage stratified random sampling design was used in this population-based survey carried out between February and May 2016 among Malaysian parents. The questions on disciplinary practices were adapted from the Multiple Indicator Cluster Surveys (MICS) questionnaire. The respondents were also asked if they believed that physical punishment is needed to raise a child properly. Complex sample analysis was used for all analysis. **RESULTS:** Almost 60.0% of parents believed in the need for physical punishment, with 54.3% parents admitted to practising it. Parents who believed in physical punishment had 2.6 times odds of practising it than those who did not. Parents with three or more children (OR 2.28; 95%CI: 1.34, 3.89) compared to those with one child, and households with less than RM1000 income compared to RM 5000 and above (OR 1.77; 95%CI: 1.24, 2.53) were significantly more likely to believe in using physical punishment on their children. **DISCUSSION:** There is a large number of parents who practise physical punishment despite not believing in the need for it. Parents need to be taught to respond positively to children's behaviour in difficult parenting situations.

KEYWORDS: NHMS, Physical punishment, Parental belief

Predictors of Hepatitis C Virus Infections Among People Who Injects Drug in Negeri Sembilan

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ABSTRACT

INTRODUCTION: Hepatitis C virus (HCV) infection is known among the major cause of morbidity and mortality globally. Persistent HCV infection is associated with major liver complications such as liver failure, liver cancer, and fatality. Estimated that 5.6 million people who inject drugs (PWID) were chronically infected with HCV globally. In Malaysia estimated that 59% of HCV infections were among PWID. The study is aimed to determine the prevalence of HCV infection and its predictors among PWID in Negeri Sembilan. **METHODS:** A cross-sectional study based on random proportion to size sampling was conducted among 212 out of 1414 registered Methadone Maintenance Therapy (MMT) clients with PWID attending health clinics in Negeri Sembilan from February 2018 to July 2018. Data were collected using a face-to-face interview with an administered questionnaire. Data were analysed using the Statistical Package of IBM SPSS Statistics Version 23 and p-value of <0.05 is considered significant. Independent T-test and Chi-square test (χ^2) was used to determine the associations between the variables, and multiple logistic regressions were used for predictors of HCV infection among PWID. **Result:** A total of 212 respondents were consented and managed to complete the questionnaires given. The prevalence of HCV infections among the respondents was 89%. The predictors of HCV were age (aOR 1.07, 95%CI: 1.032, 1.110) and higher frequency of injections (aOR 5.98, 95%CI: 3.110, 11.476). **Conclusion:** HCV prevalence is higher among PWID in Negeri Sembilan. Effective and efficient prevention and control activities should focus on the identified predictors.

KEYWORDS: Hepatitis C Virus, PWID, Prevalence, Predictors

Predictors of Knowledge, Health Belief and Practices On Work Related Injuries Among Healthcare Workers in A Military Hospital

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ABSTRACT

INTRODUCTION: Current knowledge of healthcare workforce on safe working environment leaves much space for improvement and need to be explored further. Healthcare workers in hospitals are exposed to occupational hazards that may cause serious injuries. In relation to this, awareness must be increased about the harmful effects of injuries and about the prevention and control of WRI. **Methodology:** A cross-sectional study was conducted among healthcare workers in a military hospital. Self-administered questionnaire was used to determine the level of knowledge, health belief and practices with its associating factors and predictors. All data collected was analysed using SPSS 23. **RESULTS:** In this study, 52.5% of respondents obtained a good knowledge, 61.3% respondents had a positive health belief and 56.8% respondents had a good level of practice on WRI. The prevalence of WRI among healthcare workers in the selected military hospital was 12% with the main type of WRI being musculoskeletal injuries. The predictors for good knowledge were gender being female (aOR:2.361, 95%CI: 1.386, 3.921) and involvement in part time job (aOR:0.412, 95%CI: 0.221, 0.760). In terms of positive health belief on WRI, the predictor was education level of degree or higher (aOR: 2.225, 95%CI: 1.235, 3.424) while the predictor for good level of practice on WRI was working experience of >10 years (aOR:2.112, 95%CI: 1.116, 3.958). **Conclusion:** Knowledge, attitude and practices on WRI among healthcare workers can be improved by organizing regular refreshment courses and training. Importance and impact of WRI to our country should be emphasized thus reducing the financial impact on our organization.

KEYWORDS: Knowledge, attitude, practice, work related injury, healthcare workers

Predictors of Willingness to Pay for Dengue Vaccine Among Healthcare Workers in Petaling Health District

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ABSTRACT

Dengue has become a major public health concern. In Malaysia, the cost of dengue is estimated to be USD102.3 million per year. Dengue vaccine can be used as a disease control measure. This study aims to determine the level of willingness to pay (WTP) for dengue vaccine and predictors of WTP among healthcare workers (HCWs) in Petaling Health District. **Methodology:** A cross-sectional study was conducted among 204 HCWs via proportionate simple random sampling according to facility. Self-administered questionnaire using the contingent valuation methods was used to estimate WTP. Socio-demographic data, income, knowledge of dengue, dengue preventive practices and perception towards vaccination were collected. Analysis was performed using SPSS Version 23 with $p < 0.05$. **Result:** From 204 respondents, 188 consented and completed the questionnaire (response rate of 92.2%). Majority were females, 136 (72.3%). Household income categorised according to quartiles showed 27.1% (51) to be <RM3000 while 20.8% (39) makes >RM9000 a month. Median WTP was RM 20.00 (50.00) with 51.1% (96) having high WTP above the median compared to 48.9% (92). Predictors for high WTP for dengue vaccine was monthly household income between RM 3000 to RM9000 (OR: 2.304, 95%CI: 1.111, 4.777) and more than RM9000 (OR: 4.850, 95%CI: 1.887, 12.463), poor knowledge of dengue vaccine (OR: 3.763, 95%CI: 1.037, 13.66), poor dengue preventive practice (OR: 2.142, 95%CI: 1.039, 4.415) and good perception towards vaccination (OR: 2.054, 95%CI: 1.066, 3.959). **Conclusion:** WTP estimate and its predictors can inform prioritization of different health interventions and assist decision-makers to understand aspects of subsidizing dengue vaccines when implementing nationwide campaigns.

KEYWORDS: willingness to pay, dengue vaccine, healthcare workers

Predisposing and Enabling Factors Influencing Private Outpatient Utilisation: Results from A Community Survey

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ABSTRACT

INTRODUCTION: Public healthcare services are complemented by the private sector. However, information on key-drivers that influence the utilisation of private outpatient healthcare services is lacking. Thus, we aim to determine the factors that influence private outpatient healthcare services utilisation among Malaysia's population. **METHODS:** Secondary data analysis of 2015 National Health and Morbidity Survey with a representative sample of adults aged 18 and above who utilised outpatient healthcare services two weeks preceding the survey was conducted. Multivariable logistic regression was used to determine the associations of predisposing and enabling factors with private outpatient healthcare utilisation. Descriptive and complex sample logistic regression analyses were employed using STATA version 13.1. **RESULTS:** Among 1,808 respondents who sought outpatient care (representing 8.3%; 95%CI: 7.7, 8.9%, of the population), 42.1% (95%CI: 38.8, 45.5%) used private outpatient healthcare services. Population who preferred private sector for minor health conditions (OR 14.01; 95%CI: 10.21, 19.23), were single (OR 1.58; 95%CI: 1.11, 2.27), lived further than ten kilometres from public outpatient facilities (OR 5.18; 95%CI: 1.98, 14.7), were economically active (OR 1.74; 95%CI: 1.17, 2.58) and possess health insurance (OR 1.50; 95%CI: 1.03, 2.18) were more likely to utilise private outpatient healthcare services. Wealth quintile was not a significant predictor except for people from the second quintile. **DISCUSSION:** Identifying these potential influencing factors of private outpatient healthcare utilisation is timely. The findings will provide additional perspectives to policymakers for policy-planning and decision-making as the Ministry strives to develop a strong partnership between the public and private health sectors towards achieving universal health coverage and sustainable development goals.

KEYWORDS: outpatient utilisation, private sector, predisposing factors, enabling factors

Premature Mortality in Malaysia, 2017

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ABSTRACT

INTRODUCTION: Each year, non-communicable diseases (NCDs) are responsible for 71% of all death globally and approximately 44% of all NCDs deaths occurred before the age of 70. By reviewing premature mortality, we can evaluate the effectiveness of the healthcare system in our country. Therefore, this study was conducted to highlight the major causes of premature mortality in Malaysia in 2017. **METHODS:** The calculation of premature mortality in terms of Years of Life Lost (YLL) was based on the methods used in Global Burden of Disease (GBD) study. YLL is the mortality component determined by the age-sex specific number of deaths and life expectancy at death. Mortality data were obtained from the Department of Statistics Malaysia. **RESULTS:** In 2017, the total YLL contributed was 3,739,825 years with 60.3% contributed by males. YLL was contributed mostly by NCDs with 72.2%. The leading causes of premature mortality were Ischaemic Heart Diseases (16.5%), Cerebrovascular Diseases (Stroke) (11.5%), Road Traffic Injuries (8.7%), Lower Respiratory Infections (8.3%) and Diabetes Mellitus (5.5%). **DISCUSSION:** Reducing the burden of NCDs by focusing on management of NCDs such as disease prevention, early screening and treatment are crucial to reduce the burden of premature mortality in Malaysia.

KEYWORDS: Years of Life Lost (YLL), Premature Mortality, Deaths, Malaysia

Prevalence and Characteristics of Falls Among Malaysian Elderly

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ABSTRACT

INTRODUCTION: Falls is one of major issues concerning the elderly globally. An event of fall can lead to mortality, morbidity, higher rates of nursing home placement, expensive medical treatment, and loss of confidence leading to voluntary restrictions for activities. **METHODS:** Data from National Health and Morbidity Survey 2018, a nation-wide, cross-sectional using two-stage stratified sampling design was analysed. Data collection was done by face-to-face interview using validated questionnaire on falls. **RESULTS:** A total of 14.1% (95%CI: 12.47, 15.83) of elderly reported at least one fall in the last year. Females showed a higher prevalence of ever falling compared to males, 14.7% (95%CI: 12.73, 16.99) and 13.4% (95%CI: 11.52, 15.46) respectively. Among those who fall, more than one fourth (27.5%) reported had fall twice or more. More than half (63.5%) sustained injury and 16% were hospitalised after the fall. Highest percentage of fall among the elderly happened outdoors (43.9%) followed by indoors, outside the house and in the bathrooms (33.9%, 15.1% and 7.1% respectively). **DISCUSSION:** Falls in the elderly should be considered common with potentially serious consequences. Family members and caretakers have to be aware and educated about the importance of recognising risk factors of falls among elderly and the importance of safety at home.

KEYWORDS: falls, elderly, NHMS 2018

Prevalence and Determinants of Diabetes Screening Practice Among Communities in Sungai Petani

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ABSTRACT

INTRODUCTION: Diabetes screening in Malaysia is still low despite the increase in diabetes prevalence. Delay in diagnosis causes poor outcome in diabetes patients. This study aims to determine the prevalence and determinants of diabetes screening practice among Sungai Petani communities. **METHODS:** A cross-sectional study was conducted in Sungai Petani, Kedah using validated questionnaire in April 2019. **RESULTS:** The 370 non-diabetic adults were made of 38.1% male and 61.9% female, 79.2% Malay and 20.8% Non-Malay with mean (SD) age of 46.1 (13.1), monthly income of RM3037.40 (RM3005.90) and BMI of 25.8kg/m² (5.3). The prevalence of diabetes screening was 42.4%. High education level, high monthly income, hypertensive, had family history of diabetes, overweight and obese, high diabetes knowledge, high intention and high subjective norm were associated with diabetes screening use. The predictors of diabetes screening practice were hypertension (aOR 2.46; 95%CI: 1.37, 4.40), overweight (aOR 7.49; 95%CI: 1.61, 39.74), obese (aOR 5.43; 95%CI: 1.16, 95.33) and intention towards diabetes screening (aOR 1.83; 95%CI: 1.10, 3.04). **DISCUSSION:** The diabetes screening prevalence in Sungai Petani was higher compared to previous studies in Malaysia. Underlying diseases such as hypertension and obesity influence diabetes screening practice as the patients usually would go and seek for treatment. Intention is an important intrinsic factor that initiate screening practice.

KEYWORDS: Diabetes screening practice, diabetes knowledge, Sungai Petani

Prevalence and Factors Associated with Hearing Disability Among Elders in Malaysia

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ABSTRACT

INTRODUCTION: World Health Organization estimates there are 165.4 million (33%) persons for population above 65 years with disabling hearing loss in the world. This study aimed to determine prevalence and factors associated with hearing disability among elders in Malaysia. **METHODS:** Data from nationwide survey implemented using stratified cluster sampling design was analysed. This study was conducted through face to face interview and questionnaires used to determine hearing disability. Locally validated work of the Washington Group on Disability (WG) questionnaires were used which can produce multiple disability identifiers based on the choice of the severity threshold or cut-off. Hearing disability defined as at least one domain or question is coded "A lot of difficulty" or "Cannot hear at all". **RESULTS:** The prevalence of hearing disability among elders aged 60 years and above was 6.4% (95%CI: 5.0-8.3) while 1.5% (95%CI: 0.90, 2.50) elderly reported wearing hearing aid. The largest effects were found for age more than 80 years old (OR:11.89; 95%CI: 7.71, 18.33), male (OR: 1.32; 95%CI: 1.01, 1.72), no formal education (OR: 15.32; 95%CI: 3.74, 62.74) and rural area (OR: 1.37; 95%CI: 1.05, 1.81). **Discussions:** Hearing disability and provision of outreach care must be tailored to elderly from low socio-economic status that may have problems accessing these services especially from rural area.

KEYWORDS: hearing disability, hearing loss, hearing aids, elder adults

Prevalence and Factors Associated with Physical Abuse at Home Among School-Going Adolescents in Malaysia; A Population Based Nationwide Study

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ABSTRACT

INTRODUCTION: Physical abuse among adolescents at home still persists despite measures by the relevant authorities. We aim to assess the current situation in Malaysia. **METHODS:** Data from the Malaysian National Health and Morbidity Survey (NHMS) 2017 was used for this study. A total of 27,497 school going adolescents answered a self-administered questionnaire in this study. A complex sampling analysis was applied to identify factors associated with physical abuse among adolescents using Multiple Logistic Regression analysis. **RESULTS:** The self-reported prevalence of physical abuse at home among students was 11.8%. Our result shows that adolescents aged 13 had significantly higher odds (aOR:2.10, 95%CI: 1.66, 2.66) of such abuse, with odds decreasing as the adolescents age. Girls (aOR:1.27, 95%CI: 1.11, 1.54) and adolescents from Indian ethnicity (aOR:1.72, 95%CI: 1.23, 2.40) had higher odds of such abuse. Other associated factors were mental health problems like depression and suicide ideation, substance abuse like alcohol consumption and drug use, and also school related problems like truancy and involvement in physical fight. **CONCLUSION:** Physical abuse among adolescents at home should be countered with appropriate measures at various levels, as it is an issue with divergent risk.

KEYWORDS: physical abuse, adolescent, home, Adolescent Health Survey, National Health and Morbidity Survey (NHMS), Malaysia.

