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Malaysian Medical Association*

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3. Final approval of the version to be published; AND
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Papers on case reports (one to five cases) must follow these rules: Case reports should not exceed 2,000 words; with a maximum of two (2) tables; three (3) photographs; and up to ten (10) references. It shall consist of a Summary and the Main Text. The summary should be limited to 250 words and provided immediately after the title page. Having a unique lesson in the diagnosis, pathology or management of the case is more valuable than mere finding of a rare entity. Being able to report the outcome and length of survival of a rare problem is more valuable than merely describing what treatment was rendered at the time of diagnosis. There should be no more than seven (7) authors.

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Commentaries will usually be invited articles that comment on articles published in the same issue of the *MJM*. However, unsolicited commentaries on issues relevant to medicine in Malaysia are welcomed. They should not exceed 2,000 words. They may be unstructured but should be concise. When presenting a point of view, it should be supported with the relevant references where necessary.

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Identify precisely all drugs and chemicals used, including generic name(s), dosage(s) and route(s) of administration. Do not use patients' names, initials or hospital numbers. Include numbers of observation and the statistical significance of the findings when appropriate.

When appropriate, particularly in the case of clinical trials, state clearly that the experimental design has received the approval of the relevant ethical committee.

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Present your results in logical sequence in the text, tables and illustrations. Do not repeat in the text all the data in the tables or illustrations, or both: emphasise or summarise only important observations in the text.

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Link the conclusions with the goals of the study but avoid unqualified statements and conclusions not completely supported by your data. Avoid claiming priority and alluding to work that has not been completed. State new hypotheses when warranted, but clearly label them as such. Recommendations, when appropriate, may be included.

## Acknowledgements:

Acknowledgements of general support, grants, technical assistance, etc., should be indicated. Authors are responsible for obtaining the consent of those being acknowledged.

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Several effective drugs are available at fairly low cost for treating patients with hypertension and reducing the risk of its sequelae.<sup>1,3-5</sup>

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## Example references Journals: Standard Journal Article

Rampal L and Liew BS. Coronavirus disease (COVID-19) pandemic. Med J Malaysia 2020; 75(2): 95-7.  
Rampal L, Liew BS, Choolani M, Ganasegeran K, Pramanick A, Vallibhakara SA, et al.

Battling COVID-19 pandemic waves in six South-East Asian countries: A real-time consensus review. Med J Malaysia 2020; 75(6): 613-25.

NCD Risk Factor Collaboration (NCD-RisC). Worldwide trends in hypertension prevalence and progress in treatment and control from 1990 to 2019: a pooled analysis of 1201 population-representative studies with 104 million participants. Lancet 2021; 11; 398(10304): 957-80.

## Books and Other Monographs:

### Personal Author(s)

Goodman NW, Edwards MB. 2014. Medical Writing: A Prescription for Clarity. 4 th Edition. Cambridge University Press.

### Chapter in Book

McFarland D, Holland JC. Distress, adjustments, and anxiety disorders. In: Watson M, Kissane D, Editors. Management of clinical depression and anxiety. Oxford University Press; 2017: 1-22.

### Corporate Author

World Health Organization, Geneva. 2019. WHO Study Group on Tobacco Product Regulation. Report on the scientific basis of tobacco product regulation: seventh report of a WHO study group. WHO Technical Report Series, No. 1015.

NCD Risk Factor Collaboration (NCD-RisC). Rising rural body-mass index is the main driver of the global obesity epidemic in adults. Nature 2019; 569: 260-64.

World Health Organization. Novel Coronavirus (2019-nCoV) Situation Report 85, April 14, 2020. [cited April 2020] Accessed from: <https://www.who.int/docs/defaultsource/coronaviruse/situationreports/20200414-sitrep-85-covid-19>.

## Online articles

**Webpage:** Webpage are referenced with their URL and access date, and as much other information as is available. Cited date is important as webpage can be updated and URLs change. The "cited" should contain the month and year accessed.

Ministry of Health Malaysia. Press Release: Status of preparedness and response by the ministry of health in and event of outbreak of Ebola in Malaysia 2014 [cited Dec 2014]. Available from: [http://www.moh.gov.my/english.php/database\\_stores/store\\_view\\_page/21/437](http://www.moh.gov.my/english.php/database_stores/store_view_page/21/437).

## Other Articles:

### Newspaper Article

Panirchellvum V. 'No outdoor activities if weather too hot'. the Sun. 2016; March 18: 9(col. 1-3).

### Magazine Article

Rampal L. World No Tobacco Day 2021 -Tobacco Control in Malaysia. Berita MMA. 2021; May: 21-22.

## Tables:

All tables and figures should have a concise title and should not occupy more than one printed page. The title should concisely and clearly explain the content of the table or figure. They should be numbered consecutively with Roman numerals (e.g Table I) and figures with Arabic numerals (e.g. Figure 1), and placed after the sections of the manuscript which they reflect, particularly the results which they describe on separate pages. Cite tables in the text in consecutive order. Indicate table footnotes with lower-case letters in superscript font. Place the information for the footnote beneath the body of the table. If a table will be submitted as a separate document, the filename should contain the surname of the first author and match its label in the manuscript (e.g., SMITH Table 1). Vertical lines should not be used when constructing the tables. All tables and figures should also be sent in electronic format on submission of the manuscript as supplementary files through the journal management platform. Clinical Photographs should conceal the subject's identity. Tables and flow-charts should be submitted as Microsoft Word documents. Images should be submitted as separate JPEG files (minimum resolution of 300 dpi).

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# Sex estimation using post-mortem computed tomographic images of the clavicle in a Malaysian population

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## ABSTRACT

**Introduction:** Forensic practitioners need contemporary anthropological data for the identification of human remains. The clavicle possesses a high degree of variability in its anatomical, biomechanical, and morphological features that are sex-dependent albeit population specific. The aim of this study was to develop sex estimation models for Malaysian individuals using post-mortem computed tomographic images of the clavicle. **Materials and Methods:** Sample comprised scans of 2.0 mm resolution of 405 individuals (209 male; 196 female) aged between 19 to 88 years. These scans were reconstructed and visualized using Infinitt. Six clavicular measurements (i.e. maximum length, C1; midshaft circumference, C2; midshaft maximum diameter, C3; midshaft minimum diameter, C4; maximum breadth of the sternal end, C5; and maximum breadth of the acromial articular surface, C6) were obtained from these images. Data were analysed using descriptive statistics and discriminant function analysis. Measurements taken from the images were highly precise (ICC = 0.770-0.999). **Results:** There is a significant difference between all parameters and sex ( $p < 0.001$ ), however none for age and ethnic group. A multivariate sex estimation model was developed:  $\text{Sex} = (C1 \times 0.86) + (C2 \times 0.236) + (C3 \times -0.145) + (C5 \times -0.074) - 17.618$ ; with an accuracy rate of 89.1% and sex bias of -3.2%. Lower accuracy rates were obtained for single variable models (61.5-83.2%). **Conclusion:** The resultant sex discriminant models can be used for estimating sex based on the clavicle in our local forensic practice.

# Most perceived cause of medication error among nurses in adult general wards in Hospital Tengku Ampuan Rahimah and its associated factors

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## ABSTRACT

**Introduction:** As an important aspect of treating patients, the issue of medication safety is given priority worldwide. There is a growing importance towards medication safety in Malaysia as medication errors will have a harmful effect on patients. The exact cause of such medication errors may vary according to the perception of nurses. Therefore, it is important to obtain the nurse's perception on the causes of medication errors and the factors associated with them so that improvements can be implemented and thus reduce the number of medication errors. **Objective:** The main objective of this study is to find out the most perceived cause of medication errors according to nurses in adult general wards as well as its associated factors. **Materials and Methods:** The study was conducted in Tengku Ampuan Rahimah Hospital (HTAR), a state hospital in Selangor, using the cross-sectional method with a structured questionnaire from April 2021 to January 2022. **Results:** A total of 294 respondents participated in this study where most of the respondents were females. This study found that the most perceived cause of medication error according to nurses at HTAR was when the physician's writing on the doctor's order form is difficult to read or illegible (46.6%). In addition, it was found that the factors such as ward/work department, the length of the shift in a day, participation in medication safety training as well as the nurse's knowledge on medication errors have a significant relationship with the most perceived cause of medication errors. **Conclusion:** There are various causes that give rise to medication errors according to the nurses. The results of this study can help the top management at the study site as well as policy makers in the Ministry of Health to formulate measures to reduce medication errors among all healthcare professionals.



# Community acquired tinea imbricata outbreak among Bateq subtribe in Pahang, Malaysia: Epidemiological trends and treatment outcomes

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## ABSTRACT

**Introduction:** Tinea imbricata (TI), a superficial fungal infection caused by *Trichophyton concentricum*, poses a significant health burden among indigenous populations in rainforest region. Despite its endemicity, limited research has focused on understanding the epidemiological patterns and optimal treatment strategies for TI outbreaks within these communities. This study aimed to investigate the epidemiological patterns of a community-acquired outbreak of TI and to evaluate the effectiveness of treatment strategies among the Bateq subtribes in Pahang, Malaysia. A cross-sectional survey was conducted within Bateq communities in the National Rainforest Park, Pahang Malaysia from July–October 2023. Epidemiological data, including socio demographic characteristics, clinical manifestations, and treatment outcomes, were collected through interviews. Treatment modalities, including topical and combination therapy, were evaluated for their effectiveness in reducing disease burden. **Case presentation:** A total of 569 individuals were surveyed, revealing a prevalence rate of 7.91%, with children aged 15 years and below exhibiting the highest susceptibility. Treatment modalities, including terbinafine gel and combination therapy with oral griseofulvin, demonstrated efficacy in reducing affected body surface area (BSA), with combination therapy ( $\bar{x}$ BSA = 0.158 cm<sup>2</sup>) exhibiting superior outcomes ( $p < 0.05$ ) than terbinafine gel only ( $\bar{x}$  BSA = 3.684 cm<sup>2</sup>). Notably, treatment adherence was high in both treatments group, with no reported side effects. Our findings reveal concerning trends in hygiene practices among community members, with only 15.2% reported to be using soaps during bathing. These low rates of hygiene product usage highlight potential contributing factors to the prevalence of TI in the community. **Conclusions:** Community-acquired outbreaks of TI pose a significant public health challenge among indigenous populations. These findings underscore the importance of early detection, prompt treatment, and patient education in TI management. Importantly, treatment adherence was high, with the majority of patients following treatment instructions. Further research is warranted to investigate long-term treatment outcomes and genetic factors influencing susceptibility.

# Effect of abdominal vibration combined with walking exercise program on bowel preparation in older patients with constipation: A single-blind randomized clinical trial

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## ABSTRACT

**Introduction:** High-quality bowel preparation is an important prerequisite for a successful colonoscopy. However, older patients with constipation are at high risk for inadequate bowel preparation. This study aimed to evaluate the effectiveness of an abdominal vibration combined with walking exercise (AVCWE) program compared to walking exercise (WE) and routine bowel preparation regimens for bowel preparation in older patients with constipation. **Design:** This prospective, single-blind, three-arm randomized controlled trial involved 271 older patients with constipation scheduled for colonoscopy. These patients were randomly assigned to three groups: AVCWE group (n = 90), WE group (n = 90), and control group (n = 91). During the period of laxative ingestion, patients assigned to the AVCWE group were asked to walk independently for at least 5,500 steps and received two cycles of moderate-intensity abdominal vibration. Patients in the WE group were required to walk independently for at least 5,500 steps, whereas patients in the control group only received a conventional preparation regimen. The primary outcome was the quality of bowel preparation. The secondary outcomes including adenoma detection rate, cecal intubation rate, cecal intubation time, adverse events, satisfaction, and willingness to repeat preparation. **Results:** The total BBPS score in the AVCWE group ( $6.99 \pm 0.93$ ) was significantly higher compared to both the WE group ( $6.58 \pm 1.08$ ) and the control group ( $5.96 \pm 1.14$ ) ( $p < 0.001$ ). Similarly, compared with other groups, the AVCWE group also had significant advantages in improving adenoma detection rate ( $p = 0.003$ ), satisfaction score ( $p < 0.001$ ) and reducing the incidence of bloating ( $p = 0.016$ ). **Conclusion:** Given the significant benefits of the AVCWE program, healthcare providers are strongly encouraged to adopt this strategy widely to enhance the detection of colorectal tumors in this “difficult-to-prepare” population.

# ABO blood group and immune thrombocytopenia

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## ABSTRACT

**Introduction:** The ABO blood group system plays a significant role in various human infectious and non-infectious diseases. However, the association between ABO and thrombocytopenia is complex and may vary depending on the type of thrombocytopenia under investigation. While previous studies have explored epidemiology, they have primarily focused on the susceptibility of ITP and have not adequately addressed the role of ABO. Therefore, we conducted an investigation the association between ABO and ITP. **Materials and Methods:** A case-control study was conducted at our center with 102 patients diagnosed with ITP and 114 donors. Basic demographic information and blood frequencies were recorded. We evaluated the association between ABO, gender and haematological parameters including white blood cell count (WBC), haemoglobin count (HB), and platelet count (PLT). **Results:** ITP group consisted of 28 (27.5%) male and 74 (72.5%) females, with a mean age of  $33.31 \pm 16.62$  years. ABO phenotypes, A, B, AB, and O in the ITP and control groups were 32.4%, 25.5%, 7.8%, 34.3% and 21.9%, 27.2%, 10.5%, 40.4%, respectively. Blood type A was not significantly associated with a higher risk of ITP ( $p = 0.084$ ). There was no significance difference in the distribution of ABO blood group by gender (male:  $p = 0.395$  and female:  $0.684$ ), WBC ( $p = 0.331$ ), HB ( $p = 0.980$ ), and PLT ( $p = 0.592$ ). **Conclusions:** Our study provides valuable insights into existing knowledge and shows that individuals of any blood type are susceptible to developing ITP. Thus, suggesting that ABO cannot be established as a significant biomarker for ITP susceptibility. Despite that, we emphasise the need for further research by encompassing diverse ethnic groups and populations to validate our findings.

# Determination of oncolytic activity of Pteropine orthoreovirus in killing acute myeloid leukaemia

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## ABSTRACT

**Introduction:** The study of Pteropine orthoreovirus (PRV) as a promising candidate for oncolytic virotherapy has gained attention since the discovery of its cytotoxic effects on solid tumours. This research experiment focuses on evaluating the anti-tumour effect of the Sikamat virus (PRV7S) against acute myeloid leukaemia (AML) using THP-1 cell line and AML-M5-specific induced pluripotent stem cells (iPSCs). **Materials and Methods:** The percentage of apoptotic cells amongst PRV7S-infected THP-1 cells is measured indirectly by MTT assay and directly by flow cytometry analysis. MTT assay was performed to measure cell viability, whereas flow cytometry analysis assessed apoptotic cells. Viral replication in both cells was confirmed by TCID<sub>50</sub> assay and real-time qPCR. Transcriptomic profiling is performed to determine the genes that are involved in the apoptotic mechanisms of PRV7S. **Results:** After 5 dpi, MTT assay indicates PRV7S significantly induces cytopathic effect (CPE) on THP-1 cells and iPSCs, which tally with the increased percentage of apoptotic THP-1 cells assessed by flow cytometry analysis. TCID<sub>50</sub> assay and qPCR demonstrated that both cells support the viral cycle of PRV7S, with no persistent infection observed. mRNA-sequencing reveals involvement of Fas, caspase-3, caspase-7, Bax, Bak pro-apoptotic genes in the PRV7S-activated cell death pathway. **Conclusion:** The current study highlights that PRV7S could be a revolutionising treatment option for treating non-solid tumours in the future. However, these findings do not necessarily apply to other types of leukaemia. This warrants future research to explore the complex signalling pathways of oncolytic PRV and develop measures to circumvent the host antiviral response.

# Physicochemical evaluation of market-sourced vape liquids: Viscosity, label accuracy, and compliance with Medicines and Healthcare products Regulatory Agency guidelines

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## ABSTRACT

**Introduction:** Vaping has gained immense popularity, especially among youth, yet it poses significant health risks, including potential carcinogenic effects, cardiovascular complications, and respiratory issues. One of the controversial issues is the mislabelling of vape products. Given the lack of comprehensive legislation governing vape products in Malaysia, this study aimed to assess the accuracy of label claims and their compliance with the Medicines and Healthcare products Regulatory Agency (MHRA) guidelines. **Materials and Methods:** A total of 28 vape liquids (VLs) from different manufacturers, flavours, and price ranges were selected for analysis. 18 of these VLs were purchased online, while the remaining 10 were obtained from physical vape stores. Information from the labels and packaging was evaluated against MHRA requirements. pH was determined with the Ionix pH100 Benchtop pH Meter, viscosity with the Brookfield DV2T Viscometer, and nicotine and nitrite concentrations with the Cary 5000 UV-Vis-NIR Spectrophotometer. Additionally, ammonia and chlorine were also assessed qualitatively. **Results:** The study revealed significant discrepancies between label claims and the actual contents of the VLs, along with instances of non-compliance with MHRA guidelines. Key findings include: Unclear nicotine concentration in all samples, lack of child-tamper-proof evident cap in 7.14% of samples, pH levels exceeding 7 (basic) in 46.43% of samples and falling below 7 (acidic) in 53.57%, presence of ammonia in 57.14% of samples, inconsistencies between tested and label-claimed PG/VG ratios occurred in 80% of products, and half of the samples exceeded the 20 mg/mL nicotine concentration limit. Furthermore, deviations encompassed undisclosed chemical components and an alarming paucity of data about manufacturers and distributors. **Conclusion:** These findings highlight severe concerns regarding potential health risks for users and emphasize the imperative of informed decision-making for consumers. The clear inconsistencies underscore the necessity for stricter adherence to labelling guidelines to ensure user safety.