Prevalence and Factors Associated with Self-Reported Vision Disability Among Community-Dwelling Adults Aged 60 And Above in Malaysia: Findings from The National Health and Morbidity Survey (NHMS) 2018

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ABSTRACT

INTRODUCTION: Vision disability places elderly individuals at risk for a variety of negative health-related outcomes. This study examined the prevalence and factors associated with self-reported vision disability among elderly people in Malaysia. **METHODS:** Data for 3932 respondents in this study were drawn from the National Health and Morbidity Survey (NHMS) 2018, a nationwide cross-sectional study conducted among those individuals aged 60 years old and above in Malaysia. Respondents were recruited using stratified cluster sampling, covering both urban and rural areas from all states. Self-reported vision disability was determined based on interviewer-administered questions adapted from the Washington Group on Disability. Multiple logistic regression using complex sampling design was applied to identify factors that were significantly associated with vision disability. **RESULTS:** About 4.5% of elderly individuals aged 60 and older self-reported vision disability, even when wearing glasses or contact lenses. Among those who have the vision disability, 41% were found to have hypertension. Vision disability was found significantly higher among elderly with no formal education (aOR:7.93, 95%CI: 1.63,38.66) compared to tertiary education, primary education (aOR:5.16, 95%CI: 1.13, 23.64) compared to tertiary education and being unemployed (aOR:2.98, 95%CI: 1.64, 5.40)]. There was however, no significant difference in prevalence of associated factors based on locality, ethnicity, smoking and diabetes among the respondents. **DISCUSSION:** The majority of vision disability factors are avoidable. The importance of seeking timely treatment for visual impairment should be emphasized especially among elderly individuals in which these identified associated factors are prevalent.

KEYWORDS: disability, elderly, public health, vision disability

Prevalence of Anxiety Among Adolescents in Malaysia: Findings from The National Health and Morbidity Survey (NHMS) 2012 & 2017.

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ABSTRACT

INTRODUCTION: Poor mental health can be due to depression, anxiety or stress. Anxiety is one of the most common mental health problems among adolescents and the risk of developing anxiety is greatly increased during adolescence. The objective of this study is to compare the prevalence of anxiety among school-going adolescents in Malaysia in 2012 and 2017. **METHODS:** Data was obtained from NHMS 2012 and 2017 which targeted adolescents aged 13-17 years. The number of respondents recruited in 2012 was 24,708 and 27,497 in 2017. The sampling frame used was from the list of secondary schools from the Ministry of Education and Ministry of Rural and Regional Development. A self-administered, validated questionnaire utilizing the Depression, Anxiety, Stress Scale (DASS-21) was used. Descriptive analysis was done using SPSS version 20. **RESULTS:** The prevalence of anxiety was 39.6% (95%CI: 38.23, 41.06) for NHMS 2012 and 39.7% (95%CI: 38.39, 41.06) for NHMS 2017. Among males, the prevalence was 35.2% in 2012 and 37.1% in 2017. The prevalence of ever having had sexual intercourse in adolescents with anxiety had increased sharply from 9.7% in 2012 to 52.1% in 2017. The prevalence of anxiety among those who smoked cigarettes was 47.3% (95%CI: 44.45, 50.07) in 2017 which was three times higher compared to NHMS 2012 at 12.5% (95%CI: 11.10, 14.00). **DISCUSSION:** The prevalence of anxiety among adolescents is worrying with vast increases from 2012 to 2017 seen among adolescents who had sexual intercourse, smoked or were males. Therefore, mental health promotion and prevention targeting these adolescents should be prioritised.

KEYWORDS: anxiety adolescents, National Health and Morbidity Survey Malaysia.

Prevalence of Disease and Injury Related Illness Among Medically Boarded Military Personnel in The Malaysian Armed Forces

Nur Aina Salim, MD

BACKGROUND: Chronic diseases involving communicable and non-communicable diseases cause a colossal weight to the military medical system around the world. The prevalence of injury-related diseases is also seen to be increasing in trend in the Malaysian Armed Forces. The objective of the study is to determine the prevalence of disease and injury related illness among medically boarded military personnel in the Malaysian Armed Forces. **METHODS:** A retrospective cross-sectional study was conducted involving medically boarded military personnel of the Malaysian Armed Forces. The data was collected from the database of the Medical Department of the Malaysian Armed Forces Health Service Headquarters from the January 2000 to Dec 2018. **RESULTS:** A total of 3570 military personnel was analysed, of whom 95% were men. It was found that the prevalence of men affected by chronic diseases is 59% with the remaining developed injury related diseases. However, among ladies, 68% were mostly affected by injury rather than diseases. **Conclusion:** The prevalence of diseases was high among male military personnel compared to the woman. An integrated management plan involving prevention and control of diseases and injuries among military personnel is imperative especially in maximizing the military readiness in the future.

KEYWORDS: Prevalence, Malaysian Armed Forces, Medical Board

Prevalence of Diseases in Malaysian Battalion of United Nations Interim Force in Lebanon Year 2017/2018

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ABSTRACT

METHODS: A retrospective cross-sectional study was conducted based on the secondary data pertaining to the patients registered at both Malaysian Battalion's Level 1 Hospital, Marakah Camp and Tibnin Camp in South Lebanon from Sep 2017 to Aug 2018. **RESULTS:** A total of 2069 cases recorded among peacekeeping personnel in Malaysian Battalion's Level 1 Hospital of Marakah and Tibnin Camp. Fifty-nine per cent of the cases reported were medical health cases. Upper Respiratory Tract Infection (16%) was found to be the highest, followed by Skin/Burn (10%), Musculoskeletal (9%), Others (6%), Gastrointestinal (6%), Ear-Nose-Throat (3%), Fever (3%), Eye (2%), Neurological (2%), Fracture (1%) and Pulmonary (1%). The highest prevalence of admission was to the level 1 hospital (0.5%), followed by level 3 hospital (0.5%) and level-2 hospital (0.3%). Three cases of medical repatriation were also reported.

KEYWORDS: Prevalence, Disease, Malaysian Battalion

Prevalence of Dry Eye Disease Among Visual Display Terminal Workers of Creative Industry in Jakarta

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ABSTRACT

INTRODUCTION: Dry eye disease (DED) is a multifactorial condition caused by ocular discomfort, visual disturbance, and tear film instability with potential damage to the ocular surface. Visual Display Terminal (VDT) use have exposed workers to risk factor for DED symptoms. This study aims to identify the prevalence and risk factor of DED among VDT workers of the creative industry in Jakarta. **METHODS:** The study design is cross-sectional with 90 participants (23 men and 67 women; mean age 25.4 years). 34 (38%) of them engaged in computer >8 hours. Data collected using a self-administered Ocular Surface Index (OSDI) questionnaire to evaluate the prevalence and risk factor of DED. The OSDI questionnaire is a valid and reliable instrument for measuring DED severity (normal, mild to moderate, and severe). **RESULTS:** Of the 90, the DED group included 79 (severe, 50; moderate, 17; mild, 12) participants. Severe symptoms were observed in 13 male and 37 female participants. More than 8 hours use of VDT was associated with an increased risk of severe DED symptoms (odds ratio, 1.24; 95% confidence interval: 0.52, 2.93). **CONCLUSION:** Approximately 88% of the VDT workers were diagnosed with DED. The condition is more prevalent among females and prolonged VDT users. Changes in the modifiable risks could lead to a better quality of life of VDT workers.

KEYWORDS: Dry Eye Disease, Visual Display Terminals (VDT), Prevalence, Risk Factor

Prevalence of Hypercholesterolemia Among Elderly in Malaysia and Its Associated Factors: Findings from National Health and Morbidity Survey 2018

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ABSTRACT

INTRODUCTION: One of the main modifiable risk factors for cardiovascular disease (CVD) is dyslipidemia which leads to the progression of atherosclerosis. This study aimed to evaluate the prevalence of self-reported hypercholesterolemia and its associated factors among elderly in Malaysia. **METHODS:** This cross sectional, population-based survey was conducted throughout Malaysia in 2018. Data was analysed from the National Health and Morbidity Survey 2018 based on 3977 elderly persons aged 60 years and above. It employed a two-stage stratified sampling to represent the population in Malaysia. Descriptive and multivariate logistic regression were used to analyse the data. **RESULTS:** Almost half (41.8%) of the elderly in Malaysia self-reported to have hypercholesterolemia. The prevalence of self-reported hypercholesterolemia was higher in urban areas (43.3%) compared to rural (37.8%) and among females (45.7%) compared to males (37.8%). Multivariate logistic regression analysis showed those in urban areas (aOR:1.210; 95%CI: 1.02, 1.42) were significantly more likely to have hypercholesterolemia compared to rural areas. Meanwhile, those with primary (aOR:1.386; 95%CI: 1.121, 1.714) and secondary education (aOR:1.537; 95%CI: 1.203, 1.965) were significantly more likely to have hypercholesterolemia compared to those with no formal education. Those with diabetes (aOR:3.311; 95%CI: 2.768, 3.961), hypertension (aOR:6.285; 95%CI: 5.330, 7.412) and obesity (aOR:1.447; 95%CI: 1.178, 1.776) also were more likely to have hypercholesterolemia compared to those without those diseases. Smokers (aOR:0.680; 95%CI: 0.540, 0.856) were less likely to have hypercholesterolemia compared to non-smokers. **CONCLUSION:** A high prevalence of hypercholesterolemia was found among the elderly. Therefore, a comprehensive public health commitment is required to ensure intervention programmes to reduce cholesterol levels are effective, especially for high risk groups.

KEYWORDS: Hypercholesterolemia, elderly, NHMS

Prevalence of Stress and Urge Urinary Incontinence and Its Associated Factors Among Elderly in Malaysia

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ABSTRACT

INTRODUCTION: Urinary incontinence is considered a geriatric colossal. This study aims to determine the prevalence and associated factors for stress and urge urinary incontinence among older persons in Malaysia. **METHODS:** Data was extracted from Malaysia's National Health and Morbidity Survey 2018 which comprised a representative nationwide sample. The Malay and English Language versions of the Questionnaire for Urinary Incontinence Diagnosis (QUID) was used to identify both stress and urge urinary incontinence which were administered through face to face interviews. The QUID contains three stress and three urge questions with a maximum score of 15 for each component. Cut off scores for stress and urge urinary incontinence were ≥ 4 and ≥ 6 respectively. Descriptive analyses and multiple linear regression were employed. **RESULTS:** 3716 individuals aged 60 years and above completed QUID. Overall prevalence of stress incontinence was 2.9% and urge incontinence was present in 3.4%. Univariate analysis revealed depression, age and female gender were associated with stress incontinence. Depression (aOR:3.92, 95%CI: 2.58, 5.97) and female gender (aOR:2.91, 95%CI: 1.88, 4.50) remained significant after adjustment of age in a multivariate model. Similarly, dementia, depression and increasing age were associated with increased of urge incontinence in univariate analyses. Dementia (aOR:1.92, 95%CI: 1.20, 3.06) and depression (aOR:4.83, 95%CI: 3.22, 7.25) remained significant after adjustment for age in a multivariate model. **CONCLUSION:** Risk factors for urinary incontinence differ according to stress or urge symptoms. However, depression is associated with both stress and urge incontinence. Effective treatment for urinary incontinence may also reduced the burden of depressive symptoms.

KEYWORDS: urinary incontinence, older persons, QUID questionnaire

Prevalence of Tuberculosis Among Prison Inmates in Kuantan, Pahang from 2012 to 2017

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ABSTRACT

INTRODUCTION: Tuberculosis (TB) is a contagious disease, due to Mycobacterium tuberculosis bacteria. The high burden of TB in Malaysian prisons is a challenging phenomenon. The difficulty in ensuring continued comprehensive TB care in prison leads to delay in TB diagnosis and discontinuity of treatment. The objectives of this study were to determine the prevalence of TB and the sociodemographic characteristic of TB cases among the inmates. **METHODS:** This was a cross sectional study. This study used secondary data obtained from electronic database (MyTB database). We utilised data over a 6-year period from 2012 to 2017. Data was analysed using SPSS. **RESULTS:** A total of 77 inmates were diagnosed as TB during study period. 76.6% were diagnosed as PTB Smear positive. The prevalence of TB among prison inmates in Kuantan was 1.42 per 1000 inmates. The results showed that the mean age of the patients were 36.0 ± 7.195 years old. For risk factors of TB, from all patients, 58.4% were HIV positive, 3.9% suffered from diabetes mellitus while 74% were smokers. For the treatment outcome, 53.5% of the patients were cured, 9.1% completed treatment, 18.2% were defaulter while 18.2% died. **CONCLUSION:** The results of this study showed the prevalence of TB in Kuantan Prison was higher than normal population but lower than compared to other studies involving inmates. HIV was the main risk factor and should be anticipated earlier.

KEYWORDS: risk factors, Malaysian prison, myTB, PTB

Propagated Mumps Outbreak Among Religious School Students in Kuantan District, 2018

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ABSTRACT

INTRODUCTION: Mumps is a highly contagious vaccine-preventable disease, caused by paramyxovirus. We report an assessment of propagated mumps outbreak among two religious school students in Kuantan district. The aim of the investigation was to describe the outbreak, identify risk factors and recommending preventive measures. **METHODS:** A suspected case was any person presented with symptoms of acute onset of unilateral or bilateral tender swelling of the parotid or other salivary gland from 13th November 2018 till 10th February 2019. A cross sectional study was conducted by interviewing cases and contacts. Buccal mucosa swabs were obtained from active cases and sent for viral studies. Environmental investigation was carried out to assess factors that facilitated transmission of the virus. **RESULTS:** A total of 35 cases were identified. 24 cases from the first religious school and 11 cases from the second religious school with mean age of 14.9 and 17.2 respectively. Symptoms were parotitis (100%), fever (42.9%), headache (22.9%), coryza (20%), orchitis (8.6%). The outbreak becomes propagated when students from both schools attends a religious gathering during the incubation period. 11 out of 12 samples sent were positive for mumps virus. We observed that the living dormitories were overcrowded. Daily activities involve close contact between students. Control measures that were undertaken were symptomatic treatment, provision of face mask and health education. **CONCLUSION:** There was a propagated mumps outbreak involving two religious schools in Kuantan district. We recommend early isolation of the ill students and health education for them.

KEYWORDS: mumps, outbreak, vaccine

Providing Tertiary Healthcare Support in Humanitarian Crisis: An Analysis of Frequency, Distribution and Pattern of Diseases Seen in Malaysian Field Hospital, Cox's Bazar, Bangladesh

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ABSTRACT

INTRODUCTION: The Malaysian Field Hospital (MFH) Mission provides humanitarian assistance to 1.2 million refugees through a Level 3 field hospital within the Rohingya refugees' safe zone in Cox Bazar since 2017. The latest rotation, Ops Starlight-2 run by Malaysian Armed Forces Health Services from 28th August 2018 until 28th February 2019. This paper describes the distribution of cases seen by outpatient department during Ops Starlight-2. **METHODS:** A cross sectional study through retrospective analysis of patients' health records over the period of six months were examined systematically. The inclusion criteria include only ethnic Bangladeshi and Rohingyas, whom require regular follow-up for chronic diseases, pre-op assessments, post-op review/ care and any acute cases which require post treatment reviews. Descriptive analysis was used. **RESULTS:** MFH received 63,200 patients during Ops Starlight-2. A total of 1520 cards were analysed. Approximately 55% came for subsequent follow up, while 12% defaulted. Demographically, 85% were Rohingyas. 70% were >15 years of age, 21% between 5 to 15 years old, and 9% were <5 years old. 60% female and 40% male. 85% were Non-Trauma Cases, 51% required further interventions in which 99.4% from them were surgical patients. Common diseases seen were thyroid disease (20%), followed by hernia (11%), fractures (10%), cancer (7%), abscess (6%) and splenomegaly (3.5%). Hence, among the interventions done were thyroidectomy (9%), hernial repair (8%), immobilisation (6%), implant/plating (5%), incision and drainage (4.7%), excision (4.5%) and splenectomy (2.5%). **CONCLUSION:** Ops Starlight-2 treated wide range of diseases in which majority of the cases required surgical interventions.