# ABC pathway in managing atrial fibrillation in Malaysia: Are we there yet?

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## ABSTRACT

**Introduction:** In 2020, the European Society of Cardiology guidelines introduced Atrial Fibrillation Better Care (ABC) pathway as a structured approach in managing AF patients. “A” Avoid stroke; “B” Better AF symptom management; “C” Cardiovascular risk factors and Comorbidity optimization. Implementation in other studies have been shown to significantly reduce risk of stroke, cardiovascular mortality, hospitalization rate, and major bleeding risk. **Materials and Methods:** This retrospective study investigated adherence to ABC pathway in two cardiology centers in Malaysia from June 2020 to December 2022. Baseline demographic and clinical characteristics between patient’s adherent and nonadherent to ABC pathway were compared. Thromboembolic events, bleeding events, cardiovascular mortality and all-cause mortality among AF patients were evaluated and multivariate regression analysis was conducted to investigate the role of ABC pathway in predicting major events. **Results:** A total of 322 patients (mean age:  $70 \pm 12$  years; 47.5% female) were included in this study: adherence to A criterion was observed in 227 (70.5%) patients: adherence to B criterion was observed in 321 (99.7%) patients and adherence to C criterion was observed in 128 (39.8%) patients. Only 90 (28%) patients were fully adherent to the ABC pathway. ABC-adherent cohort were younger ( $66.53 \pm 11.19$  vs  $70.5 \pm 11$ ;  $p=0.005$ ), had better control of blood pressure (6.7% vs 56.5%;  $p < 0.001$ ), better control of blood sugar level (1.1% vs 18.1%;  $p < 0.001$ ), better control of LDL level (4.4% vs 24.1%;  $p < 0.001$ ), better Time in Therapeutic Range score ( $77.97 \pm 9.15$  vs  $59.90 \pm 17.95$ ;  $p < 0.001$ ), and lower EHRA score ( $1.08 \pm 0.27$  vs  $1.13 \pm 0.34$ ;  $p=0.016$ ) compared to patients in the non-ABC adherent cohort. This study did not find any difference in clinical outcomes between these two cohorts. **Conclusion:** A prospective study with greater sample size is needed to prove the impact of ABC pathway among Malaysian population.



# Self-efficacy and perceived barriers towards evidence-based practice among nurse-midwives in maternity care at public hospital

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## ABSTRACT

**Introduction:** Maternity care has shifted from opinion-based practice to scientific evidence in clinical decision-making during the last several decades. However, in the midwifery profession, the question of how such evidence-based practice (EBP) is incorporated into clinical practice has received less attention and discussion. Self-efficacy is crucial as nurse-midwives must be able to provide credible evidence. The aim of this study is to assess the level of self-efficacy and perceived barriers to implementing EBP among nurse-midwives in maternity care. **Materials and Methods:** A cross-sectional study was carried out at five public hospitals in Sabah. A total of 256 nurse-midwives were recruited using Total Population Sampling. A self-administered questionnaire using Self-efficacy Scale and Perceived Barriers Scale was used. **Results and Discussion:** More than half (60.9%) respondents had moderate self-efficacy with the mean scores were  $160.2 \pm 46.23$ , conducting a literature search using Cochrane Library showed lower mean self-efficacy ( $5.16 \pm 2.25$ ). It is concerning since the most recent study information is now only available in electronic format. Organisation factors ( $21.30 \pm 5.63$ ) were perceived as the main barriers to implementing EBP in clinical practice. This is most likely related to a lack of time and autonomy. Nurse-midwives often lack autonomy in clinical settings, which may be related to a lack of physician cooperation. Self-efficacy was found to be statistically associated ( $p < 0.05$ ) with respondents who had attended an EBP workshop, were participating in an EBP project, and used databases to find EBP knowledge. Advanced education promotes self-efficacy and the longer a nurse has worked in a clinical, the more confident they are to perform a better job (Soudagar et al., 2015). **Conclusion:** Nurse-midwives should be encouraged to participate actively in organisational transformation and to be empowered in their roles to achieve the common aim of evidence-based practise.

# An analysis of birth weight trends in Hospital Seri Manjung, Perak from 2018 to 2022

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## ABSTRACT

**Introduction:** Birthweight notably impacts newborn survival, growth, and maternal health. Low birthweight is tied to maternal malnutrition and health issues, causing intrauterine growth retardation. High birthweight increases complications like postpartum blood loss, birth injuries, future obesity risks, and infant health issues. **Objectives:** Our study was done to analyse the trends in birthweight at Hospital Seri Manjung, Malaysia. The specific aims were to assess the link between fetal birthweight and (maternal age, parity, head circumference) as contributing factors. **Materials and Methods:** Our work was a retrospective cohort study that analyzed birthweight trends and contributing factors from 1/2018 to 12/2022 (5 years), using data from labour room records. That included term singleton live births, excluding preterm births and fetal anomalies. The assessment tool was multiple regression analysis by JASP software (version 0.16.2.). **Results:** An increase of high birthweight ( $\geq 4000g$ ) was noted in all years, with highest percentage in 2019 (91.9%) and lowest in 2020 (62.5%). but most newborns were of normal birthweight. Maternal age 20-35 years were predominant (84-86%), while ages 11-19 were the lowest. Parity showed fluctuating trends, Head circumference data varied, but all factors had significant relationships to birthweight ( $p\text{-value} < 0.05$ ). Missing 2021 data impacted overall analysis. **Conclusion:** Our study found that birthweight increased over the 5 years, and Significant relationships were found between birthweight and maternal age, parity, and head circumference. Data quality had a limitation and potential errors due to year 2021 records.

# The factors contributing to the hair loss among adults in University of Cyberjaya, Selangor

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## ABSTRACT

**Introduction:** Hair loss, or alopecia, affects approximately 50% of men and women at some point in their lives, with androgenetic alopecia being the most prevalent form impacting nearly 70% of men and 40% of women by age 50. There is evidence supporting that alopecia is psychologically damaging and causes intense emotional suffering, and leads to personal, social, and work-related stresses. **Objectives:** In this study, we investigate the factors contributing to hair loss among adults and how hair loss affects their social life, health and psychological well-being. **Materials and Methods:** A cross-sectional study was conducted targeting adults aged 18 to 65 years old. Data was collected by distributing questionnaire which were adopted from previous study. The data collected were carefully analysed using Jeffrey's Amazing Statistics Program (JASP) version 0.16.2. The predominant factors analysed in this study was the hair condition, hair care practices, genetics, health status and nutritional intake. **Results:** Two thirds of the participants reported having hair loss. It was revealed that Chinese ethnicity reported the highest occurrence of hair loss, followed by Malays and Indians. Gender basis, females exhibited higher occurrences of hair loss compared to male participants ( $p < 0.001$ ). Besides that, certain hair care practices have been noted to be associated with hair loss, such as frequency of hair being chemically processed, frequency of hair being heat processed, frequency of hair being dyed/highlighted or coloured and hair styling method. Genetic factor also plays an important role as those with family history of male pattern baldness reported high occurrences of hair loss ( $p < 0.001$ ). Lastly, our study showed that hair loss affects those who experience it negatively regarding their psychological well-being, particularly with stress and anxiety. **Conclusion:** Hence, expanding the research population to get more data from a wider demographic will reveal more clearly the factors associated with hair loss.

# A cross-sectional study on the effect of obesity on mental health among adults in Selangor, Malaysia

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## ABSTRACT

**Introduction:** Health is significantly influenced by nutrition, with historical repercussions of malnutrition leading to a notable impact on human well-being. Both undernutrition and overnutrition have contributed to increased illness and mortality rates. Obesity, characterized by excessive fatty tissue, has become increasingly prevalent worldwide. **Objectives:** This study aims to ascertain the prevalence of obesity, explore the association between sociodemographic factors and BMI status, investigate the impact of obesity on an individual's mental health status, and examine the relationship between food habits and obesity among adults in Selangor, Malaysia. **Materials and Methods:** A cross-sectional study spanning two years was conducted in Selangor, Malaysia. Exponential discriminative snowball sampling was utilized for data collection, targeting residents aged 18 to 40 proficient in Bahasa Malaysia and English. **Results:** Of the 256 respondents obtained, 244 fully met the inclusion criteria. Findings revealed that the prevalence of overweight and obesity among adults in Selangor, Malaysia, stood at 29.92% and 11.06%, respectively. **Conclusion:** A chi-square test indicated significant associations between BMI status and factors such as age, ethnicity, occupation, marital status, and smoking status ( $p < 0.05$ ). However, no association was found between gender, nationality, household monthly income, education level, and BMI status ( $p > 0.05$ ). Notably, an individual's body weight showed associations with mental health status (depression, anxiety, and stress) ( $p < 0.05$ ), with an association observed between food habits and obesity ( $p < 0.05$ ).

# Understanding and mitigating burnout among healthcare workers: A qualitative study on contributing factors and institutional responses

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## ABSTRACT

**Introduction:** Burnout among healthcare workers is increasingly recognized to be a critical global health problem. The present review sought to assess the multifactorial nature of burnout within healthcare settings, considering its effects on providers and quality of care provided by these personnel. The impact of burnout on professional efficacy, emotional exhaustion, and organizational outcomes vividly underscores the relevance of a holistic approach to understanding its driving factors. **Materials and Methods:** The study was carried out through a qualitative research design, interviewing semi-structured six health professionals from the district of Johor Bahru, Malaysia. Analysis was performed through a thematic approach, enabling the emergence of key themes directly from the detailed narratives provided by participants. This methodology allowed for a comprehensive exploration of both intrinsic and extrinsic factors that contribute to burnout among healthcare workers. **Results:** The study found four key themes that reflected burnout: perceived lack of control, excessive workload, role conflict, and emotional labor. Participants were facing challenges related to autonomy, resource issues, and work-life balance, which are thought of as precursors to emotional exhaustion and job satisfaction. The results underscore a complicated interplay of organizational dynamics and personal stressors that are found to magnify the experience of burnout among healthcare staff. **Conclusion:** The study revealed a need for organizational systemic changes, especially in improving job control, balance in workloads, and support systems in healthcare environments, all leading toward mitigation of burnout. Allowing for the identification of such areas and due attention being accorded to them, the health organization shall, in this respect, be well poised to maintain better mental and physical health of its employees. these findings advocate for a paradigm shift towards integrating both individual and organizational approaches to effectively combat burnout in healthcare settings.

# Adaptation, validation and feasibility evaluation of mindful standing yoga combined with Baduanjin for older patients with primary osteoporosis

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## ABSTRACT

**Objective:** The aim of the study was to validate and evaluate the feasibility of an adapted mindful exercise program (Mindful Standing Yoga combined with Baduanjin) for older patients with primary osteoporosis. **Materials and Methods:** This study is conducted in 3 stages. Stage 1, a qualitative method using focus group discussion composed of six experts to gather the viewpoints on modifying the exercise program. Stage 2 involved validation of the exercise program using a Delphi approach with another six experts. In Stage 3, a feasibility study with a single-group pre- and post-test was conducted with 20 eligible patients in a traditional Chinese medicine hospital. The effects of the adapted exercise were assessed using Global Pain Scale (GPS), Five Facets Mindfulness Questionnaire-Short Form (FFMQ-SF), Tampa Kinesiophobia-11 Scale (TSK-11) and Timed Up and Go (TUG) test. Patient satisfaction and their feedback were also collected. **Results:** The modified program includes 9 motions and takes 30 minutes to complete. Experts validated the program and deemed it to be suitable, safe and helpful for practice. Most participants were satisfied with the protocol. The measurement of heart rate and perceived exertion rate indicated that this program is a low-intensity exercise and not strenuous for the study population, which has statistical significance in improving back pain, and mindfulness in the feasibility study. **Conclusion:** Experts and participants confirmed that the program was appropriate and satisfactory for older patients with primary osteoporosis, particularly those with back pain. High-quality randomized controlled trials are needed to future verify its effectiveness.



# Assessment on loss of potential organ donor in brain-injured patient and identifying the strategies to reduce the losses

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## ABSTRACT

**Introduction:** Organ transplantation has become the best and the only lifesaving treatment for patients suffering from irreversible organ failure. Missed donation opportunities has contributed to inequities of access to transplantation. These losses were often overlooked yet still possess a significant concern thus it should be assessed to give an overview on the magnitude of the problem. **Objectives:** This study aims to evaluate the prevalence of loss of potential organ donors among brain-injured patients and identifying the strategies to reduce the losses. **Materials and Methods:** A retrospective observational study was done using the data collection of all patients who have died in Hospital Sultan Idris Shah (HSIS), Selangor, Malaysia with a cause of death consistent of any brain injuries from January 2021 until December 2023. The patients were then further classified if they were eligible for donation based on the presence of any medical contraindications to donation and status of mechanical ventilation. The eligible patients who were not being identified were consider potential organ donor loss. **Results:** Out of 223 patients, only 23 patients were detected by or referred to the in-house donor coordinator (DC) thus leaving another 200 patients left undetected. Among medically eligible and ventilated patients, about 61 patients (47.3%) was not detected by and not referred to the DC, thus resulted in loss of potential donors among brain-injured patients. 51 patients were treated conservatively without considering organ donation during the end-of-life care. **Conclusion:** Among the good strategies to reduce the number of potential organ donor loss are empowerment of the in-house donor coordinator, more lenient donor selection criteria, introducing the Spanish recommendation on intensive care to facilitate organ donation and implementing donation after circulatory death. More patients will have the opportunities to donate organs upon death and indirectly will increase the availability of organs for transplantation.

# Knowledge and acceptance of pre-exposure prophylaxis for HIV among health care workers in Hospital Sungai Buloh

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## ABSTRACT

**Introduction:** Pre-exposure prophylaxis (PrEP) effectively reduces the risk of sexual HIV acquisition. Healthcare workers' (HCWs) knowledge and acceptance of PrEP are crucial for its successful implementation. This study conducted at Hospital Sungai Buloh assessed HCWs' knowledge, acceptance, and related factors, as well as the relationship between their knowledge and acceptance of PrEP. **Materials and Methods:** A cross-sectional study at Hospital Sungai Buloh surveyed 2,622 healthcare personnel via email and WhatsApp. A validated, bilingual questionnaire adapted from McCormack et al. (2016) was used, comprising five sections: 'Participant's Information Sheet,' 'Informed Consent,' 'Socio-Demographics,' 'HCWs' Comprehension of PrEP, and 'HCWs' Acceptance of PrEP. **Results:** A total of 378 healthcare workers (HCWs) participated, primarily from medical areas (66.67%), with nurses comprising the majority (66.40%). Female respondents dominated (83.07%), and the largest age group was 31 to 40 years (56.09%). HCWs' knowledge of PrEP was moderate, with 50.27% rating their knowledge as moderate and 46.03% as low. A significant number (84.66%) lacked sufficient knowledge for informed patient discussions. Despite this, most participants agreed on PrEP's effectiveness (91.80%) and safety (93.12%). Acceptance of PrEP was significantly influenced by personal beliefs ( $\chi^2= 13.594$ ,  $p < 0.001$ ), with a statistically significant connection (aOR= 2.695,  $p = 0.006$ , CI 0.288 to 1.694). **Conclusion:** The research emphasized the significant impact of personal beliefs on attitudes toward PrEP. Healthcare workers showed moderate knowledge, indicating a need for targeted educational initiatives. Acceptance of PrEP was largely unaffected by gender, age, or experience but was strongly influenced by personal beliefs. Tailored interventions addressing individual attitudes are essential for effective PrEP implementation.

# Knowledge on intrauterine device as a family planning method among antenatal mothers

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## ABSTRACT

**Introduction:** Family planning allows people to attain their desired number of children and it is achieved through use of contraceptive methods. Intrauterine Device (IUCD) is one of the modern contraceptive methods besides barrier, hormonal, and permanent method. The Malaysia Ministry of Health (MOH) also provided easily accessible and availability of contraceptive methods, however the use of contraceptive method is still lower. **Objective:** Therefore, the aim of the study is to determine the knowledge level on IUCD and associated factors between knowledge level on IUCD and socio-demographic variables among antenatal mothers. **Materials and Methods:** A quantitative, cross-sectional approach with convenient sampling method was conducted. A total of 247 antenatal mothers from Hospital Ampang were recruited using the Questionnaire. Descriptive Statistics, Chi-Square test and ANOVA test was used to analyse the collected data. **Results:** This study revealed that majority of antenatal mothers was scored moderate level of knowledge on IUCD. Age, gestation, occupation, and wished number of children were significantly associated with the knowledge level of the respondents ( $p < 0.005$ ). **Conclusion:** This current study showed that the knowledge level of IUCD among antenatal mothers in Hospital Ampang was average. Age, gestation, occupation, and number of children were significantly associated with level of knowledge and educational level and sources of information of antenatal mothers were not associated with knowledge level. At the facility, health workers such as doctors and nurses play an important role as main service providers of family planning and that could be the reason why they were the key sources of information for women seeking family planning.

# A retrospective study on the use of continuous clonidine infusion for sedation in critically ill paediatric patients

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## ABSTRACT

**Introduction:** The off-label use of clonidine as a sedative agent is gaining recognition as it has shown favorable sedative effect with lower risk of tolerance and dependence. **Objective:** To evaluate the effectiveness and safety of clonidine as an alternative sedative agent in critically ill children and to identify factors for clonidine dose requirements. **Materials and Methods:** A retrospective cohort study was conducted on data between June 2020 and April 2023 from paediatric intensive care unit (PICU) of Hospital Tunku Azizah. **Results:** A total of 38 mechanically ventilated patients receiving clonidine for sedation were included. The median age of patients was 2.1 years (IQR 1.1-6.1). Median dose of clonidine used was 0.58mcg/kg/hr (IQR 0.39-0.79) at the first 24 hours of infusion. There were significant reductions in the dose of midazolam ( $p=0.040$ ) and dexmedetomidine ( $p<0.001$ ) with clonidine use. There was no correlation between clonidine dose and hemodynamic changes or vasoactive inotropic score. Patients who weigh  $<12\text{kg}$  were 9 times more likely to get a clonidine dose of  $\geq 0.6\text{ mcg/kg/hr}$  at first 24 hours of infusion (OR:9.086; 95% CI:1.574–52.463;  $p=0.014$ ). Whereas, patients with longer PICU stay prior to the start of clonidine were 13% less likely to receive higher clonidine dose ( $\geq 0.6\text{mcg/kg/hr}$ ) at the first 24 hours of infusion (OR:0.874; 95% CI:0.767–0.996;  $p=0.044$ ). **Conclusions:** Clonidine is an effective and safe sedative agent in critically ill children. Patients' weight and length of PICU stay prior to the of start clonidine were significant factors that affect clonidine dose for the first 24 hours of infusion.

# Factors influencing the attitude and practice towards anaemia management among pregnant women attending primary healthcare clinics in the Kuala Langat district: A cross-sectional study

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## ABSTRACT

**Introduction:** Clinical observation has shown suboptimal knowledge, attitude and practice (KAP) among pregnant women attending primary healthcare clinics in the Kuala Langat district. This study aims to determine the KAP of anaemia management among pregnant women and its associated factors. **Materials and Methods:** A cross-sectional study was carried out among 395 pregnant women from May to August 2023. We included pregnant women aged 18 years and above at 34 to 38 weeks of gestation and excluded those who were illiterate in the Bahasa Melayu language or had poor cognition. The KAP was assessed using a 49-item validated questionnaire: 19 questions (knowledge), 17 questions (attitude) and 13 questions (practice) related to anaemia during pregnancy, its common cause, signs, symptoms, treatment and prevention. **Results:** The majority (83.1%) attained good knowledge scores. 92.8% had poor attitude scores and 31.0% had poor practice scores. Using multivariate logistic regression analysis, two factors: (1) complications during pregnancy (OR=0.26, 95% CI 0.07, 0.97,  $p<0.046$ ), (2) late bookers (OR=1.30, 95% CI 1.04, 1.62,  $p<0.022$ ) were significantly associated with the poor attitude. Three factors: (1) spacing (OR=1.97, 95% CI 1.20, 3.25,  $p<0.008$ ), (2) pre-pregnancy iron supplements (OR=0.62, 95% CI 0.39, 1.00,  $p<0.049$ ) (3) good knowledge (OR=0.21, 95% CI 0.06, 0.74,  $p<0.015$ ) were significantly associated with the poor practice. **Conclusion:** This study indicated poor attitudes among pregnant women. Primary care providers play a pivotal role in counselling and strengthening health literacy among pregnant women.

# A survey of knowledge, attitudes, and practices of salt intake, and perception, barriers, and enablers of salt reduction among Sunway University/Sunway College students and staffs

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## ABSTRACT

**Introduction:** High salt consumption in Malaysia poses serious health risks, with out-of-home dishes being a major contributor. **Materials and Methods:** This cross-sectional study assessed the knowledge, attitudes, and practices (KAP) related to salt intake and the perceptions, barriers, and enablers (PBE) of salt reduction among students and staff at Sunway University and Sunway College. **Results:** A total of 415 participants (68.8% females; mean age = 25.6) completed an online survey on demographics, KAP of salt intake, and PBE of salt reduction. Most participants demonstrated a good level of knowledge about the health risks associated with excessive salt intake, with a significant association between knowledge and gender ( $p = 0.042$ ). Attitudes towards reducing salt intake were positive, particularly among females, though no significant gender difference was found ( $p = 0.059$ ). Practices were poor, with many participants not controlling their salt intake, especially when eating out, and frequently adding salt when cooking at home. There was no significant association between controlling salt intake and gender ( $p = 0.318$ ). Participants perceived that general salt intake among the Malaysian population is high, and over half did not know about alternatives to salt. Most participants did not look at nutritional labeling or specifically at salt content. However, 83.6% of participants found salt content information on nutritional labels helpful. Key barriers included the lack of salt content information on food packaging, limited availability of low-salt food options, and unmet requests for reducing salt by cooks. Promoting health as ultimate goal, having effective communication, and government action to take part in establishing policy to regulate low-salt food distribution and prices are the key enablers of salt reduction. **Conclusion:** These findings suggest that despite high levels of awareness about the risks of excessive salt intake, this knowledge is not fully reflected in the practice of salt reduction.



# Exercise level, intrinsic motivation, physical fitness, and their association with adiposity and oxytocin receptor rs53567 and rs2254298 gene variants among Malaysian urban young adults

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## ABSTRACT

**Introduction:** Intrinsic motivation predicts higher exercise participation and long-term sustenance. Common variants in the oxytocin receptor gene (OXTR) have been associated with socially-related personality traits and behaviors, and obesity pathogenesis. The study aims to investigate the association of exercise level, intrinsic motivation, and physical fitness, with adiposity and OXTR rs53567 and rs2254298 among a sample of Malaysian urban young adults in Sunway City. **Materials and Methods:** A total of 273 participants (M/F = 118/155; aged  $21.5 \pm 2.9$ ) self-reported their socio-demographics, exercise levels via International Physical Activity Questionnaire (IPAQ) Short Form, and intrinsic motivation via Motives for Physical Activities Measure – Revised (MPAM-R). Physical fitness was assessed by three-minute step test, while anthropometric and body composition measurements were also taken. Genotyping was performed by allele-specific real-time PCR. **Results:** Men reported higher exercise levels and higher MPAM Interest, Competence, and Social than women. MPAM Interest and Competence were significantly positively correlated with vigorous, moderate and total METs, and were also significantly associated with Waist-Height Ratio. MPAM Fitness was significantly associated with Waist-Hip Ratio. Physical fitness was significantly positively correlated with vigorous and total METs. OXTR rs53567 was significantly associated with MPAM Appearance only, but not exercise levels, physical fitness, and adiposity. Men were more physically active and intrinsically more motivated to exercise than women. The desire to have fun and engage with challenges when exercising correlates with more frequent exercise, and is a predictor of lower adiposity. **Conclusion:** OXTR rs53567, but not rs2254298, influences motivation for being physically active in order to become more physically attractive.

# Prevalence, management and risk factors of potential drug-drug interactions with Nirmatrelvir/Ritonavir for Coronavirus disease treatment in a tertiary care hospital: A reality check

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## ABSTRACT

**Introduction:** Coronavirus disease 2019 (COVID-19) patients treated with nirmatrelvir/ritonavir (Paxlovid®) has risk of potential drug-drug interactions (pDDI) due to ritonavir's effects on cytochrome P450 3A4. This poses a challenge in COVID-19 treatment. This study aimed to determine the prevalence, management and risk factors of pDDI between Paxlovid® and concomitant drugs in COVID-19 patients. **Materials and Methods:** This cross-sectional study involved COVID-19 patients aged ≥18 years, treated with Paxlovid® between July and September 2022 in Hospital Tengku Ampuan Rahimah. Data sources were Paxlovid® treatment assessment forms and prescriptions. The pDDI was classified as do not co-administer, potential interaction, potential weak interaction, or no interaction using established resources. The pDDI management was classified as withhold, dose reduction, monitoring, and no action. Patient characteristics were analysed descriptively. Binary logistic regression was used to identify pDDI risk factors. **Results:** In 189 patients, mean age (years)±SD was 56.76±18.68, with most treated as inpatient (n=140, 74.07%). X-ray changes, immunocompromise, comorbidity, and polypharmacy were observed in 58 (30.69%), 22 (11.64%), 147 (77.78%), and 73 (38.62%) patients, respectively. The prevalence of pDDI with Paxlovid® was 60.32% (n=114) in 197 concomitant drug entries. The pDDI classified as do not co-administer, potential interaction, and potential weak interaction involved 10.15% (n=20), 77.16% (n=152), and 12.69% (n=25) drug entries, respectively. The pDDI was managed by withhold, dose reduction, monitoring, and no action in 54.31% (n=107), 19.29% (n=38), 7.11% (n=14), and 19.29% (n=38) drug entries, respectively. Age (OR 1.04; 1.02-1.06; p=0.001), comorbidity (OR 8.87; 3.17-24.78; p<0.001), and polypharmacy (OR 6.76; 2.74-16.65; p<0.001) were significant risk factors of pDDI with Paxlovid®. **Conclusion:** Prevalence of pDDI among COVID-19 patients treated with Paxlovid® was high, mainly managed by withholding concomitant drugs. Age, comorbidity, and polypharmacy were pDDI risk factors, warranting healthcare professionals to remain vigilant and proactive in identifying and managing pDDI to optimise treatment with Paxlovid®.

# Cultural influences on early infant-mother interactions: A comparative study of UK and Malaysian mothers

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## ABSTRACT

**Introduction:** Understanding early infant-mother interactions is essential for assessing developmental and cultural influences on caregiving practices. Current literature suggests that individualistic cultures practice distal interactions, emphasizing face-to-face and language stimulation, while collectivist cultures focus on proximal interactions, including body stimulation. **Materials and Methods:** This study compares the interaction patterns of mothers from the UK and Malaysia with their infants by examining the percentage of time spent close to the infant, in face-to-face positions, and in social face-to-face interactions. Spot observations of mother-infant interactions were video-taped when the infants were 9 weeks old at their homes. **Results:** The data showed significant differences between UK and Malaysian mothers in all categories. Specifically, Malaysian mothers spent significantly more time close to their infants compared to UK mothers. Conversely, UK mothers spent significantly more time in face-to-face and social interactions with their infants compared to Malaysian mothers. These findings align with the current prototype that mothers in individualistic cultures engage more in face-to-face interactions with their infants. However, we lack comparable data on body stimulation for UK mothers to determine whether Malaysian or UK mothers spend more time in tactile stimulation, as we only have data analysing tactile stimulation among Malaysian mothers. Malaysian mothers showed no significant differences in terms of the time spent in tactile stimulation. Spearman's rho analysis showed no significant associations between face-to-face contact or social interactions and tactile stimulation, preventing conclusions that fully support the distal-proximal prototype. **Conclusion:** These results highlight the need for further investigation into cultural differences to optimize infant development and improve mother-infant relationships.

# The significance of community pharmacies' services beyond dispensing separation: A rapid scoping review

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## ABSTRACT

**Introduction:** The debate on dispensing separation (DS) for community pharmacists in Malaysia has persisted for decades. With community pharmacists shifting from dispensing to providing patient care, they are now positioned to develop innovative pharmacy practices and deliver care services, even in the absence of DS. **Objective:** This rapid scoping review aims to explore alternative initiatives that community pharmacies can adopt beyond DS by incorporating recent reviews and determining whether these initiatives positively impact patient health outcomes, medication management, and quality of life. **Materials and Methods:** A systematic literature search was executed on SCOPUS, Web of Science (WOS), and PubMed databases from inception to April 23, 2023. The search identified recent reviews and observational studies on community pharmacy initiatives beyond DS. Inclusion criteria were studies set in community pharmacies, focused on community pharmacists, published in English from 2018 to 2023, and available in full-text. **Results:** Nineteen studies were included; 15 reviews, 1 pilot RCT, and 3 observational studies (cross-sectional, cohort, and multicentre descriptive). Key initiatives highlighted were medication reviews and educational counseling in 9 studies, followed by specialized care for specific conditions such as anticoagulation management, minor ailments, epilepsy, chronic pain, obesity, medicine and alcohol consultation, and chronic diseases (e.g., diabetes, hypertension). Additionally, 3 studies emphasized the expanded role of pharmacists during public health emergencies. Overall, these initiatives resulted in improved medication adherence, reduced drug-related problems (DRPs), enhanced detection of adverse drug reactions (ADRs), optimized chronic disease therapy, and better patient health outcomes. **Conclusion:** Although DS is not currently implemented in Malaysia, community pharmacists can thrive by focusing on patient-centered care, covering medication optimization, chronic and acute care management, and patient education, offering indispensable services in the evolving healthcare landscape.

# Effectiveness of a mobile-based personalized exercise application in enhancing physical activity and health metrics among middle-aged adults: A 12-week intervention study

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## ABSTRACT

**Introduction:** With sedentary lifestyles becoming increasingly prevalent among middle-aged individuals, there is a pressing need for interventions that promote physical activity. This study aimed to evaluate the effectiveness of a mobile-based personalized exercise application (PEA) in this population. **Materials and Methods:** 21 participants aged  $47.71 \pm 5.24$  years old, engaged in a 12-week exercise regimen, receiving individualized exercise prescriptions through the PEA. Key health metrics including body composition, glucose and lipid profiles, echocardiography, and fitness level using 6-minute walk test (6WMT) were measured before and after the intervention. **Results:** The overall results revealed significant improvements in fitness level ( $18.00 \pm 38.79$ ,  $p < 0.05$ ) and high-density lipoprotein (HDL) levels ( $0.15 \pm 0.24$ ). However, subgroup analysis showed that in women, there were significant improvements in waist-to-hip ratio (WHR) with a mean reduction of  $0.03 \pm 0.05$  ( $p = 0.05$ ), an increase in HDL levels by  $0.17 \pm 0.25$  mg/dL ( $p = 0.01$ ), and an improvement in fitness level ( $23.50 \pm 13.25$ ,  $p < 0.001$ ). In men, the only significant improvement observed was an increase in left ventricular ejection fraction by  $2.80 \pm 2.28\%$  ( $p < 0.05$ ). No significant changes were found in other blood markers or echocardiographic parameters. Meanwhile, the Exercise Self-Efficacy Scale (ESES) results indicated that the PEA intervention effectively enhanced participants' self-assurance in their ability to stick to regular exercise routines, exercise under various challenging conditions (such as feeling down, lacking support, having other interests, or not being in the mood for exercise), and sustain interest in performing exercise anywhere ( $p < 0.05$ ). **Conclusion:** The study demonstrated that PEA has the potential to be an effective tool for promoting physical activity among middle-aged adults, leading to significant improvements in certain health metrics and exercise self-efficacy. Future research could explore larger sample sizes, longer intervention periods, or the combination of PEA with additional lifestyle modifications, such as dietary changes.