KEYWORDS: Key words: Humanitarian Crisis, Distribution of Diseases, Rohingya, Ops Starlight-2, Malaysian Field Hospital, Surgical

Psychiatric Sequelae of Traumatic Brain Injuries

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ABSTRACT

INTRODUCTION: Psychiatric illness is an increasing part of the burden of disease worldwide. While psychiatric illness has multifactorial origin, traumatic brain injuries are a significant contributing factor. Recent studies have suggested that 1 in 5 patients may develop psychiatric symptoms post-trauma. As patients with traumatic brain injuries tend to be younger and in the working age-group, the potential loss to society is greater if they remain unidentified and untreated. **METHODS:** A retrospective study of 152 cases of traumatic brain injury presenting to our Neurosurgical Clinic during the six-month period between October 2017 and March 2018 was conducted. Data about the number of patients who developed psychiatric symptoms post-trauma was extracted. **RESULTS:** Of the 152 patients, 42 (27.6%) developed either axis I psychiatric disorders or cognitive impairment. There was a bimodal distribution of psychiatric illness noted; mostly in either patient with mild or severe head injury. The majority of patients presented with cognitive and memory impairment post-trauma (53%), while another 20% presented with depression with concurrent anxiety and/or psychosis. We noted that those who were referred to Neuropsychiatry early showed good progress and were able to return to school and work, whereas patients with undetected symptoms or delayed referrals remained unemployed or were terminated from their workplace due to disruptive behavior. **CONCLUSION:** The results suggest that traumatic brain injury may cause lasting vulnerability to psychiatric illness in some patients. This study emphasizes the importance of psychiatric screening and follow-up after traumatic brain injuries.

KEYWORDS: traumatic brain injury, psychiatry, mental health

Psychological Consequences of Infertility Among Malaysian Infertile Men and Women: A Qualitative Study

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ABSTRACT

INTRODUCTION: Infertility is a significant public health issue that affected many individuals globally. Certainly, it is not only a 'disease of reproductive system' but it frequently resulting in negative sequels, which may impair the quality of life. It has been linked to several mental health disorders. This study aims to explore the psychological consequences of infertility among Malaysian infertile men and women. **METHODS:** This qualitative study was done in the fertility clinic of 'National Population and Family Development Board' (LPPKN), Kuala Lumpur, Malaysia. The respondents were 17 men and women affected by primary and secondary infertility with no surviving children in 2016 and were purposefully selected via maximum variation sampling. Seventeen in-depth interviews were carried out using semi-structured interview guide. The data were transcribed and analysed using thematic analysis. **RESULTS:** The study found that infertile individuals experienced negative psychological sequels of infertility including the occurrence of mental health ailments. The findings of this study include eight main themes which are: 1) Grief, sadness and disappointment. 2) Inferiority complex and low self-esteem. 3) Self-blame. 4) Anger. 5) Stress. 6) Anxiety. 7) Depression. 8) Suicidal behaviour. These may reduce the quality of life of infertile individuals. Most infertile individuals had negative psychological consequences that usually progressively worsen over time. Our society perception that highly appreciate parenthood aggravated the problem. **DISCUSSION:** This study revealed that Malaysian infertile men and women experienced numerous psychological consequences with devastating effect on mental health. Thus, this study may facilitate fertility facilities to strategize and redesign better intervention for the infertile individuals.

KEYWORDS: Infertility, psychological, mental health

Public Health Response to Mumps Case Detection During a Major National Sports Event

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ABSTRACT

INTRODUCTION: In September 2018, a suspected mumps case involving a 16 years old athlete participating in a national-level sports event was notified to the nearest district health office. There was contact history with a suspected mumps case during training in mid-August 2018 and parotid swelling started while in home state. **METHODS:** Active case detection was carried out among 36 close contacts attending the sports for fever and/or parotid swelling. Three buccal swab samples were sent for PCR test. Risk assessment was conducted, and control activities initiated. **RESULTS:** Eleven close contacts (aged 16-52 years) had respiratory infections without parotid swelling and given symptomatic treatment. One sample was positive for mumps (the index case). All contacts were isolated, monitored daily and given face masks, hand sanitisers and health education. Psychological first aid was given to the team, and none needed further intervention. Risk assessment found that the contacts might develop symptoms during the tournament duration with an outbreak potential despite preventive measures. **DISCUSSION:** Due to the potential spread of mumps infection, the team was not allowed to participate in the games. The contingent was offered to send a replacement team, but they declined and withdrew from the tournament. A further risk assessment was conducted upon request by the state sport director for the team's return to their state. The team was permitted to travel with precautionary measures and monitoring facilitated by the relevant point of entry health office and receiving state health department. Mumps outbreak in mass gatherings management guideline is recommended.

KEYWORDS: mumps, sports event, public health response, outbreak management

Public Transport Usage to Access Healthcare Facilities by Older Persons in Malaysia

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ABSTRACT

INTRODUCTION: Public transport is used by many people in Malaysia. This study aimed to determine the percentage of older persons in Malaysia who used public transport to access healthcare facilities. This study provides data on usage of public transportation to access healthcare facilities, and dependency of older persons on others at the healthcare facilities themselves. **METHODS:** Data from 2018 NHMS, a national community-based survey among older persons aged ≥ 50 years in Malaysia was used. A structured questionnaire was administered to assess transport usage to healthcare facilities among older persons. The questionnaires were completed by 7,117 older persons aged 50 years and above. Descriptive and complex sample analyses were employed as appropriate. **RESULTS:** Overall 92.5% older persons travelled using own transport to access healthcare facilities, with 4.5% depending on public transport. Rural older persons preferred commuting via public transport (15.7%, 95%CI: 7.36, 31.91) compared to urban older persons (4.8%, 95%CI: 3.13, 7.32). Female older persons required more assistance/ were dependent on others in all areas of the healthcare facilities: clinic area 17.9% (95%CI: 13.47, 2.70), toilet area 16.6% (95%:12.34, 22.10), and car park area 19.3% (95%CI: 14.73, 25.3). **DISCUSSION:** From this survey, the urban dwellers travelled to the healthcare facilities more frequently with their own transport. The female older persons required more assistance during their visits to the healthcare facilities. Therefore, provision of more public transportation options may assist older persons in accessing and utilising healthcare facilities, besides providing personnel to attend to older persons at the various areas on the healthcare premises themselves.

KEYWORDS: healthcare facilities, public transport, older persons, National Health and Morbidity Survey (NHMS), Malaysia

Quality Assurance of HIV Rapid Testing: A Cross-Sectional Interlaboratory Comparison

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ABSTRACT

Rapid HIV test has been widely used in most healthcare facilities as HIV test screening tool. Quality reassurance is needed in enhancing the standards of point-of-care testing relating to HIV: Retaining sustainably consistent and precise test outcomes. To procure sufficiently competent infrastructures in training and support systems for HIV evaluation providers, with pre-requisition certification. The objectives of this study are to determine the accuracy of point-of-care testing for HIV test by the performing staffs and identify the numbers of staffs who did not achieve the desired accuracy of 100% and to train them for improvement. This is a cross sectional study involving 43 staffs selected from judgement sampling from each primary healthcare facility under the Health Department of Federal Territories of Kuala Lumpur and Putrajaya (JKWP&P) offering rapid HIV Tests from 13 to 26 May 2019. Every selected staff had to perform rapid HIV tests for Anti HIV 1 and 2 for five commercial control sera which shall yield positive and negative results. As the result from the study were sensitivity of 97.7%, specificity of 96.5%, false positive rate of 2.3%, false negative rate of 3.6%. 88% of 43 staffs achieved 100% accuracy, whereas five staffs failed to achieve the desired accuracy in point-of-care testing. Through the results of the study, we were able to detect the staffs who needed training and analyse the root cause of the failure. As this continuous improvement via quality assurance, the accuracy of the performance of HIV Rapid Test can be improved and more reliable.

KEYWORDS: Quality Assurance, HIV, Rapid Test, Point-of-care testing

Quality Initiatives in the MOH: Do We Have Enough?

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ABSTRACT

INTRODUCTION: Since the inception of the Quality Assurance Programme in the MOH in 1985, more quality initiatives were introduced and implemented focusing on delivering safe, effective and efficient care that improves health outcomes of the populations. This paper aims to describe and illustrate the current implementation of quality initiatives in the MOH. **METHODS:** All ongoing directive quality initiatives in MOH were included based on available resources and feedback from relevant quality initiatives secretariat. The data were collected from January to May 2019 and mapped according to different groups; i) ownership ii) implementation level and iii) potential impact on quality which is further divided into four sub-categories; a) system environment b) reducing harm c) improving clinical effectiveness and d) engaging patients, families and communities. These sub-categories were adapted from quality interventions groupings illustrated in WHO Handbook for National Quality Policy and Strategy. **RESULTS:** A total of 32 quality initiatives were identified. Almost all programmes owned at least one quality initiative and some initiatives featured across multiple programmes. Majority of the quality initiatives falls under the sub-category of improving clinical effectiveness. Engagement with patients, families and communities was seen to be the least explored area. **CONCLUSION:** MOH has various quality initiatives implemented at multiple levels. The mapping provides useful information on the level of comprehensiveness, the gap of implementation and available range of quality initiatives. However, quality initiatives should not be viewed in isolation as combined interventions can lead to a greater impact on the quality of the health care services.

KEYWORDS: quality assurance, quality interventions, quality initiatives, quality efforts

Relationship Between High Risk Behaviors and Socio-Demographic Factors Among Adolescents in Kuala Lumpur: A Cross-Sectional Study

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ABSTRACT

This study is to ascertain the relationship between high risk behaviors and socio-demographic factors among adolescents in the Federal Territories of Kuala Lumpur. This research was conducted through health clinics under the Health Department of the Federal Territories of Kuala Lumpur and Putrajaya (JKWP KL&P) in year 2016. There are 300 respondents from Kuala Lumpur consisting of adolescents aged 15-19 were selected randomly through a screening, utilizing a set of questionnaires in a 'Borang Saringan Status Kesihatan' (BSSK). The data obtained was then analysed in the form of frequency and percentage. The main findings of the study showed that the prevalence of adolescents who involved in high risk behaviors predominantly older age group (17-19) (72%), male (71.2%), Malay (73.0%), secondary school education level (98.5%), staying in People Housing Program (PPR)/Flat House (83.3%). The highest prevalence among the high risk behaviors in adolescents are pornography (28.3%), cigarette smoking (28.0%) and loitering (27.0%). Finally, various implications as discovered through this study are annexed with proposals for further studies directed to relevant entities thereof.

KEYWORDS: social behaviors, adolescent, sociodemographic

Reliability and Construct Validity of Newly Modified Knowledge, Attitude and Practice of Medical Doctors On Smoking Cessation Guidelines Scales.

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ABSTRACT

INTRODUCTION: Number of active smokers in Malaysia is increasing despite availability of stop smoking clinics and smoking cessation medications. Thus, the practice of the healthcare professionals involved in providing smoking cessation intervention using evidence-based guidelines needs to be assessed using validated assessment tool. Newly invented reliable and valid questionnaire is needed to be developed locally. This study aimed to develop and validate a newly modified questionnaire to assess the knowledge, attitude and practice of medical doctors based on national smoking cessation guidelines and factors contributing to the score. **METHODS:** The 22 items consist of mixture of true/false choice questions and Likert scaling response based on domain of 5A's (ask, assess, advice, assist, arrange) and 5R's (relevant, risks, rewards, roadblocks, repetitions) of the national stop-smoking guideline. The questionnaires were distributed to 131 primary care doctors. Reliability was determined using Cronbach's alpha for internal consistency while construct validity was assessed using factor analysis. **RESULTS:** A high degree of internal consistency was observed for these 22-items (Cronbach's alpha = 0.87), with good knowledge subscale (0.72), attitude subscale (0.58) and practice subscale (0.92). Factor analysis showed five meaningful components which represent the smoking cessation framework. **DISCUSSION:** This study indicates that this questionnaire is most reliable and valid tool to assess the knowledge, attitude and practice on stop smoking guidelines compared to previously available questionnaire.

KEYWORDS: smoking, reliability, validity

Review of Tuberculosis Cases in Kuala Lumpur and Putrajaya Federal Territory, 2017-2018

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ABSTRACT

INTRODUCTION: Tuberculosis (TB) remains to be one of the leading causes of morbidity and mortality globally includes Malaysia. This study aimed to describe the epidemiology and distribution of TB case in Kuala Lumpur and Putrajaya Federal Territory. **METHODS:** A cross-sectional study was conducted using the secondary data from National Tuberculosis Information System for the period of 2017-2018. **RESULTS:** During the two-year period, there were a total of 4102 TB cases registered. Of this, 3988(97.2%) cases were adult and 115(2.8%) cases were children. The mean age was 41.32-year-old. There were 302 deaths (Case Fatality Rate: 7.4%) was recorded over the period. The incidence per 100,000 populations were: 1.2 and 1.16 for 2017 and 2018 respectively. The most affected were male (63.4%), age group 25-34 years old (23.3%) and Malaysia nationality (83.8%). Out of the five districts, Kepong had the highest proportion of TB cases (25.7%). A total of 2715(66.2%) from the cases were smoking, 714(17.4%) were diagnosed with Diabetes Mellitus and 332(8.1%) with HIV positive. Majority of the cases, 3560 (86.8%) were immunised with BCG (Bacille Calmette-Guerin) and 2488(60.7%) live in flat or apartment type of residence. Among cases live in flat or apartment type of residence, 2130(85.6%) of them were Malaysian, 1506 (60.5%) were male, 1379(55.4%) were Malay, 1211 (48.9%) with secondary level of education and 1337 (53.7%) cases were diagnosed with PTB smear positive. **DISCUSSION:** Based on these social determinants, effective TB control strategies tailored to the specific group such as urban poor group is vital.

KEYWORDS: Tuberculosis, Hot spot, Social determinants

Risk Assessment for Measles Elimination Programme in WPKL&P 2018

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ABSTRACT

INTRODUCTION: Malaysia is committed to achieve target of Measles Elimination Status in 2025. Risk assessment is recommended to do regularly to evaluate the performance of Measles Programme. Parameters need to be assessed are Measles Population Immunity and Surveillance Quality. The target of risk assessment is to identify high risk area and to carry out specific intervention for target population. **METHODS:** Stakeholders were identified, and meeting was carried out to discuss the approach of risk assessment. Auditor teams were appointed and cross audited data at health clinics. Population immunity was evaluated by checking Child Health Card, Child Registration Book KKK 101 and Vaccination coverage data. Surveillance quality was assessed by analysis of data from enotice and e-Measles system. Finding was presented to stakeholders and specific intervention was planned. **RESULTS:** Totally 28 health facilities had been assessed. 14 facilities scored more than 50% and categorised as high risk. 10 clinics reported at least two measles cases age >12 months to <7 years and 11 clinics had MCV coverage less than 95% in 2017. **DISCUSSION:** In order to achieve Measles Elimination Status, it is important to strengthen the immunization programs such as proper defaulter tracing system and increase the immunization coverage. Supplementary Immunization Activity is suggested for areas that score more than 50%.

KEYWORDS: Measles Elimination, Population Immunity, Surveillance quality

Risk Behaviors Associated with Hepatitis C Infection Among Adult Patients in Kedah State, Malaysia

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ABSTRACT

BACKGROUND: Hepatitis C is a global public health concern both in developed and developing countries. However, evidences regarding risk factors for hepatitis C is not well explored before in Malaysia. The aim of the study was to assess risk factors associated with hepatitis C among adult patients in Kedah state, Malaysia. **METHODS:** A matched, hospital based, case-control study was conducted at a tertiary hospital in Kedah state. Cases were adults (aged ≥ 18 years) diagnosed with hepatitis C between 2015-2018 while controls were age-, gender-, and ethnic-matched and tested negative for hepatitis C. Standard questionnaires on demographic and previous exposure to listed risk factors were filled up by all study participants. Association between hepatitis C, demographic and risk factors were assessed using logistic regression analysis. **RESULTS:** Total of 257 pairs case-control patients enrolled. Multivariate analysis indicate that blood or blood products transfusion (adjusted odd ratio [aOR] 6.81, 95% confidence intervals [CI]; 3.64, 13.40), injection drug use (aOR 6.29, 95% CI; 3.53, 11.68), body piercing (aOR 1.68, 95% CI; 1.03, 2.75), tattoo (aOR 3.77, 95% CI; 1.39, 12.11), been jailed (aOR 4.68, 95% CI; 1.67, 16.76), sexual promiscuity (aOR 1.93, 95% CI; 1.10, 3.44) and secondary education (aOR 1.90, 95% CI; 1.06, 3.53) were independently associated with hepatitis C. **CONCLUSION:** Parenteral routes were the main mode of transmission for hepatitis C identified beside sexual promiscuity. Healthcare givers may use this finding as a screening tool for early detection and timely interventions of hepatitis C in these high-risk groups in Malaysia.