# Ten Year progression-free survival among chronic myeloid leukaemia adults after tyrosine kinase inhibitor therapy at a National Reference Centre for Haematology in Malaysia

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## ABSTRACT

**Introduction:** Chronic myeloid leukaemia (CML), driven by the Philadelphia chromosome, has become manageable due to tyrosine kinase inhibitors (TKIs). While TKIs have extended survival, understanding long-term progression-free survival (PFS) rates and influencing factors is crucial for optimizing care in Malaysia. **Objective:** This study estimates and compares the 10-year PFS rates across various factors among CML patients receiving TKI therapy at Hospital Ampang, Selangor. **Materials and Methods:** A retrospective cohort study was conducted on 389 CML patients initiated on TKIs (imatinib or nilotinib) between 2012 and 2021. Patients who underwent hematopoietic stem cell transplantation (HSCT) or transferred out were excluded. The event was progression to accelerated/blast phases or death. Censored observations included patients who were alive without progression or lost to follow-up (LTFU). PFS was measured from TKI initiation to the event. Kaplan-Meier estimates and log-rank tests used for analysis. **Results:** There were 66 events (17.0%). PFS rates at 1, 3, 5, and 10 years were 97.7%, 93.9%, 88.7%, and 76.6%, respectively. Better PFS was observed in patients <60 years at TKI initiation ( $p<0.001$ ) and with a Charlson Comorbidity Index (CCI) of 2–3 ( $p=0.001$ ). Clinically, baseline blasts <10% ( $p<0.001$ ), absence of BCR-ABL1 kinase domain mutation ( $p=0.001$ ), low-risk EUTOS long-term survival (ELTS) score ( $p<0.001$ ), and diagnosis in the chronic phase (CML-CP) ( $p<0.001$ ) were favourable. Additionally, a high TKI medication possession ratio (MPR) ( $p<0.001$ ), absence of adverse events requiring TKI dose adjustment ( $p<0.001$ ), no follow-up defaults ( $p<0.001$ ), <3 concurrent medications ( $p<0.001$ ), no TKI switching ( $p=0.012$ ), achieving complete cytogenetic response (CCyR) at 6 months ( $p<0.001$ ), and major molecular response (MMR) at 12 months ( $p=0.007$ ) and 24 months ( $p=0.007$ ) were also linked to improved PFS. **Conclusion:** Optimal adherence, and careful monitoring are vital for managing CML. Patients under 60, with moderate comorbidities, lower baseline blasts, absence of BCR-ABL1 mutations, and a low-risk ELTS score showed significantly better PFS rates. Meeting key response milestones at specific time points was crucial for improving long-term outcomes, highlighting the need for personalised treatment strategies.

# Downregulation of transmembrane 4 superfamily 1 gene expression inhibits esophageal squamous cell carcinoma cell viability and Cisplatin resistance and regulates microRNA expression

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## ABSTRACT

**Introduction:** Esophageal squamous cell carcinoma (ESCC) is the most aggressive subtype of esophageal cancer (EC) having a 5-year survival rate below 25% due to chemoresistance and poor treatment outcome, thus necessitating strategies to counteract. Transmembrane 4 Superfamily 1 (TM4SF1) is a cell surface protein that regulates cancer phenotypes and chemoresistance but remains elusive in ESCC. MicroRNAs (miRNAs) play key roles as tumor suppressors or oncogenes and are potential EC diagnostic and prognostic biomarkers. This study investigates the effects of TM4SF1 silencing on ESCC cell viability and cisplatin resistance, and explores differential miRNA expression as potential mechanisms. **Materials and Methods:** TM4SF1 gene expression in ESCC KYSE150 cells and normal esophageal epithelial HET-1A cells was measured using qRT-PCR. It was then silenced by transfecting with short-hairpin RNA (shTM4SF1). After TM4SF1 silencing, its effect on ESCC cell viability and half-maximal inhibitory concentration (IC<sub>50</sub>) of cisplatin after 24 h was determined using MTT assay. Differential miRNA expressions were sequenced using whole transcriptomic analysis pairing with KEGG pathway enrichment analysis and target gene prediction. **Results:** TM4SF1 gene was highly expressed in KYSE-150 cells compared to HET-1A cells. Silencing TM4SF1 significantly reduced ESCC cell viability by ~70% compared to transfection controls. The IC<sub>50</sub> of cisplatin was lower in TM4SF1-silenced cells (34.59±0.27µM) than in non-silenced cells (40.62±1.13 µM). Sequencing results revealed 36 upregulated and 54 downregulated miRNAs, with hsa-miR-7-5p and hsa-miR-210-3p being the highest upregulated and hsa-miR-30a-3p the lowest downregulated. KEGG identified cell cycle and proteoglycans in cancer as potential pathways, while highly dysregulated targeted genes were involved in cell cycle, apoptosis, and cell survival signaling, including BCL2, CASP9, BAX, FADD, AKT3, MSH3, PIK3CB, PIK3CD, TOP2A, BCL2L12, PIK3R3, XPA, CASP3, MDM2, REV3L, and ERCC1. **Conclusion:** TM4SF1 regulates ESCC cell viability, chemosensitivity, and miRNAs associated with cell cycle, apoptosis, and survival, necessitating further studies to confirm the underlying molecular mechanisms.

# Incidence of kidney toxicity among oncology patients treated with immune checkpoint inhibitors: An onconeurology perspective from a multi-ethnic cohort in Malaysia

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## ABSTRACT

**Introduction:** Immune checkpoint inhibitors (ICIs) have revolutionized cancer therapy. However, ICIs can cause immune-related adverse events, including kidney toxicity. Despite the growing use of ICIs, data on this topic are scarce in Southeast Asia, including Malaysia. **Objectives:** To evaluate the incidence and risk factors of kidney toxicity, survival outcomes, and nephrology referral practices. **Materials and Methods:** A retrospective cohort study was conducted at a tertiary teaching center in Malaysia on oncology patients treated with ICIs between January 2016 and December 2023. Patients aged  $\geq 18$  years with baseline kidney function data and a minimum follow-up of three months were included. Clinical data were collected till 12 months post-ICI initiation. Significant kidney toxicity included worsening kidney function ( $\geq 30\%$  decline in eGFR), worsening proteinuria, or significant electrolyte disorders. **Results:** 322 patients were included (median age 60.1 years; 39.8% female; 79.5% Chinese). 5.3% had preexisting chronic kidney disease. Concomitant chemotherapy was used in 62.4% of patients. Lung cancer was the commonest cancer (29.5%). 75.2% of patients had stage 4 cancer. Pembrolizumab was the commonest ICI (51.9%), followed by atezolizumab (22.0%). Significant kidney toxicity occurred in 45% of patients: 9.9% experienced worsening kidney function, 33.7% developed worsening proteinuria, and 16.1% had electrolyte disorders, with hyponatremia being the commonest. No significant differences in kidney toxicity or survival were found among different ICIs. Multivariate logistic regression analysis showed that chemotherapy significantly increased the risk of kidney toxicity (adjusted OR: 3.53,  $p = 0.018$ ). 75% of patients with significant kidney toxicity did not have nephrology referral and none underwent kidney biopsy or immunology tests. **Conclusion:** These findings contribute to the growing body of evidence on significant incidence of kidney toxicity in oncology patients treated with ICIs and potential gaps in clinical management. This study calls for vigilant monitoring and enhanced multidisciplinary collaboration, including early nephrology involvement and future onconeurology research.



# Traditional and complementary medicine and modern medicine: Patient's perception & preference in outpatient pharmacy, Hospital Melaka

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## ABSTRACT

**Introduction:** Traditional and Complementary Medicine (T&CM) holds a significant place in Malaysian healthcare and is gradually being integrated into the national healthcare system. Understanding patients' perceptions and preferences regarding T&CM effectiveness compared to modern medicine, as well as their preferences for integration into modern healthcare settings, is essential for informed healthcare decision-making and service provision. **Objectives:** To investigate patients' perceptions of T&CM effectiveness compared to modern medicine, their preferences for integration into modern medicine, and the correlation between patients' beliefs and perceptions of T&CM and their desire to implement T&CM services in Hospital Melaka. **Materials and Methods:** A cross-sectional study was conducted involving 450 consented outpatients from Hospital Melaka. Data were collected using a validated and structured self-administered questionnaire from 1st September to 31st December 2019. Statistical analysis was performed using Pearson's correlation test and independent t-test in SPSS software. **Results:** Out of 450 participants, 30.0% practiced T&CM for their current illness, while 43.3% believed it could help. Concerns about side effects and public health risks were prevalent, with 43.56% are recommending T&CM to others. Income levels significantly influenced T&CM preferences ( $P=0.037$ ) and the desire for its inclusion in hospital services ( $P=0.017$ ). Patients' perceptions and preferences for T&CM showed a significant and positive correlation with their desire for implementing T&CM services at Hospital Melaka. However, less than 15% wanted T&CM services at Hospital Melaka. **Conclusion:** The study highlighted mixed views on T&CM, balancing concerns about side effects with its perceived suitability for various diseases and potential integration with modern medicine.

# Identifying risk factors and treatment approaches for iron deficiency anaemia: A cross-sectional study at Hospital Sultan Idris Shah, Serdang

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## ABSTRACT

**Introduction:** Iron deficiency anaemia (IDA) is the most prevalent type of nutritional anaemia globally, impacting people in both developed and developing nations, including Malaysia. In a previous local study in Kudat, Sabah<sup>1</sup>, it has been found that household income, daily iron consumption and level of practice of sanitation had significant ( $p < 0.05$ ) association with IDA. This study aimed to identify the clinical characteristics, risk factors, and treatments of patients admitted to HSIS Serdang, an urban area. **Materials and Methods:** The study included 40 patients who received intravenous iron in a daycare setting from January 1 to November 15, 2022. Patients' ages ranged from 15 to 77, with a mean age of 50 (SD: 17). **Results:** The majority were female ( $n = 29$ , 72.5%). Among the patients, Malays had the highest number of IDA (52.5%), followed by Indians (30%) and Chinese (17.5%). Key IDA causes identified include menorrhagia, affecting 55% of female patients ( $n=16$ ), and gastrointestinal bleeding, detected in 12 patients through OGDS. Most patients ( $n=9$ , 75%) with gastrointestinal bleeding were over 50 years old, and 7 had severe anaemia ( $Hb < 6.5$  g/dl). Blood transfusions were administered to 23 patients, predominantly symptomatic (87%,  $n=20$ ), with 13 (56.5%) experiencing severe anaemia ( $Hb < 6.5$  g/dl). Additionally, 70% of patients had very low ferritin levels ( $< 30$  ng/mL). All patients received intravenous iron as outpatients without complications. Notably, 62.5% of patients responded well to IV iron, achieving Hb level over 11 g/dL after 3 months of therapy. In conclusion, addressing the underlying causes of IDA is essential for effective treatment. **Conclusion:** Intravenous iron therapy is both safe and effective for outpatient management, whereas blood transfusions should be utilised judiciously and only be given if clinically indicated.

# Outcomes of arteriovenous fistula creation for incident haemodialysis patients in southern Sarawak: A 12-month retrospective study

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## ABSTRACT

**Introduction:** Arteriovenous fistulas (AVF) is the KDOQI recommended preferred method of vascular access for patients undergoing haemodialysis. Southern Sarawak are one of the very few regions in Malaysia where there are a few surgical specialties creating AVFs. **Objective:** To investigate and evaluate the success rates of AVFs in patients starting haemodialysis across 12 HD centres in Southern Sarawak and comparing outcomes of different surgical specialties at 6 and 12 months. **Materials and Methods:** Patients starting dialysis in 2022 in 12 HD centres in Southern Sarawak were identified from the HD centres and e-National Renal Registry(eNRR) database. Information on referral for AVF, creation of AVF and vascular access for HD at 6 months and 12 months was collected retrospectively by review of clinic notes and hospital electronic database. **Results:** 115 patients (mean age 57.6 years) were identified. 61% were male and 50.4% were of Malay ethnicity. Majority had diabetes (66.1%) and hypertension (86.1%). AVF was created by vascular surgeons (62.6%), private surgeons (16.5%), urologist (14.8%) and plastic hospital surgeons (6.1%) respectively. At 6 months of HD initiation, 74.8% of patients (86) have functioning AVFs with AVFs created by urologists having the highest success rate at 88.2% (15/17). At 12 months of HD initiation, 88.7% of patients (102) have functioning AVFs with AVFs created by private hospital surgeons having the highest success rate at 94.7% (18/19). Vascular surgeons have the highest rate of AVF creations among all patients at 62.6% (72/115). This is contributed likely due to vascular surgeons being the main referred team at Sarawak General Hospital. **Conclusion:** The success rate for AVFs at 6 months and 12 months was high for the Southern Sarawak region for incident haemodialysis patients in 2022. All surgeons have a good success rate.

# A 3-year study: Yeasts species distribution and antifungal susceptibility pattern in Hospital Ampang, Selangor, Malaysia

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## ABSTRACT

**Introduction:** Fungal infections are a major global health issue. Limited information on fungal distribution and antifungal susceptibility has posed challenges to the clinician in managing fungal infection. This study aims to provide data relevant to the local setting to assist in antifungal management. **Materials and Methods:** From January 2021 to December 2023, 272 yeast isolates were collected from sterile specimens at Hospital Ampang. Identification was done using MALDI-TOF (Bruker, Germany). Susceptibility was tested with SensititreTM YeastOne (TREK Diagnostic Systems, UK) against anidulafungin, micafungin, caspofungin, posaconazole, voriconazole, itraconazole, fluconazole and amphotericin B. Patterns were interpreted according to Clinical and Laboratory Standards Institutes (CLSI) or European Committee on Antimicrobial Susceptibility Testing (EUCAST). For more than 30 isolates, susceptibility was presented as percentages, meanwhile for isolates fewer than 30, as counts. **Results:** Out of 272 yeasts isolated, they include *C.tropicalis* 86 (32%), *C.albicans* 85 (31%), *N.glabratus* (*C.glabrata*) 42 (15%), *C.parapsilosis* 24 (9%), *C.orthopsilosis* 7 (2.6%), *C.dubliniensis* and *T.asahii* 5 (2%) each, *P.kudriavzevii* (*C.krusei*) 4 (1.5%), *C.metapsilosis* 3 (1.1%), *C.neoformans*, *C.duobushaemulonii*, *D.rugosa* (*C.rugosa*) and *M.guillermondi* (*C.guillermondi*) are 2 (0.7%) respectively. *C.haemulonii* and *P.ohmeri* exhibited one isolate each (0.37%). Only one *C.auris* isolated. Overall, *C.tropicalis*, *C.albicans*, and *N.glabratus* showed >90% susceptibility to echinocandins and amphotericin B. Moderate susceptibility (50-70%) was obtained for voriconazole and fluconazole against *C.tropicalis* and itraconazole against *C.albicans*. Furthermore, low susceptibility pattern (10-30%) was demonstrated for posaconazole and itraconazole against *C.albicans*. Otherwise, all antifungals showed excellent activity against amphotericin B, echinocandins, and azoles in *N.glabratus*. **Conclusion:** We are certain that the stated information may contribute to the yeast distribution and antifungal susceptibility data in Malaysia, hence will assist antifungal management particularly in our local setting.

# Postpartum depression and mental health literacy: A call for action in post-pandemic Malaysia

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## ABSTRACT

**Introduction:** Postpartum depression (PPD) significantly impacts maternal and infant well-being, especially with limited support. NHMS 2022 reported 11.2% of mothers had PPD symptoms. Low mental health literacy (MHL) in Malaysia contributes to delayed help-seeking, and data on maternal MHL is scarce. This study aims to establish baseline maternal MHL and PPD incidence in a Malaysian tertiary centre. **Materials and Methods:** Mothers in their third trimester attending the outpatient O&G clinic Hospital Shah Alam were surveyed from April to July 2024 using the EPDS for PPD and the PoDLIS for postpartum MHL. An EPDS score of 12 or more indicated PPD, while a Likert scale score of 4 to 5 reflected higher MHL. **Results:** Of the 215 mothers approached, 211 completed the questionnaire. The participants' mean age was 31.24 (SD=4.68), with most identifying as Malay (n=160, 74.4%) and having more than one child (55.9%). A small percentage (n=10, 4.8%) reported a history of mental health disorders, while 45% (n=95) had an EPDS score of 12 or higher. The overall mean MHL score was 3.25 (SD=0.55), with those having PPD scoring higher ( $3.39 \pm 0.32$ ) than those without PPD ( $3.13 \pm 0.66$ ),  $t(173.9) = -3.65$ ,  $p=0.01$ . **Conclusion:** Incidence of PPD in this study was alarmingly higher than the 14.29% reported by Hairol(2021), which could be attributed to our participants being in their third trimester rather than 6 months postpartum, and the post-pandemic context. Recent meta-analyses have revealed a global PPD incidence of around 20%. The mean MHL score was relatively low, highlighting urgent need to improve MHL among mothers. Interestingly, participants with PPD demonstrated higher MHL, likely due to their proactive efforts to understand their condition and targeted education from healthcare providers. This study revealed a high incidence of PPD, underscoring the need for nationwide screening and intervention, particularly post-pandemic. Enhancing MHL is essential for early detection and support nationally targeting both mothers and healthcare providers.

# Barriers in managing chemotherapy-induced nausea and vomiting: An interview study

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## ABSTRACT

**Introduction:** Managing chemotherapy-induced nausea and vomiting (CINV) effectively is crucial for cancer patients' well-being and treatment adherence. Identifying the barriers to controlling CINV is key to improving management and enhancing cancer care in Malaysia. This study aimed to explore Malaysian oncologists' perspectives on the barriers impeding the successful management of CINV through semi-structured interviews. **Materials and Methods:** A purposive sampling approach was used to select oncologists from public hospitals with diverse backgrounds. In-depth, face-to-face interviews were conducted using a semi-structured guide focusing on CINV management barriers. Data collection continued until thematic saturation was reached, and the interviews were analyzed thematically using ATLAS.ti software. The study adhered to ethical standards with appropriate approvals and informed consent. Between January and April 2023, 15 oncologists from public hospitals across Malaysia were approached, with 12 interviews conducted upon reaching data saturation. These 12 oncologists, each with over 10 years of experience, provided insights that were recorded and analyzed over a total duration of 540 minutes. **Results:** Thirty-one themes emerged as barriers to effective CINV control in Malaysia's public health hospital settings. Key findings highlighted several critical issues: financial barriers to accessing new and effective antiemetic agents, even with government subsidies, were identified as the primary concern among oncologists. A lack of knowledge and awareness regarding CINV also posed a significant challenge. Many oncologists perceived CINV as an unavoidable part of cancer treatment, which may discourage patients from discussing their CINV experiences. Additionally, oncologists tended to undervalue and underestimate CINV, often resulting in the use of less effective antiemetic regimens. Misconceptions, such as fears that discussing CINV might disrupt treatment plans or lead to discontinuation, also emerged as significant concerns. **Conclusion:** These novel perspectives can inform tailored interventions to improve CINV management, enhancing the quality of care for cancer patients in Malaysia and potentially guiding similar improvements in other settings globally.

# Development of *Ixora Coccinea* extract-loaded nanoemulgel for antioxidant property

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## ABSTRACT

**Introduction:** The effectiveness of lipophilic drugs is often hindered by challenges such as poor solubility and low bioavailability. Nanoemulgel, designed to address these issues by combining nanoemulsion with a gel, has shown promise. The present study aimed to formulate a nanoemulgel incorporating nanoemulsion containing the ethanol extract of *Ixora coccinea* leaves and assess its antioxidant properties. Additionally, the formulated nanoemulgel was evaluated in terms of particle size, stability, and drug release profile, providing insights into its potential as an effective drug delivery system. **Materials and Methods:** The ethanol extract of *I. coccinea* leaves was obtained using the cold maceration method. A nanoemulsion incorporating the extract was prepared through a two-step process, initially employing a low-performance technique with a magnetic stirrer and subsequently employing a high-performance technique using a sonicator. The antioxidant properties of the extract were assessed using the DPPH assay method prior to formulating the nanoemulsion. The particle size of the nanoemulsion was determined using dynamic light scattering with a Zetasizer. Two topical nanoemulgels (NEG1 and NEG2) containing a nanoemulsion loaded with *I. coccinea* extract were formulated. The characteristics examined included color, odor, clarity, spreadability, and washability of the formulated nanoemulgel. Additional assessments involved spreadability, homogeneity, grittiness, and stability parameters such as pH and viscosity. In vitro drug release studies using the Franz Diffusion cell method were also conducted. The antioxidant activity of the formulated nanoemulgels were also tested. **Results:** The findings reveal that the formulated nanoemulgel (NEG1) incorporating the stable nanoemulsion loaded with *I. coccinea* extract has the highest antioxidant activity and is a promising formulation with satisfactory drug content, viscosity, and spreadability. **Conclusion:** Further study on this formulated nanoemulgel in animal models is needed to determine its efficacy and safety, as well as its economic viability.

# Prevalence of current drinkers and its association with socio-demographic characteristics in Malaysia

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## ABSTRACT

**Introduction:** Alcohol consumption is influenced by various socio-demographic factors, including sex, age, ethnicity, and education level. Understanding the socio-demographic characteristics of current drinkers is essential for formulating effective public health policies and interventions aimed at tackling alcohol-related concerns. This study aims to determine the relationship between socio-demographic characteristics (age, gender, ethnicity, marital status, education level, and household income) with the prevalence of current drinkers. **Materials and Methods:** Current drinkers, defined as individuals who had consumed any alcoholic beverage within the past 12 months, were identified through the questionnaire. By using stratified random sampling, the data was extracted from the 2023 National Health & Morbidity Survey, which included 10,751 sampled respondents. By using SPSS software version 29.0, chi-squared analysis was used to determine significant associations between the prevalence of current drinkers and socio-demographic characteristics. Additionally, Cramer's V was computed to assess the strength of association between two variables. **Results:** The chi-squared analysis revealed a significant association with the prevalence of current drinkers in Malaysia with p-values less than 0.01 for all socio-demographic characteristics. Furthermore, ethnicity exhibited the highest strength of association with Cramer's V value of 0.364, followed by gender (0.112), age group (0.109), household income (0.093), education level (0.058) and marital status (0.040). **Conclusion:** The association between socio-demographic characteristics and the prevalence of current drinkers support several objectives, including raising public health awareness. Public health efforts should focus on the top three socio-demographic characteristics (ethnicity, gender, and age group) due to their significant and strong association with the prevalence of current drinkers in Malaysia. Considering certain ethnic groups may have different cultural attitudes toward alcohol, public health campaigns should be culturally sensitive and tailored to address these nuances. Gender-focused strategies can also address varying alcohol use patterns between men and women, ensuring relevant, effective interventions for each group.



# Optimizing warfarin dosing: Pioneering a Malaysian protocol for heart valve replacement patients

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## ABSTRACT

**Introduction:** Warfarin is the primary anticoagulant for patients undergoing valve replacement. Due to its narrow therapeutic index, it requires frequent INR monitoring. However, there is no standard protocol for initiating warfarin post-heart valve replacement (HVR). **Objective:** This study aims to determine the optimal warfarin initiation dose to achieve target therapeutic INR in post-HVR patients. **Materials and Methods:** A retrospective cohort study was conducted at a tertiary hospital's cardiothoracic ward from January 1, 2018, to December 31, 2021. We included patients aged 18 and older who were admitted for valve replacement. Data were collected from electronic medical records, and descriptive statistics, chi-square or Fisher's exact tests for categorical variables, and t-tests or Mann-Whitney U tests for continuous variables were used, with significance set at  $P < 0.05$ . Analyses were performed using SPSS version 21.0. **Results:** Of 200 HVR patients, 111 were included. The average age was  $44.46 \pm 10.5$  years, with 53% male ( $n=59$ ). The majority is Malay (71%), followed by Chinese (18%) and Indian (16%). Valve replacements included 31.5% aortic, 55% mitral, and 14% both. Most (74%) had mechanical valves, and 81.08% received enoxaparin as bridging therapy post-operation. The mean dose (SD) for warfarin were  $2.08 \pm 0.79$  mg in the 1st week and  $3.01 \pm 1.5$  mg in the 2nd week. INR values averaged  $1.68 \pm 0.50$  in the 1st week and  $1.97 \pm 0.52$  in the 2nd week. Only 14 patients met the INR target in the 1st week, compared to 30 in the 2nd week. Chinese patients had lower initiation doses;  $1.99 \text{ mg} \pm 1.09$  (1st week) and  $2.76 \text{ mg} \pm 0.63$  (2nd week), than Indian patients ( $2.57 \pm 1.04$  mg and  $2.60 \pm 2.51$  mg, respectively). The mean INR achieved in 1st week was 1.6 ( $p=0.18$ ), and in 2nd week was 1.9 ( $p=0.68$ ). In addition, initiation doses of warfarin were lower in MVR and highest in those who underwent both AVR and MVR,  $1.84 \pm 0.66$  mg and  $2.65 \pm 1.51$  mg in 1st and 2nd week respectively. **Conclusion:** This study provides insight into the various warfarin initiation doses used in this hospital for post HVR patients. This study shows that the average warfarin initiation doses were 2 mg in the 1st week and 3 mg in the 2nd week. Bridging therapy with enoxaparin helped achieve target INR faster than warfarin monotherapy.

# Effect of ankle Maitland mobilization in nonspecific chronic low back pain

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## ABSTRACT

**Introduction:** Chronic non-specific low back pain (LBP) is discomfort felt below the costal region and above the gluteal fold, and is not related to specific pathologies like infection, tumour, osteoporosis, fracture, structural deformity, or inflammatory disorder. It can persist for over 3 months and cause gait alterations due to paravertebral muscle spasm and posture changes. Patients tend to prevent painful end-range positions during the weight-bearing phase by performing a greater transverse lumbar segment range of motion during walking. Thus, this contributes to adapting to faulty gait parameters. **Materials and Methods:** Pre-post Quasi Experimental Study. Participants will be recruited and provide with informed consent. Data will be collected on the first and eighth visits, recorded in POMR and extracted to a Google Spreadsheet. Sociodemographic data will be indexed separately to protect privacy. Initial assessments include the Oswestry Disability Index, pain score, gait cycle, and ankle dorsiflexion range of motion and recorded as Pre-tests, post-test will be conducted on the eighth session. Participant will be divided in 2 groups interventional group (IG) receive conventional physiotherapy and Ankle Maitland Mobilization and control group (CG) will receive conventional physiotherapy. Both groups will undergo session 8 session for 4 weeks. **Results:** The study involved 50 male and 74 female participants aged 18-50 years. Results showed significant associations between pain score, gait speed, and physical function. The study suggests that combining these variables when assessing functional outcomes can improve pain and gait performance. The results showed a significant reduction in pain score and physical function ODI, while gait showed improvement in average time taken. **Conclusion:** The study reveals that ankle Maitland mobilization may be beneficial in reducing low back pain and impairment, potentially enhancing physical performance in terms of speed. The intervention delivered to the IG may be beneficial in treating pain and impairment in people with low back pain, leading to better functional outcomes and quality of life in those with persistent non-specific low back pain. The study emphasizes the need for considering pain score, gait, and physical function when evaluating functional outcomes.

# A study on knowledge, attitude and practice towards adulterated medicine on e-commerce platform among patients in Klang district health clinics: A cross-sectional study

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## ABSTRACT

**Introduction:** Technology has changed the world. Due to the increasing demand of online sales, some imprudent sellers avail themselves by selling adulterated medicine on e-commerce platforms. Objective: To identify the level of knowledge, attitude and practice of patients towards adulterated medicine on e-commerce platforms. **Materials and Methods:** A prospective cross-sectional study with convenient sampling was carried out in adherence to ethical standards. 393 participants were recruited from 12 primary care clinics in PKD Klang from February 2023 till June 2023. Participants responded to pharmacist-assisted questionnaires developed by adaptation and modification from previous studies. Extracted data was analysed using IBM Statistical Package for the Social Science (SPSS) Software and Microsoft Excel 2019. **Results:** In terms of adulterated medication knowledge, disappointingly half the surveyed population consisting of 171 participants (43.7%) and 151 participants (38.6%) were unsure of MAL registration and unaware of Meditag Hologram purpose respectively. As for their attitude, 139 persons (35.4%) agreed that online medicines are cheaper, risking the safety and effectiveness of the medication. However, in terms of actual purchasing, a gripping 165 surveyed population (42.2%) disagreed with online medication buying, 139 persons (35.7%) agreed for Meditag to be displayed and 156 (39.8%) of them utilised pharmacists' consultation before e-commerce purchasing. Positive practicing was displayed by 266 participants (67.8%) as they performed comparison between drug label and packaging between retail and online medications. Interestingly, 205 persons (52.2%) adhered to report unregistered medications at National Pharmaceutical Regulatory Agency (NPRA) websites. **Conclusion:** A confluence of validated guidelines, national policies and rampant public education are required as future mitigation in addressing the unmet needs of safe medication usage.

# Factors contributing to delay in medication supply: A time and motion study

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## ABSTRACT

**Introduction:** The outpatient pharmacy plays a crucial role as a vital link between healthcare professionals and patients, to ensure that prescribed medications are dispensed accurately and promptly. The Key Performance Indicator (KPI) set by the Malaysian Ministry of Health (MOH) mandates that medication supply should be completed within 30 minutes. However, the average waiting time in an outpatient pharmacy ranges from 90–120 minutes. Inefficiencies in medication supply, which involves multiple operating stages, can significantly impact healthcare delivery quality. **Objective:** This study aimed to determine factors that contribute to delays in meeting the MOH KPI. **Materials and Methods:** A cross-sectional study was conducted at the outpatient pharmacy of Hospital Ampang from July 6 to July 10, 2023. The time involved in each outpatient process—registration, verification, allocation, filling, counterchecking, and dispensing, as well as prescription characteristics were determined. **Results:** The medication supply process for 277 prescriptions were tracked. More than half (58.8%) of the reviewed prescriptions exceeded the medication supply KPI of 30 minutes (mean=34.8 ± SD 16.8 minutes). Factors associated with delays in the filling stage were prescriptions involving ≥ 3 medications or controlled items such as psychotropic substances. Factors associated with delays in the verification stage were often linked to pending specialist authorization, whereas delays in the allocation stage were associated with errors in information technology (IT). **Conclusions:** This time and motion study determined that the bottleneck in the medication supply process of filling, verification and allocation stages were associated with the nature of the prescription, system delays and errors related to IT. Identifying the points of delay and the factors resulting in those delays are important to determine the areas requiring specific focus for active intervention, in order to rectify inefficiencies in medication supply.

# From stiff to swift: Real-world effectiveness of Botulinum Toxin Type A for spasticity in brain injury patients: An observational study

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## ABSTRACT

**Introduction:** Patients who develop spasticity following a brain injury frequently have reduced movement ability, impaired function, and distressing limb postures due to resistance from passive and active antagonist muscles. This study aimed to evaluate the effectiveness of Botulinum Toxin Type A (BTXA) in managing spasticity in individuals with brain injuries. **Materials and Methods:** This observational, prospective pre-post cohort study involved patients with spasticity resulting from brain injury (stroke or other forms of trauma) who received intramuscular injections of BTXA. The effectiveness of treatment was measured using Modified Ashworth Scale (MAS) and Modified Barthel Index (MBI). Evaluations were conducted before the injection and at 4, 12, and 24-weeks follow-up. Statistical analysis was performed using SPSS version 26. **Results:** In 97 subjects, significant improvements in the MAS scores were observed at 4 weeks [mean difference (MD) -0.80 (95% CI -0.95 to -0.64)], further enhanced at 12 weeks [MD -0.95 (95% CI -1.10 to -0.79)], and sustained through 24 weeks [MD -0.87 (95% CI -1.03 to -0.72)] post-injection. Similarly, MBI showed significant gains at 4 weeks [MD 2.27 (95% CI 0.21 to 4.33)], with continued improvement at 12 weeks [MD 4.15 (95% CI 2.17 to 6.14)] and maintained at 24 weeks [MD 5.24 (95% CI 2.77 to 7.70)]. Key predictors of MAS outcomes included the timing of the injection relative to spasticity and the location of spasticity (upper or lower limb). In 2023, RM369,539 was spent on BTXA treatments. Extending injection intervals from 3 to 6 months can achieve 100% cost-savings. **Conclusion:** BTXA treatment effectively reduces spasticity in brain injury patients, with improvements starting at 4 weeks and lasting up to 24 weeks post-injection. Extending the injection interval from 3 to 6 months not only maintains therapeutic benefits but also offers up to 100% in cost savings, optimizing resource use and increasing access to more patients.

# Nutritional indicators and survival outcomes in peritoneal dialysis: A multicenter analysis

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## ABSTRACT

**Introduction:** Peritoneal dialysis (PD) is a common renal replacement therapy for end stage kidney disease (ESKD), but it poses significant malnutrition risks, impacting patient survival. This study assessed nutritional status by using normalized protein catabolic rate (nPCR), and its effect on the survival of PD patients. **Materials and Methods:** A multicenter, cross-sectional study included all PD patients from 2021 to 2023 who were over 18 and on PD for at least six months. Survival was analyzed using the Kaplan-Meier method and Cox regression models. **Results:** Survival rates differ by the primary cause of ESKD, with the highest survival observed in patients with glomerulonephritis (3-year survival of 95.5%). Patients with diabetes mellitus have a significantly lower 3-year survival (60.6%)( $p=0.003$ ). Patients with a BMI above  $18.5 \text{ kg/m}^2$  have better 3-year survival (72.5-81.4%) compared to those with BMI  $<18.5 \text{ kg/m}^2$  (64.7%), but not statistically significant ( $p=0.323$ ). High albumin levels are associated with higher 3-year survival (79.0%) compared to those with lower albumin levels (66.7%)( $p=0.071$ ). Patients with  $\text{nPCR} > 0.8 \text{ g/kg/day}$  with  $\text{Kt/V} \geq 1.7$  was associated with a 73% reduction in mortality risk ( $p=0.034$ ). Elevated albumin (Hazard Ratio [HR]: 0.88,  $p=0.020$ ) and cholesterol levels (HR: 0.72,  $p=0.027$ ) were linked to improved survival. Higher intact parathyroid hormone (iPTH) levels are linked to an increased risk of mortality (HR: 1.01,  $p=0.002$ ). Those with  $\text{nPCR} \leq 0.8 \text{ g/kg/day}$ , factors such as longer dialysis age (HR: 1.03,  $p=0.002$ ) and time on PD (HR: 1.10,  $p=0.042$ ) increased mortality risk. Indian ethnicity shows a higher risk (HR: 1.82,  $p=0.040$ ). Elevated iPTH (HR: 1.00,  $p\text{-values} < 0.001$ ) and calcium levels (HR: 4.13,  $p=0.016$ ) are linked to an increased risk of mortality. Conversely, uncertain etiology of ESKD was associated with reduced risk (HR: 0.45,  $p=0.030$ ). **Conclusion:** Maintaining adequate protein intake, reflected in  $\text{nPCR} > 0.8 \text{ g/kg/day}$ , is associated with improved survival rates. Higher Kt/V, albumin, and cholesterol levels, are positively linked with survival, while elevated iPTH and calcium levels, longer duration on PD, and specific demographic factors contribute to increased mortality risk.