KEYWORDS: hepatitis C, risk factor, case-control, Malaysia

Risk Factor for Mental Health Disorders Among Preschool Care Providers in Kuala Lumpur, Malaysia

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ABSTRACT

INTRODUCTION: Depression and anxiety are common mental disorders in the general population and among workers. Caregiver-child interaction is crucial for children's development outcome for the first 3 years of life. Caregiver who has negative mood, has negative impact on child's behaviour outcome. **Objective:** This study aimed to determine the prevalence of mental disorders and its associated risks factors in particular job strain and socio-demographic risk factors among the preschool care providers in Kuala Lumpur. **METHODS:** A cross-sectional study with cluster random sampling was conducted in Kuala Lumpur, involving registered preschools (4 years old and below) under Social and Welfare Department, Kuala Lumpur. The inclusion criteria are registered preschool's care providers, age 18 years above. Validated tools: CES-D and PHQ-9 were used to detect depression, GAD-7 for Anxiety and JCQ for Job Strain assessment. **RESULTS:** Total participants completed the study n=159. The preliminary results of the study show that the prevalence of depression measured by CES-D and PHQ-9 is 34.1% and 14.0% respectively. While the prevalence of anxiety measured by GAD-7 is 11.3%. Care providers with high Job demand have been found to be significantly associated with depression (CES-D aOR:3.26; 95%CI:1.56, 6.82, p=0.002, PHQ-9 aOR 2.88; 95%CI: 1.05, 7.93, p=0.04) and anxiety (GAD-7 aOR:5.02 95%CI: 1.40, 17.99, p=0.01), after adjusted for age, marital status, income and education level. **CONCLUSION:** This study has found a high prevalence rate of depression and anxiety among preschool care providers in Kuala Lumpur. High Job demand is a risk factor for mental disorders among preschool care providers in Kuala Lumpur.

KEYWORDS: Common mental disorders, depression, anxiety, associated factors and child care providers

Risk Factors Associated with Hypertension Among Malaysian Military Officers in 2018

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ABSTRACT

Hypertension can have serious occupational implications for a military officer, especially for those who have specialised training and has become an essential asset to the organisation. The study aims to investigate the prevalence of hypertension among senior military officers and to determine the associated factors. We reviewed medical records of a senior officer that underwent a routine medical examination at the Military Medicine Department, Kuala Lumpur Armed Forces Hospital from January 2018 to December 2018. There were 625 officers with a majority from army 61.2% followed by navy 19.8% and air force 19.0%. The mean age of the officers was 47.4 (6.3) years, and the majority was a male officer 94.1%. The prevalence of hypertension was 8.8% (55 officers). Twenty-nine of them were known case of hypertension; meanwhile, 26 were newly diagnosed to have hypertension. Among senior officers who were known case of hypertension, nine officers have good BP controlled. There were 7.8% (49 officers) exhibited blood pressure in the range of pre-hypertension. Hypertension was significantly associated with elevated BMI ($p=0.018$), high serum uric acid ($p=0.005$) and elevated serum creatinine ($p<0.001$). None of the military factors, i.e. type of service, rank and responsibility was associated with hypertension. Multiple linear regression analysis showed that increasing age, high BMI, elevated fasting blood glucose and serum uric acid were significant determinants for systolic hypertension. In conclusion, the prevalence of hypertension in the senior military officer was low compared to the general population. However, they shared similar risk factors.

KEYWORDS: Military officer, hypertension, prevalence, risk factors

Risk of 28-Day Readmissions Among Stroke Patients in Malaysia: Trend, Reasons and Its Associated Factors

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ABSTRACT

BACKGROUND: Risk of early readmissions after a stroke is an important quality indicator for stroke care. This study aims to assess the trend in 28-day readmissions after a stroke from 2008 to 2015, and evaluate the causes and factors associated with readmissions in 2015. **METHODS:** Stroke patients were identified using discharge records from the Health Information Management System from 2008 to 2015. We included only patients who were discharged alive. The proportion of readmission within 28-days and its trend were analysed. Reasons for readmissions that were coded to International Classification of Diseases (ICD)-10 were determined for 2015. A multivariable logistic regression was performed to identify factors that are associated with the readmissions. **RESULTS:** Among 151,729 eligible stroke patients between 2008 and 2015, 12.3% were readmitted within 28 days post-discharge from their stroke events. The trend remained stable over the years. Proportions of early readmissions were slightly higher in women (range: 11.6% to 13.3%) compared to men (range: 10.9% to 12.7%). The commonest cause of readmission was recurrent strokes (32.1%), followed by complications from stroke which include pneumonia (13.0%) and sepsis (4.8%). Older age groups, stroke subtypes (haemorrhagic stroke and subarachnoid haemorrhage), and longer length of stay (>3days) during the index admission were associated with a higher risk of early readmission. **CONCLUSION:** Findings from this study will allow us to review our current stroke management and establish areas for further improvement, which includes minimising potentially preventable admissions and identifying target groups of patients who are prone to early readmissions.

KEYWORDS: stroke, readmission, Southeast Asia, trends, risk factors

Role of Obstetric History, Preceding Child Factors and High Risk Behaviours in Predicting Short Interpregnancy Interval Among Antenatal Mothers in Klang

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ABSTRACT

INTRODUCTION: Short Interpregnancy interval (IPI) affects maternal and perinatal outcomes such as maternal mortality, premature rupture of membrane, pre-eclampsia, puerperal endometritis, maternal anaemia, low birth weight, preterm birth, small for gestational age, perinatal mortality and neonatal mortality. This study aims to determine the determinants of short interpregnancy interval among antenatal mothers. **METHODS:** A cross-sectional study was conducted among 452 antenatal mothers attending health clinics in Klang in April 2018. The respondents were randomly selected, and data was collected by using a validated and reliable self-administered questionnaire. The dependent variable was short IPI and the independent variables were defined to be parity, menstrual cycle pattern, miscarriage history, illicit drugs abuse, smoking history, the preceding child's sex and survival status, multiple birth and breastfeeding duration. The data was analysed using IBM Statistical Package for Social Science (SPSS) version 24. **RESULTS:** Among 452 antenatal mothers studied, 48% had short IPIs with a median of 23 months (IQR±24). Three predictors of short IPI were identified which were parity one (Adjusted Odds Ratio; aOR: 2.465, 95%CI: 1.519, 3.999), irregular menstruation (aOR: 1.844, 95%CI: 1.917, 2.841) and breastfeeding duration of less than 24 months (aOR: 2.846, 95%CI: 1.708, 4.743). **Conclusion:** The strongest predictor of short IPI was breastfeeding duration of less than 24 months followed by mothers with one parity and irregular menstruation. Higher authorities should integrate a multifaceted approach to create and sustain a breastfeeding culture to mitigate short IPI.

KEYWORDS: Short interpregnancy interval, Predictors, Obstetric history, Preceding child factors, High risk behaviours

Salmonella Contamination of 'Masak Lemak' Chicken - A Food Poisoning Outbreak Among Pre-University Students in Kuala Pilah District, Negeri Sembilan

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ABSTRACT

INTRODUCTION: A notification was received on the 25 January 2019 from Klinik Kesihatan Kuala Pilah for food poisoning outbreak among pre-university students whom ate at a program prepared by the cafeteria. Investigation was done to verify the diagnosis, identify the risk factors and source of infection. **METHODS:** Epidemiology investigation was carried out followed by analytical case control study to assess the risk factors and determine the cause of outbreak. Microbiological investigations were done to confirm the presence of suspected pathogen and HACCP commenced to identify risk factors. **RESULTS:** 75 chickens were exposed in room temperature for more than four hours while it is being prepared by only three food handlers. The holding time was more than four hours. There were 46 cases among 660 students with overall attack rate of 6.97 %. Students whom ate the 'masak lemak' chicken had 3.5 times higher odds of getting food poisoning (Odds ratio: 3.62, 95%CI: 1.03, 12.75) as compared to other food. Environmental sample from the chopping board was positive for Salmonella together with 18 stool samples positive for *Salmonella spp.* **DISCUSSION:** This signifies evidence of poor handling and preparation of the chicken leading to *Salmonella* contamination. The cafeteria was closed for 14 days under the enforcement of CDC Act. They were given health education on proper handling of raw product. Practice of good hand hygiene and environmental hygiene were conveyed and monitored to prevent future outbreaks.

KEYWORDS: Food Poisoning, Salmonella, Outbreak, Negeri Sembilan

Seeking the Environmental Source of Leptospirosis; Lembah Pantai District Health Office Experienced

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ABSTRACT

INTRODUCTION: Environmental contamination is the major source of human leptospirosis. Therefore, it is important to identify environmental source for public health actions to lower leptospirosis outbreak burden. The aim of this paper is to share experienced in detecting source of infection for Leptospirosis outbreak recently occurred in Lembah Pantai Health Office (LPHO) operational area. **METHODS:** Following the establishment of leptospirosis outbreak, LPHO has initiated investigation and control activities. Based on the history of the cases and epidemiological study, environmental sampling of the suspected contaminated freshwater and watered soil were sent to MKAK for Lepto pathogen. **RESULTS:** One Leptospirosis outbreak occurred in one of institutional on the 1st until 14th March 2019. A total of 73 cases have fulfilled the definition criteria for Leptospirosis among 599 people who have history of exposure to the risky area. Out of 73 cases, only 24 cases were having positive serology in which amongst them a total of 15 cases having positive PCR test. Epidemiological investigation revealed propagated source of infection. This was further support by environmental investigation showing two high risk places of rodent infestation, that were water recreational area and the hostel where the patients lived. Soil sample from the institutional was positive for Lepto. **CONCLUSION:** Based on LPHO experienced, environmental investigation is an important tool to control Leptospirosis outbreak. By identifying the positive environment, resources can be targeted and concerted to the specific area to lessen the outbreak duration as well as Leptospirosis burden.

KEYWORDS: Leptospirosis, environmental source, contaminated water, contaminated soil

Self-Reported Hypertension Among Older Person in Malaysia and Its Associated Factors

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ABSTRACT

INTRODUCTION: Hypertension is a preventable cause of cardiovascular disease (CVD) and a major cause of global morbidity and mortality. The objective of this study is to determine the prevalence of self-reported hypertension among the older person in Malaysia and its associated factors. **METHODS:** The study used data from the National Health and Morbidity Survey in 2018. It was a cross sectional study with stratified cluster sampling design. A total of 3977 adults aged 60 years and above were selected in this study. An information sheet and consent form were made available to every respondent. Respondents were given structured questionnaire via face to face interview using mobile device for data collection. Respondents were classified as having hypertension if they were told to have hypertension by medical personnel previously. Data was analysed using SPSS version 23. Multiple logistic regression model was used to examine the effects of associated factors with hypertension. **RESULTS:** The prevalence of hypertension was 51.1%. Hypertension was higher among other Bumiputras (aOR 1.92, 95%CI: 1.48, 2.49) and Chinese (aOR 1.24, 95%CI: 1.01, 1.53) and unemployed respondents (aOR 1.51, 95%CI: 1.26, 1.81), higher among respondents with: diabetes (aOR 3.27, 95%CI: 2.67, 3.99), high cholesterol (aOR 6.31, 95%CI: 5.34, 7.45), obesity (aOR 1.67, 95%CI: 1.35, 2.08), inactive (aOR 1.34, 95%CI: 1.12, 1.59), and non smokers (aOR 1.67, 95%CI: 1.34, 2.09). **CONCLUSION:** Strengthening the provision of healthcare services and improving some of the modifiable associated factors is important to avoid the complication of hypertension.

KEYWORDS: Hypertension, elderly, Malaysia

Seroprevalence of Hepatitis B and Knowledge, Attitude and Practice of Domestic Waste Collectors in Penang Island, Malaysia

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ABSTRACT

INTRODUCTION: Occupational exposure increases one's risk to acquire infectious diseases such as Hepatitis B. This study aimed to determine the seroprevalence of Hepatitis B and knowledge, attitude and practice of domestic waste collectors towards the prevention of Hepatitis B. **METHODS:** An analytical cross-sectional study was conducted in Penang Island from November 2017 to Mei 2018. Domestic waste collectors who have been working for at least six months and able to understand either Malay or English language were included in the study. Upon obtaining informed consent, participants' blood was withdrawn and tested for Hepatitis B surface antigen (HBsAg) and Hepatitis B surface antibody (HBsAb) using Elisa method. A result of reactive HBsAg indicates that the person is infected with Hepatitis B infection. The waste collectors were then interviewed on the knowledge, attitude and practices regarding the prevention of Hepatitis B using a questionnaire. **RESULTS:** A total of 184 waste collectors participated in the study. Majority of the participants were married (76.6), of Bangladesh nationality (75.0%) and had attained primary education (42.4%). The prevalence of Hepatitis B in this study was 1.6% (n=3). Majority of the participants had poor knowledge (77.0%) on Hepatitis B. However, half of them had good attitude (53.6%) and majority had good practice (73.9%). Significant correlation was observed between attitude and practice scores ($r=0.203$, $p=0.006$). **DISCUSSION:** The prevalence of Hepatitis B among municipal waste collectors was low in this study. Most had poor knowledge on prevention of Hepatitis B. Health promotion is essential to reduce the risk of contracting this disease.

KEYWORDS: Prevalence, KAP, Hepatitis B, domestic waste collectors, Malaysia

Sirenomelia: A Mermaid Syndrome in Military Primary Health Care: A Case Report

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ABSTRACT

INTRODUCTION: Sirenomelia is a rare complex congenital anomaly characterised by partial or complete fusion of lower limbs. It is commonly associated with the malformation of urogenital and gastrointestinal abnormalities. The incidence of this anomaly is very rare that the ratio is 0.8 - 1 / 100,000 births. Most of the cases were reported to be associated with tobacco usage, drug abuse, maternal diabetes, heavy metal exposure, and the usage of retinoids. Approximately 300 cases being reported in the literature worldwide with few reports of surviving infants. Few cases were reported in Malaysia but only through the newspaper. This case was found after a severe oligohydramnions with 1 femur findings was made using ultrasound during routine antenatal check up at 712 Pusat Perubatan Sungai Besi. Being the secondhand exposure to cigarette and vape might be associated to the cause of anomaly in this case. This pregnancy was able to survive until term, however died after 1 hour of delivery due to congenital complications.

KEYWORDS: sirenomelia, mermaid syndrome, rare disease

SisPAA: What Is Clients' Complaint in Lembah Pantai Health Facilities?

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ABSTRACT

INTRODUCTION: Sistem Pengurusan Aduan Awam (SisPAA), Ministry of Health (MOH) provides an online platform for public to make complaints about MOH's services. The objective of this study was to identify the total number and characteristic of the complaints raised related to health services delivered by facilities under Lembah Pantai Health Office (LPHO). **METHODS:** This study analysed secondary data retrieved from SisPAA, MOH. All complaints captured in SisPAA from January 2016 to December 2018 were analysed and descriptive data was presented by frequency and percentage. **RESULT:** A total of 272 complaints were recorded for the past 3 years and 44 (16.2%) were complaints related to health facilities. With total of 947,216 attendances in 12 health facilities, the complaint rates were 4.6 per 100,000 attendances. Regarding the characteristic of the complaint, higher percentage was noted among female complainers (52.3%), age group between 21-40 years old (80.0%), 72% by those who received the service itself and Malay ethnicity (65.9%). Half of the complaints were lodged related to Klinik Kesihatan's services, 60% of complainers submit their complaint within one week from the date they came to clinics, and 38% were related to attitude of the staffs. Majority of the complaints were investigated and solved within 15 days, with median of 11.0 days (IQR 6 days). Investigation reports revealed 61% of the complaints were classified as valid. **CONCLUSION:** The rate of public complaints related to health facilities under LPHO was considered low, however more than half of the complaints were concluded as valid complaints.