# Impact of nutritional status on hospitalization and treatment outcomes in peritoneal dialysis patients: A cross-sectional multicenter study

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## ABSTRACT

**Introduction:** Nutritional status, as indicated by normalized protein catabolic rate (nPCR), is a critical factor influencing the outcomes of peritoneal dialysis (PD) patients. This study aims to evaluate the relationship between nPCR levels, frequency and causes of hospitalization, and PD treatment outcomes. **Materials and Methods:** This cross-sectional, multicenter study included all PD patients from 2021 to 2023 who were over 18 and on PD for at least six months. The patients were categorized into two groups either nPCR levels  $\leq 0.8$  or  $>0.8$ g/kg/day. Multivariate logistic regression and comparative analyses were performed to evaluate demographics, frequency of hospitalizations, and treatment outcomes. **Results:** Among 529 PD patients, 29.5% had an nPCR  $>0.8$ g/kg/day, while 70.5% had an nPCR  $\leq 0.8$ g/kg/day. Patients with higher nPCR levels were significantly younger ( $47.2 \pm 17.9$  years vs.  $54.6 \pm 12.9$  years,  $p < 0.001$ ) and had longer duration on PD (median 4.0 vs. 3.0 years,  $p < 0.001$ ). Chinese ethnicity was less likely to have nPCR  $>0.8$ g/kg/day (Odd ratio {OR}: 0.22,  $p < 0.001$ ). Glomerulonephritis as the primary causes of end stage kidney disease (ESKD) also showed a strong association with lower nPCR levels (OR: 0.13,  $p < 0.001$ ). Patients with nPCR  $>0.8$ g/kg/day had a higher likelihood of transitioning to hemodialysis (HD) (24.4% vs. 13.1%,  $p = 0.001$ ) and were more likely to drop out of PD (25.0% vs. 13.4%,  $p = 0.001$ ). No significant differences were found in the frequency of hospitalizations or the causes of hospitalization between the two groups. **Conclusion:** Nutritional status, as reflected by nPCR levels, significantly affects patient demographics, the primary cause of ESKD, and PD treatment outcomes. Lower nPCR levels are associated with increased age, specific ethnic backgrounds, and certain ESKD causes. Contrarily, patients with higher nPCR levels have a higher risk of transitioning to HD or dropping out of PD.

# Ill-defined causes of death used within medically certified deaths in Malaysia in 2019

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## ABSTRACT

**Introduction:** A well-defined cause of death such as “lung cancer”, denotes explicitly the underlying cause of death. In contrast, an ill-defined cause such as “sepsis”, could result from various diseases or injuries as the true underlying cause. Ill-defined causes distort true mortality patterns, impacting resource allocation and potentially misleading public health policies. **Objective:** This study aims to describe the ill-defined causes of death used within medically certified deaths (MCD) in Malaysia. **Materials and Methods:** This cross-sectional study utilized 2019 MCD data from the Department of Statistics Malaysia. The causes of death were classified as well-defined or ill-defined based on their ICD-10 codes, following guidelines from the Global Burden of Disease and Malaysian Burden of Disease studies. SPSS was used to describe the ill-defined causes by source of medical certification (hospital setting or verbal autopsy), sex, and age groups. The most common ill-defined causes were then identified accordingly. **Results:** Out of 109,164 MCD, 27,462 (25.2%) were classified as ill-defined cause of death. The ill-defined causes were more commonly used in hospital settings (26.2%) compared to verbal autopsies (19.4%). However, the proportion was similar for males (25.0%) and females (25.4%). Within age groups, ill-defined causes were more common in the 5-14 years age group (33.4%), followed by 15-29 years (30.5%), while other age groups range between 23.4-29.0%. The most common ill-defined causes of death were ‘other sepsis’ (A41), ‘shock not elsewhere classified’ (R57), ‘unspecified diabetes mellitus’ (E14), ‘unspecified event, undetermined intent’ (Y34), and ‘other ill-defined and unspecified causes of mortality’ (R99). However, this pattern differs across source, sex, and age groups. **Conclusion:** A quarter of MCD assigned by medical practitioners were ill-defined causes of death, raising serious concerns about the accuracy of current mortality statistics. Improving medical practitioners' ability to assign well-defined causes of death is essential for enhancing data accuracy and informing better policy decisions.



# Demographic characteristics associated with missed follow-up appointments among tuberculosis patients at Hospital Shah Alam, Selangor: A retrospective study from January to June 2023

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## ABSTRACT

**Introduction:** Tuberculosis (TB) patients default their treatment during the treatment course. Therefore, this study aims to analyze the demographic characteristics of the patient who missed follow-ups and identify the reasons for missed appointments or defaulted their treatment. **Materials and Methods:** The records of patients diagnosed with TB follow-up at the chest clinic from January to June 2023 were reviewed based on our inclusion and exclusion criteria. **Results:** The retrospective descriptive analysis was conducted based on the data collected. Based on the study sample (n=33), the result shows that the majority of the defaulted patients were male in gender (n=22). Most of the missed appointments patients and defaulters are of Malay (39.4%) ethnicity and Malaysian nationality (66.7%). Most patients gave the transport issues as the reason for missed appointments followed by financial issues and feeling healthy. The majority of them missed follow-up in the first month after starting anti-TB. **Conclusion:** Missed appointments, treatment compliance and defaulted cases in TB treatment remain as one of the main challenges in the effort to end TB epidemics. Further in-depth research is required to propose effective measures to solve this issue and improve the national TB control program.

# Improving laboratory turnaround time of urgent full blood count in Department of Pathology, Hospital Shah Alam

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## ABSTRACT

**Introduction:** Full blood count (FBC) is one of a routine requested basic haematology test. This test may be required on urgent basis and crucially assists towards patients' diagnosis and management of treatments. Delay in FBC reporting may lead to inappropriate treatments or unnecessary anxiety, potentially causing harm to patient. Thus, Kementerian Kesihatan Malaysia has set Lab Turn Around Time (LTAT) for urgent FBC within 45 minutes as one of the HPIA and KPI indicator with standard of >90%. **Materials and Methods:** In January and February 2022 there were 4,735 (17.1%) urgent FBC out of 27,665 total FBC received. The performance indicator for LTAT of urgent FBC were found below the agreed standard, 84% and 88% respectively. Nearly half of the requests (49%) were from Emergency Department (ED). Factors identified contributing these intricacies can be divided into two categories i.e. involving system (blurry workflow, urgent request not highlighted on barcode) and people itself (lack of awareness/knowledge/training and misinterpretations especially the urgency where specimen were sent in bulk). **Results:** Strategies were planned for improvement. Enhancement of process flow by focusing on specimen prioritization, designated racking system for urgent specimen, use of special barcode stickers in ED and bold 'Urgent' font in specimen barcodes were carried out. Lab personnel were given new written procedure on changes of workflow including training and reminder notes. Persistently inculcating awareness on urgent specimen and ensuring continuous specimen out-flows instead in bulk to ward and clinic personnel through infographic poster as well as periodical interdepartmental meeting and Houseman orientation programme. **Conclusion:** Post intervention shows tremendous improvement in September and October 2022 with 95.7% and 97.2% of urgent FBC were released within 45 minutes respectively. Specific remediable strategies focusing on system and people significantly improve LTAT of urgent FBC. Collaboration between each department and staffs are exigently applauded to optimize the process henceforth.

# Pain and quality of life of transfused adult thalassaemia patients in a tertiary Hospital in Malaysia

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## ABSTRACT

**Introduction:** Pain has emerged as a potential complication in thalassaemia as clinicians have seen increasing reports of chronic pain in thalassaemia patients. However, pain management had not been optimized, with 25% of patients reporting no relief with pain treatment. This study assessed the prevalence of pain, risk factors and its association with quality of life (QoL) in the adult transfused thalassaemia population. **Materials and Methods:** A prospective cross-sectional study was conducted from April to June 2023 in the thalassaemia clinic in Hospital Tengku Ampuan Rahimah, Klang. All adult patients aged 18 years old and above who have been treated with oral and/or subcutaneous infusion of iron chelators were conveniently sampled in this study. Data collection for pain and QoL were performed using the Brief Inventory Pain and TranQol questionnaire. Association between pain and QoL was explored using Fisher's Exact Test. **Results:** A total of 83 adults transfused thalassaemia patients were recruited. This study found 32% of the study participants had pain within the past 24 hours. Non-Hemoglobin E (HbE) beta thalassaemia was found to be a risk factor influencing pain in this study. This study found a significant association between pain and QoL ( $p=0.01$ ). Taking oral deferiprone was independently associated with higher QoL. **Conclusion:** The prevalence of pain and its association with poor QoL may contribute to higher healthcare costs and loss of productivity. With the identification of the affecting variables of non HbE thalassaemia and taking oral deferiprone, appropriate treatment plan may be formulated for thalassaemia patients.

# The impact of lifestyle modification on metabolic syndrome among staffs in Hospital Shah Alam

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## ABSTRACT

**Introduction:** Metabolic syndrome (MetS) represents a pressing global public health concern, marked by a constellation of metabolic irregularities such as elevated blood pressure, dyslipidemia, raised fasting blood glucose, and central obesity, heightening the risk for type 2 diabetes mellitus and cardiovascular disease. Despite evidence endorsing lifestyle interventions, local data on their effectiveness in Malaysia are scarce. This study aims to explore the impact of lifestyle modifications on MetS among Ministry of Health (MOH) staff at Hospital Shah Alam (HSAS) to guide policy-level interventions for improved public health outcomes. **Materials and Methods:** Using data from KOSPEN 2020 at HSAS, this cohort study focused on lifestyle modifications from July 2021 to July 2022, comprising four arms: the diet group, exercise group, exercise + diet group, and control group. Due to challenges with recruitment and adherence, the sample size was limited, and the follow-up period was abbreviated. **Results:** With 36 participants recruited (30.6% males, 69.4% females; mean age: 40.28 years), no significant differences in key parameters were noted at 3 and 6 months. However, during the 9-month reassessment, the diet group demonstrated a significant mean reduction in SBP ( $p = 0.005$ ), while the diet + exercise group exhibited decreased FBS compared to the diet ( $p = 0.037$ ) and control groups ( $p < 0.001$ ). **Conclusion:** Despite the constrained statistical significance likely due to high dropout rates and adherence issues, our study suggests that dietary control, exercise, or their combination can be effective in managing metabolic syndrome. While further methodically structured research is necessary to deepen our understanding of these relationships, our findings still indicate that long-term interventions can improve blood pressure and fasting blood sugar levels.

# Drug-related problems, severity, acceptance, and impact of pharmacist interventions in surgical wards: A systematic review

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## ABSTRACT

**Introduction:** Drug-related problems (DRPs) represent a significant health concern. Despite surgical patients being highly exposed to DRPs, studies on these issues and the impact of pharmacist interventions are limited. **Objective:** This study aims to systematically review published studies on the types and severities of DRPs, the acceptance rate, and the impact of pharmacist intervention in surgical wards. **Materials and Methods:** An extensive search strategy was conducted to identify all articles published from January 1980 to March 2022. Three databases were utilised: PubMed, Scopus, and Medline via EBSCO. Only English-language publications describing drug-related problems were reviewed and selected. Data on study characteristics and outcomes were extracted and tabulated using Microsoft Word. The structured data were then analysed descriptively. **Results:** A total of 16 studies on DRPs were systematically reviewed. The findings of this review identified 14,880 DRPs in surgical wards, with inappropriate dosage being the most common type. The majority (80.0%) of the DRPs were not harmful. Physicians' acceptance rate of pharmacist intervention was deemed acceptable (76.5%). Pharmacists' interventions impacted therapeutic and organisational outcomes, leading to cost savings due to avoiding DRPs (4 out of 9 studies). **Conclusion:** This study highlights the risk of DRPs among surgical patients, although most DRPs were not detrimental. The findings of this review can contribute to establishing and improving clinical pharmacist services in surgical wards.

# The relationship between adverse clinical outcomes with poor time in therapeutic range among non-valvular atrial fibrillation patients

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## ABSTRACT

**Introduction:** Warfarin remains a cornerstone treatment of preventing thromboembolic events in non-valvular atrial fibrillation (NVAF) patients. The qualitative aspect of treatment using Warfarin commonly assessed via time in therapeutic range (TTR). Poor TTR is known to cause adverse clinical outcomes such as stroke, thromboembolism or bleeding. **Objective:** To identify the mean TTR, adverse clinical outcomes and predictors of poor TTR in NVAF patients at a Malaysia secondary hospital and further investigate the association between poor TTR % and adverse clinical outcomes. **Materials and Methods:** This is a retrospective observational – cohort study, which involves NVAF patients attended Warfarin MTAC in Hospital Shah Alam. All patients attended Warfarin MTAC between the year 2019-2022 were screened. Information data of patients who fulfilled the inclusion and exclusion criteria were retrieved from an electronic health information system (eHIS) into apre-prepared data collection form prior to analysis. **Results:** A total of 72 patients who fulfilled the inclusion criteria were included in this study. The mean TTR-value of NVAF Warfarin MTAC patients obtained from this study was 63.7% ( $\pm 3.03$ ). Regression analysis was performed and showed that the number of INR clinic visits and HASBLED score were significantly associated with poor TTR control (<65%) ( $P = 0.048$  and  $P = 0.049$  respectively). The most common adverse clinical outcome reported was bleeding. 58.8% patients experienced adverse clinical outcomes consisted of those in the poorlycontrolled TTR group (<65%). HASBLED score and smoking habits were both significantly associated with adverse clinical outcomes (AOR = 0.42, CI = 0.22 - 0.82;  $P = 0.006$  and AOR = 0.26, CI = 0.008 - 8.56;  $P = 0.048$  respectively). **Conclusion:** This study suggests that the risk of adverse clinical outcome, bleeding exists among Warfarin treated patients despite TTR control. This risk was further increased among patients with poor TTR control (<65%). These findings provide evidence to revise the suitability of Warfarin in managing stroke risk among NVAF patients apart from conveying the role of pharmacist in ensuring good TTR control among NVAF patients.

# Improving skills in performing basic echocardiography and focused assessment with sonography in trauma (FAST) among medical officers in emergency department

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## ABSTRACT

**Introduction:** Ultrasound is a diagnostic tool that physicians in emergency departments (ED) frequently utilize in their clinical practice to increase the accuracy of their diagnosis, especially during resuscitation of critically ill patients. Ultrasound has become a crucial component of emergency care that can improve patients' outcomes. Thus, emergency ultrasound training is necessary to ensure medical officers can continue to be proficient in performing bedside critical care ultrasound, correctly interpreting images, formulate provisional diagnosis and initiate appropriate treatment. The objective of this study is to determine efficacy of training sessions by evaluating medical officers' skills and competency when performing bedside ultrasound. **Materials and Methods:** This is prospective, interventional study whereby participants' baseline skills in performing bedside ultrasound were evaluated. They were required to perform basic echocardiography and FAST scan on patients. A set of checklists were used to determine their performance ensuring vital steps are performed correctly in pre-test assessment. Then, they were approached individually or in small groups to undergo bedside training in ultrasound. During this training, important points when performing ultrasound were highlighted to ensure correct techniques are practiced. Following this session, their skills were reevaluated in post- test assessment phase. **Results:** Total of 24 participants enrolled in this study. The total mean pre- and post-test score were  $19.38 \pm 5.11$  and  $31.38 \pm 3.99$ , respectively. There was significant improvement in total mean score for ultrasound skills (Echo + FAST) with mean change score of +12.00 (effect size,  $d = 2.76$ ,  $p < 0.001$ ). **Conclusion:** The ultrasound training is effective in improving skills in performing basic echocardiography and FAST scan among medical officers in ED. Regular training programs can be conducted to enhance clinicians' diagnostic confidence which ultimately can improve patient's outcome.

# Factors associated with level of burden and quality of life among caregivers of haemodialysis patients attending private dialysis center, Jitra, Kedah

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## ABSTRACT

**Introduction:** With the increasing number of patients requiring dialysis in Malaysia, more individuals will be expected to adopt the role of caregivers in the future. It is observed that the population of caregivers frequently expressed their feelings of exhaustion and emotional drain while taking care of their relative who required hemodialysis treatment. These conditions may affect their quality of life and disrupt the care process. This study aims to assess factors contributing to the burden and quality of life among caregivers of hemodialysis patients. **Materials and Methods:** A cross-sectional study was conducted among 88 caregivers of hemodialysis patients attending Zaharah Dialysis Centre from April to June 2024. The Zarit Burden Scale was used to assess the level of burden among caregivers and the World Health Organization Quality of Life Brief Version (WHOQOL-BREF) addressed six quality of life domains which include physical health, psychological health, and level of independence, social relationship, environment and spirituality was used to evaluate the quality of life among caregivers. **Results:** The study revealed that 30.7% of caregivers had a moderate level and the rest had a mild burden. The overall mean quality of life was low at 69.33 (SD=8.25). Multifactorial ANOVA test showed a significant difference in mean quality of life among different categories of gender and age ( $p < 0.001$ ). However, this study found that the quality of life among caregivers was not significantly associated with their level of burden ( $p > 0.05$ ). **Conclusion:** This study reveals that caring for patients undergoing hemodialysis not only focuses on the patient but also implies how it affects the quality of life among caregivers. It is imperative to address the problems of caregivers who always care for these hemodialysis patients and should be considered to involve them in all the treatments for better patient care management.



# Stewardship of patient blood management in Shah Alam Hospital Malaysia: A cross-sectional study

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## ABSTRACT

**Introduction:** Patient Blood Management (PBM) programs provide optimal stewardship of limited blood resources using evidence-based practice by a multi-professional, multimodal, and individualized approach towards patient care (1-3). Shah Alam Hospital (HSAS) is a hospital under the directive of Ministry of Health was started in 2015 with a capacity of 450 beds. It is a district hospital with specialist services by providing services including general medicine and related specialties, general surgery, Obstetrics & Gynaecology (OBGYN), Paediatrics and others. Anaemia, including iron deficiency anaemia (IDA), and iron deficiency without anaemia are affecting the lives of billions of many otherwise relatively healthy people. It is estimated 1.95–2.36 billion people have been affected by anaemia and 1.24–1.46 billion are iron deficient (4-5). In surgical related, preoperative anaemia rates can reach 75% (6). Anaemia management as part of PBM strategies had been in place at HSAS by clinical champions. **Materials and Methods:** A cross-sectional analysis of data pertaining on Patient Blood Management in HSAS from 2019-2023. Descriptive analysis was carried out from gathered information. **Results:** Data gathered from full blood count (Hb<12.5g/dL) for 2023 has shown 51% of registered patients were anaemic with mean haemoglobin (Hb) of 10.1g/dL. Patients attended the clinic has higher haemoglobin (10.7 g/dL) compared to 9.6g/dL of admitted patients. Furthermore 646 (46%) out of 1859 full blood pictures (FBP) samples in 2023 were diagnosed with iron deficiency anaemia (IDA). Patients with IDA were treated either with oral iron or IV iron by general medical and obstetrics and gynaecology (OBGYN). There were increment in IV iron usage from 2019 to 2023. Erythropoietin was also prescribed for patient with chronic renal disease. Blood products request for patient's clinical used were reduced in 2023 compared to 2021 except for cryoprecipitate. **Conclusion:** Implementation of PBM is practically and evidently provide better point of care and safety measures towards patient's management. Expansion of PBM strategies in all clinical setting would give greater impact on patient care and cost effectiveness on health care systems.

# Relationship between high-risk behaviour and pre-exposure prophylaxis awareness among young adults in Alor Setar, Kedah

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## ABSTRACT

**Introduction:** This study examines the relationship between high-risk behaviours and Pre-Exposure Prophylaxis (PrEP) awareness among young adults in Alor Setar, Kedah. PrEP is a preventive measure against HIV infection, recommended for individuals at high risk of infection. Despite global efforts to promote PrEP, its awareness and adoption remain low in many regions, including Malaysia. **Material and Methods:** This cross-sectional study involved 141 participants aged 20-29, using a structured questionnaire to assess sociodemographic factors, risk behaviours, and awareness levels regarding PrEP. Pearson correlation and One Way ANOVA test were used to study the relationship between high-risk behaviours and awareness on PrEP. The findings revealed that 54.6% of participants engaged in high-risk behaviours, with a significant portion demonstrating good awareness of PrEP (58.9%). A statistically significant and moderate positive correlation ( $r = 0.50$ ,  $p < 0.001$ ) was found between high-risk behaviour and PrEP awareness, indicating that individuals engaging in higher-risk behaviours are prone to have a better understanding of PrEP. However, the study also identified gaps in awareness among those at lower risk, suggesting the need for more inclusive public health strategies. Additionally, there were no significant differences in PrEP awareness across different relationship statuses or gender identities. **Conclusion:** This research underscores the importance of broadening awareness campaigns to include both high and low-risk populations, thereby ensuring a more comprehensive approach to HIV prevention. The results highlight the need for tailored interventions that address the specific needs of various risk behaviour groups, ultimately contributing to better health outcomes within the community.

# Validation of antigen buffer detection (ABD pad) immucor Neo: comparison with tube method for ABO and rhesus grouping at Transfusion Medicine Unit, Department of Pathology, Hospital Shah Alam

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## ABSTRACT

**Introduction:** The ABO group and Rhesus typing is determined by testing the red cells with anti-A, Anti-B and Anti-D reagent (forward group). This is confirmed with the patient's serum using known A, B, and O cells (reverse group). The tests are interpreted based on antigen-antibody reaction by the presence of red cell agglutination. The resolution of this blood can be identified through various platform including slide, tube, column agglutination and automation. Determination of blood groups should be reported correctly and is crucial in transfusion medicine to ensure compatibility between the donor's and recipient's blood, preventing potentially life-threatening reactions. **Materials and Methods:** ABO blood grouping was performed from 100 blood donor segments preserved from SAG-M tube. ABD pad Immucor Neo, using the Micro Titre Plate (MTP) technique were compared with tube platform. The results interpreted immediately and documented. **Results:** Total of 101 blood donor segments performed and all were concordance. The results of ABD pad were faster (less than 30 seconds) and the findings were easily interpreted. The ABD pad is an advanced tool used for blood grouping, offering several advantages over traditional methods like the slide method. The key benefits of using an ABD pad for blood grouping includes provide more reliable and accurate results, reduced risk of cross-contamination, portable and convenient, would produce fast, easy and standardized approach to blood grouping and eventually produced clear and defined results. While the ABD pad offers several advantages for blood grouping, it also has some disadvantages and limitations including, cost where it generally more expensive and sensitivity to storage condition such as temperature and humidity control, to maintain their effectiveness. **Conclusion:** The validation of ABD pad in ABO and Rhesus blood grouping outcome shows good outcome results where the interpretations were faster and easily interpreted however cost effectiveness and storage would create limitation of usage.

# Mitigating suicidal ideation in tertiary education students: The strength of mental health and social support

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## ABSTRACT

**Introduction:** The alarming rise in suicide rates among young adults, particularly in Malaysia, highlights the critical need to understand the factors contributing to suicidal ideation. This study investigates both risk factors (depression, anxiety, stress and pessimism) and protective factors (optimism and social support) to elucidate their impact on suicidal thoughts among tertiary education students in Malaysia. **Materials and Methods:** A cross-sectional study was conducted using online surveys, involving 547 Malaysian tertiary education students aged 18-24 years ( $M = 21.23$ ,  $SD = 1.82$ ). Of the total sample, 280 (51.2%) participants reported no suicidal ideation, while 267 (48.8%) reported experiencing suicidal thoughts. **Results:** Using logistic regression, we found that students reporting suicidal ideation exhibited significantly higher levels of depressive symptoms, anxiety, and pessimism, coupled with lower levels of social support compared to their non-suicidal peers. Social support emerged as the most influential protective factor, while pessimism was the most significant risk factor. Surprisingly, stress and optimism did not significantly predict suicidal ideation in the regression analysis. **Conclusion:** Our findings highlight the crucial role of social support in safeguarding students' mental well-being and the detrimental impact of pessimism on suicidal ideation. The non-significance of stress and optimism suggests that interventions might be more effective when focused on enhancing social support networks and addressing pessimistic thought patterns, rather than solely targeting stress reduction or optimism enhancement. Educational institutions and mental health professionals should prioritize strategies that strengthen social connections and provide resources for managing depressive symptoms, anxiety, and pessimistic thinking. By concentrating on these key factors identified in the study, we can develop targeted and potentially more effective approaches to reduce the prevalence of suicidal ideation in tertiary education settings.

# Exploring barriers to continuation of smoking cessation clinic by registered clients and proposed mitigation strategies - A qualitative study in Pejabat Kesihatan Daerah Klang

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## ABSTRACT

**Introduction:** Introduction of Smoking Cessation (SC) programmes in health care centres are remarkable initiatives in addressing the unmet needs of *Berhenti Merokok* services. Despite proven benefits of SC in improving client's quality of life, issues such as non-adherence and poor SC therapy retention rates remained as perturbing "mysteries" at Klang primary health care settings. **Objective:** This study was designed in unearthing client's perception of SC programmes and in identifying a confluence of multi-dimensional barriers faced by SC clients leading to therapy defaults. **Materials and Methods:** Heuristic qualitative study using phenomenological approach. Participants were recruited through purposive and snowball sampling. Data was collected through audio taped, face to face in depth interviews (IDIs), using customised interview guides in adherence to the COREQ-32 item checklist. Study duration was between January 2024 - August 2024 at *Klinik Kesihatan (Bandar Botanik and Meru)* with existing SC program. Saturation of salient themes were achieved with 10 defaulted QSC clients and data was analysed under the six stages of thematic analysis. **Results:** 3 major themes and 13 sub themes significantly emerged as study findings. Initial theme on *T1: Perception towards Nicotine Replacement Therapy (NRT)* displayed mixed reviews, stating that NRT can cause addiction and duration of NRT treatment was insufficient. Second theme vis-à-vis *T2: Drivers to SC non-adherence* were associated with intrapersonal devoid in client's insights on NRT, worsened by the impact of tobacco addiction and lack of self-motivation as supported through the theory of planned behaviour. Gaps due to dysfunctional familial support and peer pressures were commonly reiterated. In terms of NRT, clients admitted that regimens were insufficient to curb their withdrawal symptoms and the choices of NRT are limited especially for high Fagerstrom smokers. Therefore, robust *T3: Mitigation Strategies to Improve SC programmes* were suggested in compliance with the social ecological model of nested intervention planning. **Conclusion:** SC services sustainability can be enhanced by improving client's NRT pharmacotherapy needs, enhanced social care through local initiatives e.g "Kempen Nafas Baru Ramadhan Klinik Kesihatan" and annual review of clinic policy and guidelines in SC services delivery

# Dose conversion ratio between Epoetin Beta (Recormon®) and methoxypolyethylene glycol-epoetin beta (Mircera®) among Malaysian peritoneal dialysis patients with anaemia

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## ABSTRACT

**Introduction:** Significant hemoglobin (Hb) variability has been observed among dialysis patients who were switched from epoetin beta (Recormon®) to methoxy polyethylene glycol-epoetin beta (Mircera®) by referring to manufacturer-recommended dose conversion. This study aims to determine the dose conversion ratio (DCR) between Recormon® and Mircera® in adult peritoneal dialysis (PD) patients. **Materials and Methods:** A prospective, single-arm study was conducted in Hospital Selayang between March 2022 and April 2024. Fifty-seven patients who received Recormon® with stable hemoglobin (Hb) levels were switched to Mircera® for 6 months, with dose adjusted to maintain Hb levels between 10–12 g/dL. Starting dose of Mircera® was 120 µg/month and 200 µg/month when previous weekly Recormon® was <8000 IU and 8000–16000 IU, respectively. The DCR was computed by dividing the baseline Recormon® dose (IU/week) by the Mircera® dose (µg/month) at month-6. **Results:** The baseline Recormon® dose was 4000 (IQR 4000) IU/week. Forty-six (80.7%) and 11 (19.3%) patients started Mircera® at 120 and 200 µg/month, respectively. The Hb at month-6 was 10.7±1.5 g/dL, which was significantly lower than the baseline Hb of 11.3±0.5 g/dL (95% confidence interval of Hb decline 0.12 to 0.89, P=0.01). Intra-patient Hb varied by 2.5±1.1 g/dL over the 6-month period. Twenty-seven (47.4%) and 32 (56.1%) patients had at least one Hb above 12 g/dL or below 10 g/dL, respectively upon switching to Mircera®. Forty-six (80.7%) patients required dose adjustment. At month-6, 8 (14.0%) patients had Hb above 12 g/dL and Mircera® was withheld. The median Mircera® dose at month-6 was 150 (IQR 100) µg/month. The median DCR of Recormon® to Mircera® was 33.3 (IQR 30.0). **Conclusion:** In PD patients, the DCR of Recormon® to Mircera® was 33.3. There was substantial Hb variability upon switching from Recormon® to Mircera® by referring to manufacturer-recommended dose conversion.

# Evaluation of efficacy and safety of Sofosbuvir and Daclatasvir with or without Ribavirin for the treatment of hepatitis C in Hospital Melaka

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## ABSTRACT

**Introduction:** The Sofosbuvir (SOF) and Daclatasvir (DCV) combination therapy (SOF/DCV) with or without ( $\pm$ ) Ribavirin (RBV) have shown efficacy in patients with chronic hepatitis C in clinical trials. However, clinical data comparing both regimens among the Malaysian population are sparse. **Materials and Methods:** Our objective is to explore the efficacy and safety of SOF/DCV compared to SOF/DCV/RBV in chronic Hepatitis C patients in Hospital Melaka. Our study method is a retrospective study conducted among hepatitis C patients within the Medication Therapy Adherence Clinic (MTAC) programme in Hospital Melaka. The inclusion criteria involved patients who received SOF/DCV  $\pm$  RBV regimens from 1st January 2020 until 31st December 2022. Sustained virological response (SVR) level was evaluated at week 12 post-treatment (SVR-12). Pre- and post-counselling assessments as well as adverse effects were also being reviewed and evaluated during the MTAC session. **Results:** A high overall SVR-12 rate of 97.8% was observed in this study. The comparison between SVR-12 rates in patients receiving SOF/DCV alone versus those receiving SOF/DCV/RBV suggests that the addition of Ribavirin may contribute to slightly higher treatment success rates (100% vs. 97.7%). However, the difference in SVR-12 rates between the two regimens is minimal. Approximately one-third (33%) of all patients had reported tolerable adverse effects, which were fatigue (11%), headache (5%) and dizziness (3%). An increase in mean knowledge scores post-MTAC session compared to pre-session scores was also observed (7.99 vs 6.76-point score). **Conclusions:** As a conclusion, these findings provide valuable real-world evidence supporting the efficacy and tolerability of SOF/DCV-based regimens in treating Hepatitis C, particularly when integrated with pharmacist-led MTAC programs.

# Exploring reasons for early drop-out within first year of peritoneal dialysis: What can we learn?

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## ABSTRACT

**Introduction:** Peritoneal dialysis (PD) is an effective home-based modality with survival rate comparable to hemodialysis. However, early drop-out within the first year of PD remains a significant challenge, impacting both patient outcome and healthcare resources. This study aims to explore the underlying reasons for early PD discontinuation at our center. **Materials and Methods:** This retrospective cohort study included all adult end stage kidney disease (ESKD) patients who started PD between April 2021 and March 2023 at Hospital Sultan Idris Shah, Serdang. Patients' demographics were reviewed and they were followed up at least one year. **Results:** A total of 223 patients were included in this study. The mean age was  $51.9 \pm 13.3$  years, with majority being male (56%), Malay (62.3%) and diabetic (72.2%). Diabetic kidney disease was the leading cause of ESKD (60.1%). Selfcare PD accounted for 60.1% of patients, while 39.9% received assisted PD. Fifty-six patients (25.1%) had early drop-out within first year of PD. The primary reasons for early drop-out were transfer to hemodialysis (HD) (51.8%), followed by death (48.2%). Among those transferred to HD, PD associated peritonitis was the major contributing factor (62.1%) followed by catheter dysfunction (27.6%), patient preference (6.9%) and membrane failure (3.4%). Among death, 37% were brought in dead to the emergency department with an undetermined cause, followed by non-PD related infection (29.6%) and cardiovascular disease (25.9%). **Conclusion:** Our study shows that PD-associated peritonitis and cardiovascular mortality are the primary reasons for early drop-out among newly initiated PD patients. This emphasizes the importance of continuous patient education, effective infection preventive strategies and early treatment in minimizing technique failure due to PD-related infections. Additionally, early cardiovascular risk assessment and interventions, along with a comprehensive approach targeting both traditional and non-traditional risk factors, are essential for reducing cardiovascular death among high-risk dialysis population.



# Rituximab therapy in glomerular diseases: The last straw?

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## ABSTRACT

**Introduction:** Rituximab, a B-cell-depleting chimeric monoclonal antibody, has seen increasing use in treating immune-mediated glomerular diseases, despite limited clinical evidence. This case series aims to evaluate the safety and efficacy of rituximab in adult glomerulonephritis (GN) cases. **Materials and Methods:** This case series included all adult GN patients who received rituximab between January 2019 and July 2024 at Hospital Sultan Idris Shah, Serdang. Rituximab therapy consisted of two 1g intravenous infusions administered two weeks apart. **Results:** A total of 8 patients were identified, of whom 5 (62.5%) had lupus nephritis (LN) and 3 (37.5%) had focal segmental glomerulosclerosis (FSGS). All LN patients were female, with a mean age of 26.6 years, a mean initial eGFR of 76.6 mL/min, and a mean urine protein creatinine index (UPCI) of 11.2 g/g. LN Class III+V and IV+V accounted for two patients each, with one patient having Class IV. Rituximab was administered to 4 LN patients after they failed to achieve remission with other induction therapies, while 1 patient received it due to recurring infections despite being on low-dose cyclophosphamide and MMF. Three LN patients (60%) achieved partial remission, while the others showed no response. Among FSGS patients, the majority (66.7%) were male, with a mean age of 51.3 years. Compared to LN patients, they had a lower mean initial eGFR (46 mL/min) and a higher mean UPCI (15.3 g/g). Rituximab was used as a last-resort treatment for resistant FSGS, but none responded to the therapy. Only one LN patient experienced an adverse event, which included pruritus and a presyncopal attack at the end of the infusion. **Conclusion:** Rituximab may provide some benefit for patients with refractory lupus nephritis, as partial remission was observed in 60% of LN patients. However, its effectiveness in resistant FSGS appears limited. The therapy was generally well tolerated.