KEYWORDS: SisPAA, public complaints, health facilities, health service

Situational Analysis of Measles Cases Among Population in WPKL & P for 2018.

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ABSTRACT

INTRODUCTION: Measles is generally characterised by appearance of fever, diffuse maculopapular rashes and triad of cough, coryza and conjunctivitis with a high infectivity rate of up to 18. The incidence of Measles in Malaysia has risen from 197 cases in 2015 to 873/1 mil population in 2016. Despite the implementation of the national Measles Elimination Program (MEP) Measles still remain endemic with a triennial peak. Since 2015 the trend of Measles cases is on a rise in WPKL and Putrajaya. **Methodology:** Measles data from the Ministry of Health (MOH) e-measles and e-notification system was analysed from five districts under WPKL and P. **RESULTS:** A total of 169 confirmed Measles cases were identified from 931 notified cases with 11 Measles outbreaks recorded throughout 2018. Male and females were equally affected with Malays being predominant (87%). Majority of the cases were from the Titiwangsa district (38%). The most affected age group were children below the age of 6 (70%), 42% aged below one. From the affected population 39% were either un-immunised or had unknown vaccination status. **DISCUSSION:** Measles remains as a constant threat to the population. Vaccination coverage and pockets of unimmunised sub-population remains a major reason for this. Continuous efforts such as a three yearly supplementary immunization mopping up activity, strict laboratory surveillance system and raising awareness on the importance of vaccination would be the key step in reaching Measles elimination by 2025.

KEYWORDS: Measles, Vaccine preventable diseases

SMART Plan of Action: To Set Good Outcome for The Public Health Division Programs at Kuala Lumpur and Putrajaya Health State

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ABSTRACT

INTRODUCTION: By creating a clear course of action so that everyone can have a role in achieving a sustainability goals, the Public Health Division Plan of Action (POA) drives and coordinates efforts toward strengthen the well-being of the programs. Therefore, SMART model come into play in the development, to ensure the good impacts on the public health services. Purposely, aim to develop and establish the outcome-based indicators properties of the plan of action. **METHODS:** A novel approach to writing specific, measurable, achievable, relevant and timed (SMART) indicator for each public health programs plan of action developed based on the extensive reviews guided by Sustainable Developmental Goal (SDG), 11th Malaysia Planned (RMK 11) and Ministry of Health (MOH) Strategic Plan for the year 2016 - 2020. Eighty items were initially pooled reviewed by the expert for face validity and quality dimension assessment. The established criteria of SMART POA (1) Outcome based indicator; (2) in line with the initiative RMK 11 and (3) strategic pillar as in MOH Strategic Plan. The Kappa agreement were measured for reliability. **RESULTS:** The result produced seventy-eight indicators as the POA for the Programs in Public Health Division. The expert agreed with the set strategy, key performance index, indicator, targets and its quality dimension for each indicator / POA. The Cohen's kappa (κ) was 0.730 ($p=0.000$), represent high strength of agreement. **CONCLUSIONS:** The plan of actions with its promising outcome-based indicator properties is now available to measure the impact of public health division programs based on designated strategies.

KEYWORDS: SMART Model, Plan of action, Outcome-based indicator, Public Health Division

Smoking Prevalence Among Healthcare Personnel in Health Department of Kuala Lumpur and Putrajaya

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ABSTRACT

INTRODUCTION: Many tobacco interventions are carried out by Health Department of Kuala Lumpur and Putrajaya (JKWPKL&P) to ensure Kuala Lumpur and Putrajaya Smoke Free Cities (KL&PBAR) is achieved by 2045. Unfortunately, some healthcare personnel are also smoking thus become another barrier to these tobacco interventions. This study aims to determine the prevalence of smoking and the socio-demographic among the healthcare personnel in JKWPKL&P. **METHODS:** A cross-sectional study was conducted using data collected through the KL&PBAR program in JKWPKL&P from January till April 2018. **RESULTS:** The prevalence of smoking among 2910 staffs included in the study was 7.1%; 4.2% smoked cigarette, 0.6% smoked vape and 2.3% smoked both. The prevalence of smoking among males was significantly higher than female (29.3% vs 0.4%). Highest smoking prevalence was seen among those aged 20-29 years, other ethnicities, secondary school graduates, staffs from grade 1-18 and district office. Males, lower educational attainment, grade below 41 and aged below 40 years were significantly associated with smoking. Among cigarette smokers, we found that topmost described curiosity (33.0%), various reasons (31.3%), peer pressure (26.9%) and stress (8.8%) as the factors contributing to smoking. Meanwhile, vapers described vape as a method to quit smoking (41.0%), healthier and safer alternative (20.5%), peer pressure (19.2%), cheaper (12.8%), following trends (5.1%) and stress (1.3%). Interestingly, almost 90% of smokers agree on KL&PBAR. **CONCLUSION:** Although the prevalence of smoking among healthcare personnel is low, tackling this issue is important as we do not want to send mix messages about smoking to the public.

KEYWORDS: smoking, healthcare personnel, smoke free

Socio-Demographic Factors and Self-Rated Oral Health Associated with Geriatric Oral Health-Related Quality of Life in Malaysia

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ABSTRACT

INTRODUCTION: The aging of Malaysian society has increased interest in improving the health-related quality of life (HRQoL) of the elderly, including their oral health-related quality of life (OHRQoL). This study aims to evaluate the OHRQoL of elders living in Malaysia and to explore the socio demographic factors and self-rated oral health towards their OHRQoL. **METHODS:** This is a national cross-sectional survey with complex survey study design. A stratified cluster sampling was used with minimum sample size required 3,542 elderly aged 60 years and above. Interviewed questionnaires were performed to collect information on the participants' socio-demographic characteristics, self-rated oral health and General Oral Health Assessment Index (GOHAI) score. Bivariate analysis was performed using SPSS version 23. **RESULTS:** Response rate was 97.2%. The mean GOHAI score was 52.37 (95%CI: 51.68, 53.06). Better OHRQoL was seen for psychosocial impacts domain with the highest mean (SE) score which was 4.57 (95%CI: 4.52 4.61) as compared to physical function domain and pain and discomfort domain. Sociodemographic factors such as living in the rural area, living together with spouse/partner, other bumiputeras, having no formal education and earning income less than RM1,000 were found to be significantly associated with OHRQoL ($p < 0.001$). Those with poor self-rated oral health or poor self-rated general health also had a low OHRQoL. **CONCLUSIONS:** The OHRQoL of the elderly in Malaysia is at a fair level, with a minimum impact caused by the sociodemographic factors, but with a significant influenced by self-rated oral.

KEYWORDS: Oral health-related quality of life (OHRQoL), Self-rated Oral Health, Elderly, Geriatric Oral Health Assessment Index (GOHAI)

Sociodemographic Characteristics of Older Persons by Strata in Malaysia: Findings from NHMS 2018

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ABSTRACT

INTRODUCTION: Malaysia is expected to be an aged nation in 2030 when the total elderly population reaches 5.82 million or 15.3% of the total population. The aim of this study is to describe sociodemographic characteristics of older persons by strata in Malaysia. **METHODS:** A stratified cluster sampling design was used in this survey to ensure national representativeness of the Malaysian older population. A descriptive analysis was done on both continuous and categorical data. **RESULTS:** There were 3,977 respondents aged 60 years old and above in this study to represent 3.2 million older person population in Malaysia. 42.5% of them resided in urban areas compared to 57.5% in rural areas. Their mean age was 68.30±6.95 years. The results showed a slightly higher proportion of females in the older age groups, compared to males, in line with the feminisation of ageing experienced. Malays (73.8%) and Bumiputras (15.1%) group showed higher proportions in rural areas compared to in urban areas, whereas there were more Chinese (32.6%) and Indian (7.1%) ethnic groups in urban areas compared to in rural areas. Higher education levels were documented by urban dwelling elderly with 11.5% having tertiary education. The results also showed the rural dwelling elderly were still employed (29.8%), whereas 78.2% of the unemployed resided in urban areas. The majority of older person received less than RM1,000 in a month, higher in rural than urban areas. **CONCLUSION:** The findings of this study will assist healthcare policy making decisions in preparation an aged nation in 2030.

KEYWORDS: sociodemographic, older person, elderly, NHMS 2018

Spatio-Temporal Diffusion Pattern and Hotspot Detection of Dengue in Kuala Penyu, Sabah

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ABSTRACT

INTRODUCTION: This study presents a GIS approach to analyse the spatial and temporal dynamics of dengue epidemic. The major objective of this study was to examine spatial diffusion patterns and hotspot identification for reported dengue cases in Kuala Penyu, Sabah. **METHODS:** Data related to dengue cases were gathered from the Sabah State Health Office, Ministry of Health Malaysia. Geospatial analysis was applied to further study the spatio-temporal patterns of dengue fever cases in data set, including hot spot/cold spot analysis and geographically weighted regression models. **RESULTS:** Spatial and temporal variation of dengue cases was observed in the geographic areas affected by dengue cases. This study demonstrated that the locally-acquired dengue cases have exhibited a spatial and temporal variation over the past twenty years in tropical district of Kuala Penyu, Sabah. There is a clear evidence for the existence of statistically significant clusters of dengue and these clusters. **CONCLUSION:** This study presents useful information related to the dengue outbreak patterns in space and time and may help public health departments to plan strategies to control the spread of disease. The methodology is general for space-time analysis and can be applied for other infectious diseases as well.

KEYWORDS: dengue, outbreak, Geographic Information System (GIS)

Study of Social Support and Factors Affecting Efforts in Improving the Quality of Life for Patients with Pulmonary Tuberculosis

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Tuberculosis (TB) is an infectious disease caused by the bacteria known as *Mycobacterium tuberculosis*. Decreased quality of life of TB patients can have a negative impact on the continuity of therapy which cause therapy failure. The quality of life of pulmonary TB patients is important to be evaluated in various aspects starting from the aspects of physical well-being, psychology, social and environmental relations. The purpose was to examine social support and influencing factors that influence the efforts on quality of life of pulmonary TB patients. This observational research used cross sectional design. The population for this study was all pulmonary tuberculosis patients in Palembang City. This study obtained a total sample of 111 people. The quality of life was measured by the Indonesian WHOQOL-BREF questionnaire and the results were obtained by univariate, bivariate, and multivariate analysis using the 22 SPSS. From the 111 respondents it was obtained a good percentage of (71,7%) for quality of life of tuberculosis patients in Palembang City Health Center and poor percentage of (28.83%). There was no significant relationship between demographic characteristics (age, sex, BMI, education, employment status, and marital status), blood pressure, history of diabetes, and history of smoking with the quality of life. There is a significant relationship between duration of treatment, family support, friend support, and community support with the quality of life of tuberculosis patients (p value <0.05). Patients with tuberculosis with poor family support have the opportunity to have a poor quality of life of 86.18%.

KEYWORDS: Social support, quality of life, sociodemographic characteristics, pulmonary tuberculosis

Study On Weight Management Program Trim & Fit and Intervention Among Police Officers in Royal Malaysia Police Kuala Lumpur

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ABSTRACT

INTRODUCTION: Prevalence of overweight adults in Kuala Lumpur (NHMS 2015) was 33.7%, and obesity 14.9%. Police officers are one of the major workers in Kuala Lumpur. There is no such weight management program being held to police officer before. This study aims to identify the effect of weight management module to police officers. **METHODS:** 27 police officers with body mass index of 25kg/m² and above were chosen on a voluntary basis. InBody measurement, talks, individual counseling, and outdoor physical activity was done monthly, while gymnasium or cardio exercises were carried out daily for one hour for six months. **RESULTS:** About 26.7% (n=4) of the male participants and 25.0% (n=3) of the female participants managed to reduce their body weight between 1.0 kg to 6.0 kg, while 53.3% (n=8) of male participants and 66.6% (n=8) of female participants managed to lose weight between 6.1 kg to 12.0 kg. Meanwhile, 20.0% (n=3) of male participants and 8.3% (n=1) of female participants lose weight above 12.1 kg. There are 12 participants (44.4%) change their nutritional status from obese to overweight and two participants (7.4%) changed from overweight to normal. There is a positive significant difference before and after program for blood pressure, glucose level, waist circumference, and fat percentage. **DISCUSSION:** Weight Management Program Trim andFit manage to reduce weight, body fat, and improve the nutritional status of the police officer. Thus, Weight Management Program Trim andFit can be applied for police officers respectively, with the aim to expand nationwide.

KEYWORDS: weight management, obesity, overweight

Substance Use Trends Among Adolescent in Malaysia; Findings from the National Health and Morbidity Survey in 2012 and 2017

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ABSTRACT

INTRODUCTION: Concerns exist that substance use can expose adolescents to serious health problems. This study explores the trend of substance use (current cigarette smoker, current alcohol drinker, current drug user) among adolescents in year 2012 and 2017. **METHODS:** Data from the National Health and Morbidity Survey (NHMS) 2012: Malaysia School-based Student Health Survey 2012 and National Health and Morbidity Survey (NHMS) 2017: Adolescent Survey 2017 Malaysia in 2017 were used to compare the prevalence. **RESULTS:** The current cigarette smoker prevalence was 22.4% among male and 5.3% for female in the year 2017; an increase of 1.5% and 3.2% point respectively compared to 2012. Prevalence of current alcohol drinker among male adolescent was 12.8% in the year 2017; an increase of 1.6% compared to the year 2012. While female had current alcohol drinker prevalence of 7.7% in the year 2017; an increase of 1.2% compared to the year 2012. Prevalence of drug use among male was 5.3% (an increase of 3.1% compared to year 2012) and among female was 1.5% in 2017 (an increase of 0.7%). **DISCUSSION:** This study shows that prevalence of substance use has increased among adolescent in the past half-decade. Male adolescent had higher percentage increase in the prevalence of current drinker and current drug use, while female showed higher percentage increase in current cigarette smoker prevalence. Frequent campaigns and educational seminar to promote healthier lifestyle among adolescents is necessary to combat this rising trend of substance abuse among adolescent in Malaysia.

KEYWORDS: Substance use, smoking, alcohol, drug, adolescent, Malaysia

Suicidal Ideation Among Adolescents: Does Family and Peer Support Play a Role?

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ABSTRACT

INTRODUCTION: Suicide is the leading cause of death among young people globally. Risk and protective factors play a critical role in suicide prevention. This study aimed to identify the relationship between family and peer support with suicidal ideation among adolescents in Malaysia. **METHODS:** Data from the 2017 Adolescent Health Survey, a nation-wide school-based survey, using 2-stage cluster sampling design was analysed. The survey used validated self-administered anonymous Global School-based Student Health Survey and Depression Anxiety and Stress Scale, DASS-21 questionnaires. The survey targeted school-going adolescents age 13-17 years. **RESULTS:** Overall response rate was 89.0%. The prevalence of suicidal ideation among school-going adolescents in Malaysia was 10.0% (95% Confidence interval: 9.2, 10.8). Adolescents with positive parental connectedness and bonding were 25% and 24% less likely to have suicidal ideation. Other protective factors are “stay with both parents” and “have close friends” which showed 13% and 53% less risk of suicidal ideation. In contrast, suicidal ideation was significantly higher among girls, those from urban area, who were depressed, felt lonely, having anxiety, been bullied, abused physically or emotionally at home and those who consumed alcohol. **DISCUSSION:** Family and peer supports were found as important protective factors against suicidal ideation among adolescents in Malaysia. Identifying the risk and protective factors can provide areas of emphasis for interventions that help prevent suicide. Strategies and activities should be planned to enhance family and peer cohesiveness while reducing modifiable risk factors.

KEYWORDS: suicidal ideation, parental connectedness, close friend

Systematic Review Protocol: The Effectiveness of Vaccination and Good Hygiene Practice among Food Handlers in Prevention of Typhoid Fever

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ABSTRACT

INTRODUCTION: Typhoid fever is a vaccine preventable disease caused by *Salmonella typhi* that spreads through contaminated food and water. The incidence in developing countries is still a public health problem due to overcrowded living, inadequate sanitation and poor hygiene practices. The aim of study was to identify the number of typhoid incidents among food handler who took typhoid vaccination and applied good hygiene practices. **Methodology:** Articles with study design of observational studies (cohort, case-control and cross-sectional studies) and Randomized Control Trial will be reviewed. All studies until January 2019 will be retrieved. Our intervention will involve vaccination and good hygiene practice among food handlers. Any good hygiene practice such as performing hand hygiene before and after food service, carrying out pest control screening (flies screen) and use of safe water (chlorination) for food serving will be included as intervention. We will obtain the relevant articles according to the keywords using electronic databases such as PubMed, Scopus, Hindari and EBSCO. Research team members will independently screen all abstracts and full-text, included and excluded studies using PRISMA-P. A descriptive data analysis using IBM Software SPSS Version 23 will be performed. **RESULTS:** The outcome of interest will be the incidence of typhoid fever among food handlers in different settings such as among those who took vaccination and those who applied good hygiene practices.

KEYWORDS: systematic review protocol, vaccination, typhoid fever, hygiene practice, food handlers

Teeth for Life: Trends of Elderly Aged 60 With 20 Or More Natural Teeth (2005 - 2017)

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ABSTRACT

INTRODUCTION: Older people present with higher number of missing teeth and lower number of remaining natural teeth. Studies have shown that tooth loss are associated with reduction in physical, psychological and social function as well as the ability to chew. Elderly with 20 and more natural teeth had better OHRQoL compared to elderly having less than 20 natural teeth. Over the years, the Ministry of Health (MoH) are committed to provide oral healthcare services at all stages of life so as to ensure better OHRQoL are achieved in the aging population. This report describes the trends of elderly Malaysian age 60 years old with 20 and more natural teeth, average number of natural teeth and edentulism from year 2005 to 2017. **METHODS:** Service data were obtained from the e-reporting Health Information Management System (HIMS). These impact indicators were monitored annually. **RESULTS:** There is increasing proportion of 60 years old with 20 and more natural teeth from 30.6% (2005) to 41.4% (2017). Similar trends were seen on the average number of natural teeth from 13 (2005) to 16.9 (2017). On the contrary, edentulism status are reducing each year from 16.0% (2005) to 8.2% (2017). **DISCUSSION:** There is a steady improvement of proportion of elderly age 60 years old with 20 and more natural teeth. However, data is limited to elderly seen by the primary oral healthcare in MoH. The National Oral Health Target of 60% of 60 years old with 20 and more natural teeth by 2020 is still far reaching.

KEYWORDS: 60 years old, 20 and more teeth, edentulism

The 10 Years Situational Analysis of Malaria Cases in Keningau District.

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ABSTRACT

INTRODUCTION: The Human Malaria caused by four different species of plasmodium. The National Elimination Strategic Programmes (PSEMK) of Human Malaria has been introduced since 2010 as part of Health Ministry effort to ensure fully eliminated. Currently, Keningau is in progress of eliminating and at the same time prevention of re-introduction of Human Malaria. Based on geographical distribution, Keningau surrounded by the reserved forest and bordering of Kalimantan, Indonesian which attribute one of the highest malaria cases in Sabah. Besides, the locals are working at the endemic countries of malaria also contributing the numbers of cases. **METHODS:** A 10-year cross-sectional study under Keningau District Health Office from year 2008- 2018. **RESULTS:** The 10-year data was analysed from 2008-2018, all cases including human and zoonotic malaria. Whereby malaria zoonotic is increased while human indigenous is reducing tremendously. Mostly our Human Malaria contribute by imported cases. Keningau divided into 12 mukims, based on stratification of malaria, there are significant changes in 2013, where seven out of 12 mukims are green. Last mortality cases were reported at Keningau in 2010. **CONCLUSION:** PSEMK been divided into three phases (Pre-elimination, Elimination and Prevention Re-introduction of Malaria. Keningau Health District is in line and currently at the 3rd phases. However, the imported cases are a main threat, without early screening and good control measures it can be re-introducing to local community and subsequently ruin this programmed. Based on our practice and co-operation inter agencies, we are ready to eliminate malaria at Keningau in 2020.

KEYWORDS: Malaria, PSEMK, Malaria imported, Human Malaria, Keningau

The Association Between Medication Adherence and Uncontrolled Hypertension

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ABSTRACT

INTRODUCTION: The aim of hypertension treatment is to reduce cardiovascular and renal morbidity and mortality. Medication adherence is a major cause of treatment failure. This study aimed to assess the association between medication adherence and uncontrolled hypertension. **METHODS:** A health clinic based unmatched case control study with 1:1 ratio was conducted among 334 hypertensive patients from a district of Penang. Cases were hypertensive patients with uncontrolled hypertension (BP \geq 140/90mmHg), while controls were those with controlled hypertension (BP<140/90mmHg), selected by simple random sampling from appointment list. The independent variables were sociodemographic data, clinical factors and medication adherence. Data collection was done with validated interviewer assisted questionnaires and medical record reviews. **RESULTS:** The mean age of respondents was 59 years (SD=11), with majority were females (60%) and Malays (53%). Most had hypertension for less than five years (44%), with comorbidity (60%), were overweight or obese (80%), on two or more antihypertensive agents (55%), and once daily medication regime (92%). More than half of respondents (57%) were found to have poor medication adherence, which was among 83% of cases, and 31% of controls (p<0.001). Simple logistic regression showed poor medication adherence increased the odds of uncontrolled hypertension by 11 times compared to good medication adherence (OR: 11.29, 95%CI: 6.69, 19.05). Those using two or more antihypertensive agents increased the odds of uncontrolled hypertension by 1.6 times compared to those on single antihypertensive agent (OR: 1.63, 95%CI: 1.05, 2.51). **CONCLUSION:** Improving medication adherence is vital in tackling uncontrolled hypertension.

KEYWORDS: medication adherence, hypertension, case control study

The Benefits of Palm Oil for Human Health

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ABSTRACT

About 85% of palm oil produced is used in food applications and continuous effort is needed update and share the benefits of palm oil for human health. Research on nutritional benefits of palm oil over the past three decades, have demonstrated the nutritional properties of palm oil and its products. Numerous studies have demonstrated that palm oil exhibited similar effects as unsaturated oils with regards to the effects on blood lipid parameters. Palm oil has also been shown to be a healthy alternative to partially-hydrogenated fats containing trans-fatty acids which have been demonstrated to have deleterious effects on health especially cardiovascular disease risks. It is hypothesized that the similar effects of palm oil on blood lipids, which is comparable to other vegetable oils could be due to the structure of the major triglycerides in palm oil and the positional distribution of its fatty acids, namely unsaturated fatty acid in the sn-2 position of the glycerol backbone. Additionally, palm oil is rich in phytonutrients beneficial to health, such as tocotrienols, carotenoids and phytosterols. An updated overview of studies on palm oil and palm phytonutrients will be presented.

KEYWORDS: palm oil, nutrition, health, lipid, phytonutrients, tocotrienols, carotenoids

The Changing Incidence of Dengue Fever in Hulu Langat, Selangor: A 5-Year Registry-Based Analysis

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ABSTRACT

INTRODUCTION: Dengue fever, a mosquito-borne disease that occurs in tropical and subtropical areas of the world, is a significant threat for the mankind in both developing and developed countries. Dengue virus infection is a systemic disease and has dynamic change in clinical phase. This research aimed to study the epidemiology of dengue with reference to demographic profile, circulating serotypes and complications. **METHODS:** A literature survey was conducted and demographic data between 2014 and 2018 in e-Dengue registry were analysed to describe the epidemiology of dengue cases in Hulu Langat. **RESULTS:** The highest incidence rate, 254.3 per 100,000 populations was recorded in 2015 (n=14,939). Urban sub-districts (88.3%), male (57%), Malay (61.5%), age group 18-40 years old (51%) and landed house (61%) contributed most of the cases. Case-fatality rate increased from 2014 to 2017 (0.0018 to 0.0022) but decreased in 2018 (0.0014). Out of 114 mortalities, majority were male (53%), age 18-40 years old (46%) and Malay (63%). Complications recorded were liver failure (60%), renal failure (51%), encephalitis (18%) and myocarditis (18%). In year 2014-2015, DEN-1 serotype was dominantly reported (52.2% and 56.5%), shifted to DEN-3 in year 2016-2017 (34.8% and 43.4%) and DEN-2 in year 2018 (49.5%). **DISCUSSION:** Hulu Langat, being hyperendemic, the occurrence of multiple organ involvement following dengue infections has become a frequent finding. The study emphasizes the need of epidemiological and entomological surveillance to monitor trends in dengue distribution, seasonal patterns and circulating serotypes to guide dengue control activities, especially in rapidly growing urban and suburban areas.

KEYWORDS: Dengue Fever, Epidemiology, Hulu Langat, Selangor, Malaysia

The Determinant of Early Menarche Among Junior High School Girls

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ABSTRACT

INTRODUCTION: Consuming more food sources of energy and macro nutrients above the recommendation, lower physical activity and mother role have consequences to early menarche among girl teenagers, then related to the risk of degenerative disease at the later age. The objective of the study is to analyse the factors that related with early menarche among junior high school girls. **METHODS:** This cross-sectional study was undertaken among girls in two junior high school in Padang, Indonesia by using questionnaires from May until June 2018. The data was analysed by Independent-t test. **RESULTS:** A total of 159 junior high school girls were participated in this study. Early menarche was identified in 23.3% girls. Of 22.6% girls was identified as overweight status. There was an association between food intake, physical activity and age at menarche of mother with age at menarche of girls. Early menarche was significantly higher consuming protein (p=0.001), consuming fat (p=0.0001), more frequent of fast food (p=0.0001), lower physical activity (p=0.030), early age at menarche of mother (p=0.0001) among junior high school girls. **DISCUSSION:** Food intake, including fast food intake and physical activity are the modifiable factors that have much attention according to age at menarche among girl teenagers.

KEYWORDS: food intake, physical activity, age at menarche of mother, junior high school girls

The Effect of Food Supplementation On Nutritional Status of School Children in Solok City

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ABSTRACT

INTRODUCTION: Food supplementation is one of the national programs to improve the nutritional status in Indonesia. This study aims to determine the effect of food supplementation on the nutritional status of elementary school children in Solok, West Sumatra. **METHODS:** This research was an experimental study with pre and post-test design. The samples were 70 elementary students, 10-12 years old. Food supplement was given 30 times with an average nutritional value of 335 kcal of energy and 9.6 grams of protein. Bivariate analysis using the T-test-One Sample Test. **RESULTS:** Food supplement was given for 30 times, six times a week. There was an increase in normal nutritional status from 74.7% to 84.3% and there was a decrease in underweight cases from 24,3% to 15.7%. Statistical tests obtained that there are differences in nutritional status after the administration of food supplement ($p < 0.0001$). **DISCUSSION:** There is an influence of food supplementation on nutritional status in elementary school students in Solok city. Feeding counseling is needed to improve the acceptability of the food supplement.

KEYWORDS: Food supplement, School, Children, Nutritional Status

The Effect of Occupational Pesticides Exposure On Ankle Brachial Index Among Paddy Farmers in Northwest Selangor, Malaysia

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ABSTRACT

INTRODUCTION: Peripheral arterial disease (PAD) is a systemic atherosclerosis and is associated with increased cardiovascular morbidity and mortality. As chronic pesticides exposure may potentiate the risk of atherosclerosis, this study examined the relationship between occupational pesticides exposure and the development of PAD among paddy farmers. **METHODS:** A total of 193 paddy farmers who had direct exposure to pesticides and 196 inhabitants who were not directly exposed to pesticides in Northwest Selangor were examined for ABI, blood glucose and lipid profile. Information on pesticides usage and work practice were obtained using a validated questionnaire. **RESULTS:** The mean ABI of this study population was 1.21 (SD 0.17). There were 3.1% (95%CI 1.5, 5.1) and 15.4% (95%CI 12.1, 19.0) subjects with low and high ABI respectively. There was significant difference in the ABI reading between directly exposed group and non-directly exposed group ($p < 0.001$). After controlling for confounders in multiple logistic regression model, those with low ABI were more likely to have older age (OR 1.06), higher glucose (OR 2.51), lower HDL-cholesterol (OR 2.34), and higher cumulative exposure to Chlorpyrifos (OR 2.15). While respondents with high ABI have longer duration of working in paddy fields (OR 1.07), higher triglycerides (OR 1.65), higher cumulative exposure to Methomyl (OR 2.17) and Paraquat (OR 2.13). **DISCUSSION:** Apart from traditional vascular risk factors, chronic exposure to pesticides may contribute to an increase risk of PAD. Early identification of pesticides exposure levels and early PAD detection are useful in populations that are more susceptible to adverse effects of pesticides.

KEYWORDS: ABI, pesticide, paddy farmer, Northwest Selangor

The Impact of Essential Psychosocial Intervention Make Easy (EPIME) On Quality of Life of Methadone Clients

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ABSTRACT

INTRODUCTION: The key to the success of Methadone Maintenance Therapy is patients' compliance that can be possibly achieved by high motivation. Studies have shown that psychosocial intervention is an effective adjunct therapy to the methadone in treating the drug dependence patients. However, in reality, the psychosocial component often neglected and missing from the local Methadone Maintenance Therapy Program due to human resource constraints and inadequate training. This study aims to evaluate the implementation of Essential Psychosocial Intervention Make Easy (EPIME) module as an adjunct to the standard MMTP in health clinics. **METHODS:** A prospective comparative intervention study in 2015-2016. 145 patients were assigned to EPIME plus Standard MMT and Standard MMT alone groups. **RESULTS:** Significant and positive QOL impacts were demonstrated especially the Environment Domain (mean difference=6.6, CI: 0.7-12.5, $p=0.028$) and Physical Domain (mean difference=5.3, CI: 0.2-10.0, $p=0.04$) in the EPIME plus Standard MMT group compared with the Standard MMT alone group. **DISCUSSION:** EPIME can be implemented in a larger scale in public health clinics in Malaysia.

KEYWORDS: methadone, EPIME, psychosocial

The Knowledge, Attitude and Practice of Urban and Rural Population in Negeri Sembilan On Non-Communicable Diseases

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ABSTRACT

INTRODUCTION: Non-communicable diseases (NCDs) are the leading cause of death globally. Rapid urbanisation and sedentary lifestyle are among the main factors contributed to high prevalence of NCDs. This study was carried out with the aim to assess the knowledge, attitude and practice of NCDs among urban and rural adult population in Negeri Sembilan, Malaysia. **METHODS:** A cross-sectional study was conducted in several urban and rural areas in Negeri Sembilan using cluster sampling method. A total of 486 respondents were interviewed using validated using pre-tested, structured questionnaire. Statistical analysis was computed using the IBM SPSS version 24. **RESULTS:** A total of 486 respondents with 207 (42.6%) from urban areas and 279 (57.4%) from rural areas participated in this study. Their mean age was 53.68 (SD=19.69) and slightly more than half of them were females (58.2%). Majority of the respondents (73.7%) have good knowledge, (76.1%) good attitude while (58.6%) have moderate practice of NCDs. When comparing the urban and rural population, majority of the urban population (78.7%) have good knowledge of NCDs while majority of the rural population have good attitude (93.2%) of NCDs. For practice of NCDs, majority of rural populations have good practice scores when compared to the urban population. **DISCUSSION:** Our health promotion and health education activities should focus to increase the knowledge of rural population on NCDs while encouraging better attitudes and practices among the urban population.

KEYWORDS: health promotion, urban, rural, KAP, NCD

The Possible Health Effects to Children Who Eat Colour Flavoured Snacks

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ABSTRACT

INTRODUCTION: Diet and nutrition are the key determinants of human health. Socio-economic factors and income inequalities also have a bearing on health and nutrition as the income of different groups in society influences what they eat. In Botswana, small children consume excessive amounts of snacks with flavour and colour because cheap brands have hit the market. Consumption, mostly driven by flavour and taste, is largely defined by factors such as education level and socio-economic status, negative social and environmental influences. **AIM:** To identify the health effect stemming from enhancers, flavours and the volatile components used. **METHODS:** Identification of the ingredients and their health effect on the body using Gas Chromatography-Mass Spectrometry experiment. Parameters were auto tuned by the Chemstation software. **RESULTS:** The packaging shows ingredients with no nutritional information, expiry date, safety precautions and quantities of ingredients. Most of the ingredients used have listed health effects but not limited to nausea, Obesity, headaches and breathing difficulties. The experiment showed that the snack is made of complex compounds whose molecules are difficult to separate. **CONCLUSION:** This study validates the assertion that colour flavoured snacks are not healthy because the ingredients are synthetic, complex and cannot be completely digested by the body. The study confirms that children of parents with low educational level and socio-economic status, negative social and environment influences are the most affected.

KEYWORDS: Socioeconomic status, health effect and additives

The Predictors for Diagnostic Delay of Dengue in Kuantan

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ABSTRACT

INTRODUCTION: Recent decades showed global incidence of dengue had grown dramatically. Dengue can lead to serious illness with fatality rate in Malaysia range from 0.2 to 0.3% for the past 5-years. Early diagnosis able to improve prognosis, reduce fatality rate and facilitate vector control management. The objective of this study is to determine the predictors of diagnostic delay among dengue cases in Kuantan. **METHODS:** We conducted a cross sectional study using convenient sampling where we included the first hundred notified dengue cases in Kuantan from October until November 2018. Data from the investigation forms of notified dengue cases reviewed and analysed using SPSS. **RESULTS:** From hundred dengue cases notified, only 42% were diagnosed early (≤ 3 days). 30.0% of patients had consulted the healthcare providers late while another 28% consulted early but were diagnosed late. Mean duration of diagnosis from onset was 3.96 ± 2.10 days. Among those presented early, 51.4% were diagnosed at 2nd visit and 14.3% diagnosed after 2nd visit. Among those presented early and fulfilled case definition, 75% FBC were not done while 69% serological test were not done despite of the availability. **CONCLUSIONS:** Diagnostic delay of dengue was one of the major challenges for effective dengue case management in Kuantan. Intensive efforts should be conducted on promoting health education and public awareness. Indication for dengue diagnostic testing should be strengthened to anticipate diagnostic delay for early clinical and public health intervention.

KEYWORDS: Late presentation, Early diagnosis, clinical intervention, public health intervention

The Quality of Diabetic Retinopathy Screening Program in Primary Health Care Penang 2017

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ABSTRACT

INTRODUCTION: Diabetic Retinopathy Screening Programme using Fundus Camera has been extended to Primary Care for more than 10 years to ease the patient overload for screening in Eye Clinics. NICE Guidelines recommended screening modalities with the sensitivity of 80%, Specificity of 95% and technical failure of $\leq 5\%$. Beside screening tools, successful screening program also involves the skills and competency of the staff. However, limited research has been conducted to review the quality of this program. **METHODS:** This research was conducted between January-October 2017. 30 diabetics patients' fundus images from chosen clinic in each district were randomly selected. Findings of both eyes stated by MOs in the reports and quality of images were evaluated by Ophthalmologist. Agreement on the findings by Ophthalmologist were graded as True Positive/Negative or False Positive/Negative. Subsequently, the data was analyzed as sensitivity, specificity and percentage of unsatisfactory images and compared with the standard. **RESULTS:** Overall unsatisfactory images were 11.3%. Total of 271 images were analyzed and average sensitivity was 83.7% and Specificity 93.8%. Three districts (SPU, SPT&TL) were able to achieve sensitivity $>80\%$. Clinic from BD has the lowest sensitivity with only 53.3%. Clinic from SPU, SPT and BD has specificity $>95\%$. Only SPU had 5% unsatisfactory image while the others ranging from 7%-22%. There is no district able to fulfill all the recommended criteria. **DISCUSSIONS:** The move to use Fundus Camera for retinopathy screening at primary care is necessary for wider coverage in the demand of urbanization. However, this program must not be left unmonitored to ensure the standard of screening quality

The Relationship Between Calorie Intake and Physical Activity with Body Composition of Premenopausal Women in Padang City

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ABSTRACT

BACKGROUND: Premenopause is a menopausal transition period characterised by a decrease in the hormone estrogen. This will trigger a change in body composition that results in obesity. Calorie intake and inappropriate physical activity are risk factors that can affect these changes. **OBJECTIVE:** This study aims to look for the relationship of calorie intake and physical activity to body composition (FM, FFM) in premenopausal women in Padang City. **METHODS:** A cross-sectional study was conducted on 92 premenopausal women, aged 40-55 years. The study was conducted in 4 sub-districts with eight villages in Padang City. The sample was taken by multistage random sampling. Data consisted of characteristics, calorie intake and physical activity collected by interviews using questionnaires, FFQ and IPAQ. Data were processed using computers and analysed by Pearson correlation and ONE-Way ANOVA test. **RESULT:** The results of this study found that the average calorie intake was 2014,68 \pm 3,19 Kal, FM and FFM, respectively 22,63 \pm 7,80 kg and 36,48 \pm 4,01 kg. There is no correlation between calorie intake and FM and FFM. Average FM and FFM are higher in respondents with heavy physical activity. **CONCLUSION:** There is an association between physical activity and FM and FFM. Physical activity is a risk factor for body composition while calorie intake is not a risk factor.

KEYWORDS: calories intake, physical activity, body composition, premenopause

The Use of “WISER” Smartphone Application in Aiding a Chemical Disaster Management: Sungai Kim Kim Experience

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ABSTRACT

INTRODUCTION: In an ideal situation of managing a chemical disaster that threatens human health, the offending toxin would be rapidly identified on-scene utilizing detector apparatus to provide responders the insight to give specific and appropriate treatment besides hazard protection information. Yet, the on-scene determination of said chemical is usually not readily available in an actual situation. In a recent incident of a highly publicized sizable chemical mixture spill volatilization that imperil human health, a smartphone based toxic syndromes identification tool was applied to aid in rapid chemical identification and assist judgement in providing hazard protection. **METHODS:** Wireless Information System for Emergency Responders app (WISER) was used for toxidrome cause identification, determining responders’ protection and protective distance arbitration. **RESULTS:** The WISER app was found to be useful in swiftly determining personal protective equipment types to be used by medical responder once the offending chemical was identified and in deciding initial protective distance. However, the app floundered in deciding subsequent protective distance and flopped in the aspect of toxic syndromes cause recognition. **DISCUSSION:** These deficiencies were possibly due to that the app was not designed for prolonged dynamic chemical spill and it is more suitable in identifying single chemical culprit rather than a chemical cocktail.

KEYWORDS: WISER, chemical disaster, toxidrome

Total Waiting Time at Clinics in A Malaysian Armed Forces Hospital and Its Associated Factors

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ABSTRACT

INTRODUCTION: Total waiting time in outpatient clinics are regarded as indicators of service quality. There is a strong association between total waiting time at an outpatient clinic and patient satisfaction. The factors studied are social demography of the patients, clinic factors and human resource factors. **OBJECTIVE:** To quantify the total waiting time for patients to complete services at the clinics in Hospital Angkatan Tentera Malaysia Tuanku Mizan and determine the associating and predicting factors. **METHODS:** A cross-sectional descriptive and analytical study will be carried out among patients attending outpatient clinics in April 2019. **RESULTS:** Among 410 respondents, they spent a median time of 82 minutes with the longest waiting time 138 minutes. 25.9% of the respondents found the waiting time unacceptable and 55.9% of the patients were military families. The service point with the longest wait time was at the clinic counter with 87 minutes (mean (SD) = 38 (17)). There was an association between type of clinic, time of day, day of time and perceived waiting time with total waiting time. The respondents who came on non-operation theater days experience 6.382 times higher total waiting time and those who came at AM time of the day had 5.314 times lower total waiting time. **DISCUSSION:** Identifying the factors can help improve the quality of healthcare in Armed Forces Hospital.

KEYWORDS: Total waiting time, waiting time, service points, outpatient, clinics,

Translation and Content Validation of Bahasa Malaysia Version of the Food Insecurity Experience Scale (FIES)

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ABSTRACT

INTRODUCTION: Food insecurity can be defined as the limited or uncertain availability of nutritionally adequate, safe foods or the inability to acquire foods in socially unacceptable ways. Food insecurity is recognized as a public health issue worldwide where it is clearly described under the Sustainable Development Goals (SDGs) number 2: End hunger and achieve food security. To understand the complexity, multifaceted nature of food insecurity in Malaysia needs established tool and adequate data. This study aimed to translate and validate the English version of Food Insecurity Experience Scale (FIES) into Bahasa Melayu (BM) by adopting the guideline of the World Health Organization (WHO) on questionnaire translation. **METHODS** Two forward and backward translations involving experts in food insecurity study and experts in language were done as stipulated in a guideline. Content validity by the experts and face validity by the target population were conducted as part of validation process. **RESULT** Content Validity Index (CVI) and Factorial Validity Index (FVI) was done to analyses content validity. **RESULTS** The harmonized BM version of FIES was produced with 100% CVI. However, FVI was inconsistent. Hence a factor analysis should be done to asses the full degree of FVI. **CONCLUSION** The full validation study of BM version FIES especially construct and criterion validity needed to be done before it is widely used to measure food insecurity in the population specifically Malaysian population.

KEYWORDS: Food Insecurity, Bahasa Malaysia, FIES

Tuberculosis Contact Screening at Health Clinics: Influencing Factors?

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ABSTRACT

INTRODUCTION: Preventing and controlling of Tuberculosis is one of important missions in Malaysia. Contact screening is vital in preventing and controlling spread of Tuberculosis in this country. Studies have shown effective contact screening can control the spread of Tuberculosis in the population. This study aims to identify factors influencing the contact screening at health clinics, Seremban. **METHODS:** A face to face interview was conducted in November 2018. **RESULTS:** 14 healthcare staffs consisting of Medical Officers and Assistant Medical Officers from 8 health clinics who were in charge Tuberculosis Program at their health clinics were interviewed. There was no standard procedure applied by all health clinics in managing Tuberculosis contact screening at health clinic. Some (35.71%) of them did not know how to use MyTibi System especially the new healthcare staffs. Apart (57.14%) of them were not aware the existence of contact screening record in MyTibi System subsequently the data were not recorded in the system. There was inaccessibility of the contacts record in MyTibi System by the healthcare staffs from different districts eventually all (100%) of them could not record screening result for the contacts in the system. Most of the health clinics had no proper documentation of contact screening for Tuberculosis. **DISCUSSION:** Therefore, a good standard Tuberculosis contact screening procedure, proper documentation of contact screening and good attitude of healthcare staffs in managing Tuberculosis contact screening are important factors in Tuberculosis contact screening program at health clinics.

KEYWORDS: influencing factors, contact screening program, Tuberculosis, health clinics

Typhoid Outbreaks in Kampung Aur, Bachok, Kelantan: How Did We Find the Source?

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ABSTRACT

INTRODUCTION: On 14/02/2017, Typhoid outbreak was declared in Kampung Aur, but the source of the outbreak can't be identified. After 11 months, another Typhoid outbreak two kilometers away from the first outbreak was declared. **METHODS:** Epidemiological, environmental and laboratory investigations were done to collect the data. Data were entered and analysed using Microsoft Excel version 2016. **RESULTS:** The first outbreak affected four cases from one family while the second outbreak involved two cases from another family. All of them were Malay males with the median age of 12 (IQR 24.0) years old. Symptoms experienced were prolonged fever (100%), poor appetite (67%), lethargy (50%), bodyache (33%), abdominal pain (33%), vomiting (33%) diarrhoea (17%). The first onset of the first outbreak was on 28/01/2017 while for the second outbreak was on 9/12/2017. The cause of the first outbreak can't be identified but after proper investigations during the second outbreak, we found four asymptomatic food suppliers from Pasar Jelawat with positive Typhidot IgA. Based on the diet history, all patients had history of eating 'Roti Goreng' which was supplied from one of the Typhoid carriers detected. All water samples taken from the cases and food handlers' house were negative for Salmonella Typhi. **DISCUSSION:** The source of the outbreaks was from Typhoid carrier among food handlers rather than from environmental source. A detail, thorough and non-bias investigations need to be done to find the source of the outbreak. We recommend the use of food bubble chart to track the food source.

KEYWORDS: Typhoid outbreak, Typhoid carrier, Bachok

Under-Five Mortality in Putrajaya: Are We Doing Enough?

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ABSTRACT

INTRODUCTION: The Sustainable Development Goals (SDGs) aim to reduce neonatal and under-five mortality as well as to end preventable deaths. This study aims to describe the trend and characteristics of under-five mortality in Putrajaya to engineer targeted intervention for such problems. **METHODS:** This study used data extracted from Death Notification Forms and mortality consolidation reports from 2014 until 2018. Modified ICD-10 was used to classify the cause of deaths. **RESULTS:** Overall, the trend of under-five mortality rate in Putrajaya was above the target given by the Ministry of Health, Malaysia. The under-five mortality rates were at 10.9 deaths per 1,000 live births and 10.8 deaths per 1,000 live births in 2014 and 2015, respectively. With multiple strategies being held, the rates have been seen to decline to 8.0 deaths per 1,000 live births, 8.6 deaths per 1,000 live births and 8.4 deaths per 1,000 live births in 2016, 2017 and 2018 respectively. About 83.2% of cases were hospital deaths and 16.7% of cases were non-hospital deaths. The cause of death was primarily due to condition from perinatal period (28.5%), followed by respiratory complications (19.8%) and congenital malformation (16.1%) and others (35.6%). Preventability of the under-five mortality takes 19.2% of total deaths. **DISCUSSION:** Knowing the characteristics of under-five mortalities in Putrajaya helps us to develop plan of action focusing on creating community awareness to reduce under-five mortality in Putrajaya. But are we doing enough?

KEYWORDS: under-five mortality, preventable deaths, Sustainable Development Goals (SDGs)

Unwanted Parents - A Perspective of Elderly from Old Age Homes of Pune City in India

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ABSTRACT

INTRODUCTION: The current research paper highlights various issues of the elderly after moving to the Old Age Home. This attempt to coverup the condition, adjustment, changed life style and perspective in association of such several issues of the elderly, which have essential effect on well-being of the elderly. **METHODS:** This study is based on primary data with 500 aged respondents interviewed from the 22 old age homes of Pune city of Maharashtra State, India. Multi-stage Random Sampling is adopted for the data collection process, which consists of Stratified random sampling, probability proportional to size (PPS) and Simple random sampling. **RESULTS:** Around five percent of the elderly are staying with their spouse in the old age home, and then 10 percent and 71 percent of elderly are staying away from their spouse and children respectively. In case of seven elderly persons out of ten, their close ones consulted to the institution before joining. The presence of lonely feeling is shared by 55 percent of the inmates, the result of left out by their children and other relatives. **DISCUSSION:** Family members don't have time, too busy to look after, or to interact with aged parents, and the consequences are - feeling of unimportant and conflicts within family members due to presence of aged person. This explanation is provided by more than 70 percent of the elderly for being at the old age home. The children and relatives are ready to pay to the old age institution but not ready to share one roof with them.

KEYWORDS: Elderly, Old age homes, Reasons for Joining, India

Urban Dengue Outbreaks: A Study on Key Breeding Containers of Dengue Vectors

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ABSTRACT

INTRODUCTION: Dengue is currently one of the important arboviral diseases, with 2.5 billion people living in areas of risk and millions of cases occurring each year. Identifying the key containers is an important key to prevent dengue epidemics. This study aims to determine the type of containers in the dengue outbreak localities in Kepong district, Kuala Lumpur. **METHODS:** Larvae survey was done between January 2016 to December 2017 in 38 different outbreak localities. Sampling was carried out using pipette or dipper depending on container types in both indoors and outdoors. All larvae samples were collected and identified, and the type of breeding containers were recorded. **RESULTS:** A total of 227 containers were recorded as positive for dengue vector; outdoors (63%) were higher than indoors (37%). The result indicated five main breeding containers in this study were plastic containers (18.5%), water drums (15.9%), drains (15.0%), flower pots (12.3%) and pails (8.81%). **DISCUSSION:** This study provides information on key breeding containers of *Aedes* spp. This information served as a guidance for health service provider to educate residents in eliminating of artificial and natural containers of breeding sites indoors and outdoors.

KEYWORDS: dengue, key breeding container, aedes, larvae survey

Urban Households and Urbanisation in India: An Analysis of the Urban Impact

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ABSTRACT

Majority of population is concentrated in rural areas, but the growth of urban population is much faster. With this growth comes a concomitant increase in the burden on infrastructure and basic utilities. But the present paper is concerned about the issues about the household condition, as it has a vital role in the well-being of the individual and closely associated with the health of the residents. The census of India and National Sample Survey (NSSO) datasets are primarily used to tackle the anticipated issue of the urban population. According to the Census of India, in 1901 urban population was 11.4 percent, then in 2001 it was 28.53 percent, and as per 2011 it has crossed 31 percent. But this rapid rise is leading the problems like increased slum, decrease in Standard of Living (SL), and also it is root of environment damage. Among all these problems SL is tapped through the housing condition, amenities and facilities. When we discuss the key element of housing condition, the drinking water facilities is the prime among them, about 90 percent of the urban households have access to improved sources of drinking water. Then the next concern is toilet facilities, around 17 percent and 9 percent urban households lacks in access to bathroom and latrine facilities respectively. Additionally, the use of these facilities, sharing of latrines and bathrooms, and the crowded rooms make this population more prone to the health issues.

KEYWORDS: Urban, Household, Sanitation and Hygiene, NSSO, India

Urbanisation Effect on Dengue Cases in Hulu Langat, Selangor (2014-2018)

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ABSTRACT

INTRODUCTION: The frequency and magnitude of epidemic disease continued to increase in tandem with rapid urbanisation. Mosquitoes carrying the dengue virus can increase following unplanned and unhealthy urbanisation. In the large urban regions, crowded human populations live in intimate association with equally large mosquito populations provides the ideal home for maintenance of the viruses and the periodic generation of epidemic strains. **METHODS:** Data from e-Dengue registry including the urban sub-districts, between 2014 to 2018 were reviewed. Descriptive analysis was conducted to examine the epidemiology of Dengue fever in the urban regions of Hulu Langat district, Selangor which consist of Kajang, Cheras and Ampang sub-districts. **RESULTS:** Total incidence rate of Dengue in urban sub-districts in year 2014 was 1,060 per 100,000 populations (n=10,254) while in year 2018 the incidence decreased to 691 per 100,000 populations (n=6,762). Most of the cases were contributed by sub-district Kajang (43%) and Ampang (23%). Meanwhile the cases were mostly recorded from premises of landed houses (61%) and strata (21.1%). Case-fatality rate was increasing in trend from year 2014 to 2017 (0.18% to 0.22%) however noted to decrease in 2018 with 0.15%. Most of the death were from Kajang sub-district (37%), followed by Ampang (36%). **DISCUSSION:** Dense population in urban regions contributed to Dengue hyperendemicity in Hulu Langat. Orchestrated holistic approach in controlling Dengue outbreak in urban regions must be conducted wisely.

KEYWORDS: Dengue Fever, Urbanisation, Hulu Langat, Selangor, Malaysia

Vaccination Refusal Trends in Seberang Perai Utara (SPU): A 4-Years Review from 2015-2018

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ABSTRACT

INTRODUCTION: Immunisation is a significant public health concern worldwide. The successful of vaccination would reflect the vaccine preventable diseases incidence. Vaccination is the highly effective method for parents to protect their children from contracting vaccine preventable diseases. In Malaysia, National Immunisation Programme was started in 1950 and through all these years it has undergone changes to strengthen the herd immunity amongst Malaysian. Vaccination in Malaysia is delivered through Maternal and Child Health Programme and School Health Services. These services are available throughout Malaysia to ensure that no children eligible for vaccination missed their immunisation. In the recent years there have been an increasing number of parents refusing vaccine in Malaysia. Hence, this study will explore the magnitude of this problem in SPU specifically. **OBJECTIVES:** To establish the vaccination refusal trends in SPU from 2015 till 2018. **METHODS:** This is a retrospective study used secondary data of children entitled for immunisation programme that resides in SPU from 2015 till 2018. Data will be collected from database at MCH Unit PKDSPU. Data analysis will be done using SPSS Version 22. **RESULTS:** There is significant drop of vaccine refusal in SPU from 2017 till 2018 **CONCLUSION:** This study will ascertain reason for parents refusing vaccination in SPU. Identifying magnitude of the problem will allow us to rectify the challenges and gaps for parents refusing vaccine. Developing comprehensive strategies that suits parents' concerns will reduce the vaccine refusal and ultimately reduce mortality and morbidity due to vaccine preventable diseases.

KEYWORDS: vaccine refusal, immunization refusal, seberang perai utara district

Vegetable Intake Among Malaysian Elderly Population: Findings from Elderly Health Survey (NHMS 2018)

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ABSTRACT

INTRODUCTION: Dietary risks were among the leading risk factors for death among elderly population worldwide. However, vegetable intake among Malaysians elderly individuals is still on the low side. The study aimed to determine the adequacy of vegetable intake among Malaysian elderly population. **METHODS:** A nationwide survey with two stage stratified random sampling was conducted in 2018. Elderly individuals above 60 years old were selected to participate in the survey. Face to face interviews utilizing questionnaires were carried out. Malaysian Dietary Guidelines (MDG) 2010 recommendation is at least three servings of vegetables intake daily. **RESULTS:** 3977 respondents completed the survey. Overall prevalence of adequate vegetable intake (at least three servings per day) among Malaysian elderly individuals was 10.9%. Higher prevalence among the urban residents 11.4% compared to their rural counterparts 9.8%. Similar Prevalence found between males (10.7%) and females (11.2%). Higher prevalence among the singles (11.5%) compared to the married group (10.7%). Those with tertiary education had the highest prevalence of adequate vegetable intake each day (13.5%). Logistic regression analysis showed, with adjustment of strata, sex, marital status, education, occupation and individual income group, those in income group of RM1000 to RM1999.00 were 1.105 more likely to consume more than 3 servings of vegetables daily. **DISCUSSION:** The overall vegetable intake of Malaysian elderly individuals is lower than the recommendation. There is a crucial need for strategies and coordinated efforts of program managers and policy makers at all levels to emphasize on the adequate intake of vegetable daily.

KEYWORDS: vegetable intake, elderly individuals, health

Vitamin D Deficiency and Depression Among Urban University Students in United Arab Emirates

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ABSTRACT

INTRODUCTION: The aim of this study was to explore a relationship between vitamin D deficiency and symptoms of depression and its related factors among urban university students. **METHODS:** A cross-sectional study was conducted using a validated questionnaire during May-July 2018 among urban university students in the UAE. Levels of serum 25(OH)D were assessed using chemiluminescent microparticle immunoassay (CMIA)-Architect i System. Data analyses were done using SPSS-IBM. Differences in proportions were tested with Chi-square test and $P < 0.05$ was considered significant. **RESULTS:** 417 students were participated and reported their Vitamin D level in this study. 242 (58%) of respondents were females. 318 students (76.3%) had vitamin D deficiency with a level of less than 50 nmol/L. The majority of student 281 (67.4%) linked their vitamin D deficiency to lack of sun exposure, while 95 (22.8%); 33 (7.9%); and the rest of the students (1.9%) linked their vitamin D deficiency to the diet; the socioeconomic factors and the financial issues respectively. The following factors showed a relationship with vitamin deficiency: Gender ($p=0.036$); Medical students ($p < 0.001$); and senior students ($p=0.001$). Medical students factor showed a significant relationship with severe depression ($p=0.002$). A significant relationship between depression severity and vitamin D deficiency is shown in this study ($p < 0.001$). **CONCLUSION:** There was a significant relationship between vitamin D deficiency and the severity of depression. The urbanisation is an important factor related to vitamin D deficiency in this study. Therefore, promoting vitamin D health awareness, if replicated across university students, could contribute to positive health outcomes.

KEYWORDS: Vitamin D; deficiency; depression; students, United Arab Emirates (UAE)

Weight Status and Its Association of Self-Regulation Among Secondary School Students in Hulu Langat, Selangor

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ABSTRACT

INTRODUCTION: Obesity in adolescents is a major public health problem in Malaysia. Understanding self-regulation in relation to body weight status is important. The objective of this study was to determine the weight status and its association with the level of self-regulation in maintaining healthy body among secondary school students in Hulu Langat, Selangor. **METHODS:** A cross sectional study conducted among secondary school students in Hulu Langat district. Those with parental consent were selected and their Body Mass Index (BMI) was calculated and weight status was classified using CDC BMI for age. They were given a set of self-administered questionnaires to gather information on socio-demographic profiles, dietary habits, exercise level and self-regulations. T test was used to measure the association between self-regulation and weight status. **RESULTS:** There were 636 students participated in this study and 26.2% of them were overweight and obese. Only 3.1% (21) were amotivated or not interested in maintaining healthy body weight, 52.4% of them had normal weight. Among those who were interested, they had both high external (controlled regulation, with mean (SD) score of 36.4 (9.2) and internal (autonomous regulation, with mean (SD) score of 36.2 (4.4) regulations to maintain healthy weight. There was no association between weight status and autonomous regulation or controlled regulation. **CONCLUSION:** Regardless of the students' weight status, students seem to have similar level of external and internal level of motivation in maintaining body weight. This perhaps warrant for an intervention especially for overweight students to increase their motivation.

KEYWORDS: Self-Regulation, Weight Status, Students, Obesity, Overweight

What Contributed to Prolonged Dengue Outbreak Hotspot (149 Days) in Apartment Sri Rakyat, Cheras?

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ABSTRACT

INTRODUCTION: Apartment Sri Rakyat, Cheras recorded a recurrent prolonged dengue outbreak for the past 3 years despite multiple efforts to combat the infection accordingly. It is crucial and unusual for a dengue outbreak to exceed more than 100 days in Kuala Lumpur. The aim of this study was to identify key issues contributing to the unsuccessful dengue control activity in this locality. **METHODS:** A retrospective study using SWOT analysis was conducted from April to September 2018. **RESULTS:** The area recorded larval surveys surpassing thresholds A.I: 8.3%, B.I: 13, C.I: 2.9%, P.I: 5.4%, Mosquito Landing Rate: 10/min. Throughout the study period, a total of 18 search and destroy activities, 18 thermal fogging, and 7 ultra-low volume fogging with 80% coverage were conducted. Based on SWOT, the Strengths of this study were sufficient assistance given by state and district health office in terms of provision of chemicals and equipment for systematic control. Weaknesses found were structural building defects, inability to determine the source of infection, poor coordination in control activities, search and destroy coverage, active case detection and law enforcement. In terms of Opportunities, there were good cooperation from Kuala Lumpur City Hall and construction companies. Threats faced were surrounding three construction sites, dengue Hotspot areas, multiple empty lands with illegal plantations and dumping grounds, poor community support as evidence by poor turnout for gotong-royong, unavailability of COMBI and cooperation from the management body. **DISCUSSION:** Therefore, tackling and handling of key issues is of vital importance in dealing with prolonged dengue outbreaks.

KEYWORDS: Dengue hotspot, dengue control measures, recurrent dengue outbreak

What Fears the Type-2 Diabetes Patients to Start on Insulin Treatment?

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ABSTRACT

INTRODUCTION: Fear strikes and reluctance appears in many type-2 diabetes patients (T2DM) when they heard about starting insulin treatment. Insulin treatment initiation is a challenge for both health care providers and diabetes patients as well. This study aims to identify the association between emotional factor and psychological insulin resistance (PIR) among T2DM patients. **METHODS:** A cross-sectional study using interviewer assisted questionnaires was conducted among insulin naïve T2DM patients in government health clinics at a district of Penang, Malaysia. Insulin Treatment Appraisal Scale (ITAS) was used to assess PIR. **RESULTS:** Among 385 respondents, 280 (72.7%) were reluctant to initiate insulin treatment, female (77.1%) had higher PIR as compared to male (64.7%). The matter that the respondents feared the most was the fear of self-injection (60.8%), this was followed by the needle phobia (53.5%), fear of pain (51.4%), and afraid of hypoglycaemia attack after starting insulin treatment (49.9%). The fear of weight gain, blood phobia, and fear of self-monitoring of blood glucose (SMBG) were just occurred among 33.0%, 25.7%, and 21.3% of the respondents. Simple linear regression showed that there was a significant direct linear association between PIR with emotional factor (Beta= 0.562, $p < 0.001$). With 1 unit increased in emotional factor, there was 0.999 increased in PIR ($T=13.302$, $F(1,383)=176.945$). Emotional factor explained 31.6% of the total variance in psychological insulin resistance among the insulin naïve T2DM patients at the studied health clinics. **CONCLUSION:** Therefore, tackling the fears of patients is fundamental to reduce PIR among T2DM patients.

KEYWORDS: fear, type-2 diabetes, psychological insulin resistance, emotional factor, ITAS

Willingness to Pay for National Health Insurance: A Contingent Valuation Methods Study Among Health Sector Employees in Malaysia

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ABSTRACT

INTRODUCTION: National Health Insurance (NHI) is a popular long-term strategy in addressing rising of healthcare costs and household pocket expenditure world widely. The aim of this study is to determine the willingness to pay (WTP) for NHI among health sector employees and factors affecting it. **METHODS:** A cross-sectional study was conducted in April to June 2018 among 122 health sector employees in three health institutions in Bangsar District, Malaysia. A self-administered questionnaire with Cronbach Alpha of 0.78 was used as data collection tool. In estimating WTP value, Contingent Valuation methods technique was used. Factors associated with WTP for NHI were assessed using Chi-Square and Mann-Whitney U test with significance level at 0.05. **RESULTS:** Response rate was 91.8%. Majority (n=96, 85.7%) of respondents willing to pay for NHI. Mean (SD) and medium (IQR) of estimated WTP value for fixed monthly contributions were RM72.00 (RM77.92) and RM50.00 (RM70.00) respectively. If contributions were fixed from percentage of respondent's total monthly income, the mean (SD) and medium (IQR) of estimated WTP value were 1.94% (1.92%) and 1.00% (1.88%) respectively. Age ($\chi^2=12.088$, $p=0.001$), household size ($\chi^2=5.737$, $p=0.017$) and respondent's total monthly income ($\chi^2=4.978$, $p=0.026$) were found significantly influencing the willingness to pay for NHI. **DISCUSSION:** Majority of health sector employees are willing to pay for NHI if it is implemented in Malaysia. Age, household size and monthly income are important factors in developing a successful and sustainable NHI.

KEYWORDS: willingness to pay, social health insurance, national health insurance, health sector employees