# Factor affecting the cost of autologous stem cell transplant from government hospital prespective

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## ABSTRACT

**Introduction:** Autologous stem cell transplantation (ASCT) is an effective treatment modality for blood cancers. Despite being a potential curative option for blood cancers, the economic burden of ASCT in Malaysia is presumed to be high, contributing to limitation in the number of procedures offered. Studying the breakdown of cost involved is the primary step to determine expenditure reduction strategies. Hence, this study aimed to investigate the cost of ASCT procedure from the perspective of the Ministry of Health (MOH), Malaysia. **Materials and Methods:** A retrospective study was conducted in Ampang Hospital, which is the main centre for ASCT. Medical records were reviewed, and the cost of laboratory tests, chemotherapy regimen, medications, and hospitalization were determined. Labour costs were determined based on the lowest salary tier of physician, pharmacist and nurses. The total cost for ASCT and each component involved in ASCT were determined. **Results:** The mean of total cost of ASCT per patient was RM21,685 ± standard deviation, SD RM5,968. The highest mean expenditure in a ASCT procedure was for medication (RM15,730.20), contributing to 72.5% of the overall ASCT cost. This was followed by hospitalization (RM3,198.00), laboratory (RM1,406.30) and labour cost (RM1,351.90). Medication for complications such as oral mucositis ( $p=0.001$ ) and sepsis ( $p=0.012$ ) contributed to the highest cost. **Conclusion:** ASCT pose a significant cost to the treatment of blood cancers. The cost of medication was the highest contributor to the overall ASCT cost, emphasizing the importance of judicious use of medication. This data highlights potential areas for cost savings in ASCT from the MOH Malaysia perspective. One such area is the potential use of generic medication to reduce this costly, but potentially curative procedure, in order to benefit more patients. Furthermore, this study of economic burden in ASCT potentially provide policy makers with information on how to better strategize resource allocation.

# Characteristics and outcome of arteriovenous fistula creation in unplanned dialysis patients

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## ABSTRACT

**Introduction:** Arteriovenous fistula (AVF) is the gold standard for vascular access in hemodialysis (HD). However, in cases of unplanned dialysis, uncuffed internal jugular catheters (IJC) are often used as temporary measure. This study explores the patterns and outcomes of AVF creation among patients who underwent unplanned dialysis at our center. **Materials and Methods:** We performed a retrospective cohort study of patients who undergoing unplanned dialysis through uncuffed IJC, chose HD as their long-term kidney replacement therapy at HSIS Serdang between January 2022 and December 2022. Data were collected through EHIS over one-year period and analyzed using SPSS Statistics 26.0. **Results:** The study comprised 87 patients with the mean age of  $53 \pm 13.4$  years. Of these, 60 patients (69%) underwent AVF creation, including brachiocephalic fistulas (36%), radiocephalic fistulas (29%), and brachiobasilic fistulas (4%). The mean duration from referral to AVF creation was  $48 \pm 46$  days. The in-house vascular team performed 41 procedures (68%), with a waiting period of  $63 \pm 53$  days. The outsourcing program handled 13 cases (22%), achieving a mean waiting time of  $20 \pm 7$  days, while private centers managed 6 cases (10%) with a waiting period of  $39 \pm 15$  days. Notably, 27 patients (31%) did not have AVF creation; 21% experienced mortality and 9% were deemed unsuitable due to vessel conditions. The overall success rate for AVF creation was 56%, with the highest success rate observed in the outsourcing program. 3% of patients had second AVF creation within a year. **Conclusion:** Despite AVF being the preferred vascular access for HD, many patients with unplanned dialysis started HD through uncuffed IJC before AVF could be created. Addressing this issue involves increasing public awareness of chronic kidney disease and implementing early kidney life plan discussions. Expanding AVF outsourcing programs also shows potential in improving creation rates and outcomes.

# Prevalence of fine motor delay among children below 5 years old in Malaysia: A population-based study

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## ABSTRACT

Children's overall growth and daily functioning rely heavily on fine motor skills. Delays in fine motor skills can influence academic achievement and daily activities. However, there is minimal data on the prevalence of fine motor delays, particularly in Malaysia. This study aims to determine the prevalence of fine motor delay among children below 5 years old in Malaysia. A cross-sectional study was conducted using data from the National Health and Morbidity Survey 2022: Maternal and Child Health, Malaysia. A total of 15 238 children aged 6-59 months were assessed through face-to-face interviews for sociodemographic profiles and were evaluated by trained nurses using the Denver Development Screening Chart. Those who did not fulfill the expected fine motor development milestones were categorised as having fine motor delays. Data were analysed using a complex sample analysis Chi-square test. A p-value of <0.05 was considered statistically significant for categorical data comparison. The overall prevalence of fine motor delay among children below 5 years old was 1.9% (95% CI: 1.6, 2.3). By sociodemographic profiles, children with fine motor delays were found to be significantly higher in Wilayah Persekutuan Kuala Lumpur & Putrajaya (4.5%; 95% CI: 2.8, 7.4,  $p<0.001$ ) and among boys (2.2%; 95% CI: 1.8, 2.8,  $p=0.019$ ). However, no significant difference was found in the variable's rural areas, other ethnicity, permanent residents/non-citizens, and the T20 household income group. The findings emphasize the necessity of routine developmental screenings for fine motor delays in early childhood. The prevalence in this study is relatively low but still notable. Certain demographics appear to influence the likelihood of fine motor delays, underscoring the importance of early identification and targeted interventions. Further research is recommended to explore causative factors and develop effective strategies to support children at risk of fine motor delays.

# Profiling debt and economic burden among immigrant inpatient at Hospital Kajang: A retrospective study focus on optimising healthcare financing policy and sustainability in Malaysia

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## ABSTRACT

**Introduction:** The 2014 to 2018 MOH report a rise in immigrant patient debt, from RM16 to RM49 million. The debts are mainly due to UNHCR patients being covered 50%, and SPIKPA exclusions include undocumented workers, domestic workers, pregnant mothers, and cases of suicide or self-harm. **Objectives:** To analyze the profiling of immigrant inpatients with debt to billing at Hospital Kajang. **Materials and Methods:** Retrospective data from patient notes (1 January 2022 to 31 December 2023) were analyzed using SPSS v2022. **Results:** Debt-incurring immigrant patients were 35% Myanmar, 27% Indonesia, 14% India, and 12% Bangladesh ( $p<0.05$ ). The average age was 25 years old (0-95 years old), showing a significant correlation between older age and total debt ( $p<0.05$ ). The average hospital stay was 4 days, with a maximum of 298 days in pediatrics, ( $p<0.05$ ). Departmental distribution included: General Medicine 36%, Pediatrics 24%, Obstetrics 22%, Surgery 12%, Orthopedics 4%, and Psychiatry 1%. From obstetric admissions, 22% were pregnant, averaging RM4,574 in total debt ( $p<0.05$ ). An analysis of 5,740 immigrant inpatients, 17% ( $n=963$ ) were under SPIKPA, 16% ( $n=894$ ) under UNHCR, with 67% documented without insurance coverage and undocumented. Total hospital debt for immigrant patients was RM7,336,678, including RM212,380 (3%) exceeding UNHCR coverage and RM791,905 (11%) exceeding SPIKPA coverage, with RM6,332,393 attributed to uncovered documented and undocumented immigrants. Among these, 9% needed lifesaving admissions without deposits, requiring Appendix A forms. 53% were discharged with guarantor forms (Appendix F), contributing RM396,005 to total debt ( $p<0.05$ ). The average out-of-pocket payment was RM1,300, with a maximum RM737,024. Additionally, 38 patients had tuberculosis, and 114 were undergoing dialysis. **Conclusion:** The majority of immigrant inpatients were from Myanmar and Indonesia, with one-third requiring care from medical department, while a quarter needing obstetric and pediatric care, and over half being undocumented or documented without coverage.

# Assessing the impact of obesity on survival and outcomes in patients initiating unplanned dialysis

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## ABSTRACT

**Introduction:** Observational studies have shown obesity improved survival in end-stage kidney disease (ESKD) population, known as the obesity paradox. The relevance of this paradox in patients undergoing unplanned dialysis is unclear. This study aims to investigate outcomes for obese patients who had unplanned dialysis start. **Materials and Methods:** We performed a retrospective cohort study on patients who initiated hemodialysis (HD) via uncuffed internal jugular catheters (IJC) and chose HD as their long-term therapy at HSIS Serdang from January 2022 to December 2022. Data were collected through EHIS and followed up for one year. SPSS Statistics 26.0 was used for analysis. Obesity was defined as body mass index (BMI) > 25 kg/m<sup>2</sup> according to Asia Pacific guidelines. **Results:** The study comprised 87 patients with a mean age of 53 ± 13.4 years. Among them, 50 patients (57.4%) were classified as obese, with a median BMI of 29.9 ± 5.2, compared to 21.4 ± 2.5 in non-obese patients. There was no significant difference in the number of attempts to secure IJC between the groups. The rate of catheter related bloodstream infections (CRBSIs) was higher in the obese group (28%) than in the non-obese group (19%). Arteriovenous fistula (AVF) success rates were slightly higher in the non-obese group (60%) compared to the obese group (56%). Mortality rates were slightly higher in the obese group (34%) compared to the non-obese group (27%). However, these differences were not statistically significant. **Conclusion:** Our study found no significant differences in survival or other outcomes between obese and non-obese patients undergoing unplanned dialysis. Plausible explanations attributed to small sample size and potential confounding factors like volume overload, anemia, and uremic toxicity which could have more substantial impact on mortality. Further research with larger cohorts is needed to better understand the complex relationship between obesity and outcomes in this population.

# Factors associated with the practice of breast self-examination among women in Malaysia: The National Health and Morbidity Survey 2023

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## ABSTRACT

**Introduction:** In 2017-2021, breast cancer was the most common cancer among women with 17.6% of all cancers in Malaysia. Despite the benefits of early detection, which has contributed to saving lives, there is a lack of national data on breast self-examination (BSE) practice in Malaysia. This study aimed to determine the prevalence of BSE and its associated factors among women aged 40 years and above in Malaysia in 2023. **Materials and Methods:** This is a cross-sectional nationwide study with multistage stratified random sampling. Face-to-face interview was conducted using the pre-tested structured questionnaire with 3,610 respondents. Data was analyzed using complex sample analysis for the Chi-squared test and multivariable logistic regression analysis to identify significant association factors with p-value <0.05. **Results:** The overall prevalence of BSE among women aged 40 years and above in Malaysia was 55.5% (95% CI: 53.1, 57.9). Prevalence of BSE was significantly higher among younger women (40-59 years old), urban dwellers, Indian ethnicity, married, private employee, T20 income, physically active, overweight, with history of breast cancer and ever done mammogram. BSE was significantly associated with women who ever had a mammogram (aOR: 3.90, 95% CI: 3.01, 5.06), Indian (aOR: 2.31, 95% CI: 1.18, 4.53) and higher education level (aOR: 2.07, 95% CI: 1.36, 3.15). In addition, age, physical activity, and marital status were significant factors to perform BSE, that is aged 40-59 years old, being physically active, and currently married (aOR: 1.59, 1.35, and 1.34, respectively). **Conclusion:** The overall prevalence shown that not all women practices BSE as early detection of cancer. However, these findings provide information on BSE practice nationwide and may guide the planning of specific screening interventions and strategies in Malaysia. Increasing knowledge and awareness can help women to change their lifestyles and actively practice breast cancer screening with proper techniques, especially among older women and those with lower education.

# Philadelphia chromosome-like B-cell Acute Lymphoblastic Leukaemia in adults: A single centre experience

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## ABSTRACT

**Introduction:** Acute Lymphoblastic Leukaemia (ALL) is an aggressive form of haematological malignancy. Unlike B-ALL in children where cure rate is around 80-90% via intensive chemotherapy, adults with B-ALL suffer from relapse with poor overall survival in up to 40% of patients. In order to effectively risk-stratify patients for prognostication, all adult ALL patients were screened for the presence of the recurrent translocation known as Philadelphia (Ph) chromosome where targeted therapy is administered in combination with chemotherapy to improve their outcome. However, this strategy does not account for the poor outcomes seen in Ph-negative ALL patients. Within Ph-negative patients is a newly identified high-risk entity called Ph-like B-ALL. To date, there are no studies actively investigating the genomic landscape of Ph-like B-ALL in the Malaysian population. The genomics of Ph-like B-ALL is largely unknown with a significant lack in information on the human transcriptome related to its overall risk and prognosis. There is a need to improve our understanding of the biology of this disease in order to support or recommend any management options. Hence, for this study, we aimed to determine the molecular landscape in adult Ph-like B-ALL patients and to determine the known reported genetic variants in the CRLF2, ABL1-class and JAK2 genes in adult Ph-negative B-ALL patients using sanger sequencing. **Materials and Methods:** A preliminary analysis of 46 diagnostic samples of Ph-negative B-ALL using multiplex PCR of the common genetic aberrations involving the CRLF2, ABL1 and JAK2 rearrangements were performed. **Results:** Three patients (3/46) expressed the CRLF2 rearrangements. These 3 samples were further analysed by PCR/gel purification and Sanger sequencing for confirmation. **Conclusion:** Findings from this research would be the foundation towards the development of a customised mutational analysis panel to be used at diagnosis.



# Knowledge, attitude and practice of critical nurses towards prevention of medical device – related pressure injury in a tertiary hospital: A cross-sectional study

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## ABSTRACT

**Introduction:** Medical device-related pressure injury (MDRPI) is a significant concern in critical care due to increased use of life-support devices. MDRPI proven to cause patient discomfort, prolonged hospital stays, and increased healthcare costs. Critical care nurses are crucial in preventing MDRPI through effective care practices. Understanding their knowledge, attitude, and practice (KAP) towards MDRPI prevention is essential to improving patient outcomes. Aim: To determine the level of knowledge, attitude and practice of critical care nurses and its associations towards prevention of MDRPI. **Materials and Methods:** Descriptive cross-sectional design with universal sampling method was employed. Self-administered MDRPI-KAPQ and MDRPI-KQ questionnaires were used. A total of 231 critical care nurses from adult, paediatric and neonatal critical settings in a tertiary hospital participated in the study. **Results:** The overall mean scores of knowledge and practice were unsatisfactory, 22.79 (3.14), 58.26 (10.55) respectively, with satisfactory attitude mean scores 42.08 (3.98). There was a positive significant association between attitude and gender, age group, level of education ( $p < .05$ ) and post basic ( $p < .001$ ). A positive significant relationship was found between knowledge and attitude, attitude and practice ( $p < .001$ ), knowledge and practice ( $p < .05$ ). While holding other variables constant, attitude was a significant predictor for practice; accounted 28.8% of the variance in practice. For every 1-unit increase in the attitude score, the practice score is expected to increase by 1.377 units ( $t = 8.599$ ,  $p < .001$ ). **Conclusion:** The findings emphasize the need for targeted interventions to improve nurses' attitudes toward MDRPI prevention. While knowledge is fundamental, changing perceptions and attitudes could lead to more consistent preventive practices. Further research could explore additional factors, such as organizational culture, workload, and leadership, which might account for the remaining unexplained variance in nurses' practice behaviors.

# Urgent haemodialysis patients at a tertiary center: Clinical profile and prognosis

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## ABSTRACT

**Introduction:** Patients with end-stage kidney disease (ESKD) who present acutely and require urgent haemodialysis (HD) through uncuffed internal jugular catheters (IJC) are often referred to as "crashlanders." This group faces high morbidity and mortality rates. Our study aims to explore the clinical features and outcomes of crashlanders at our institution. **Materials and Methods:** We conducted a retrospective cohort study of crashlanders admitted to HSIS Serdang from January 2022 to December 2022. Data was gathered from the EHIS system and followed up for one year. Analysis was performed using SPSS Statistics 26.0. **Results:** Our cohort included 87 patients with a mean age of  $53 \pm 13.4$  years; 57% were male and 70% were Malay. Predominant comorbidities were hypertension (91%), diabetes mellitus (76%), ischaemic heart disease (26%), and stroke (13%). The majority (83%) had right-sided uncuffed IJC placements. Over the one-year follow-up, 38% of patients required multiple catheter insertions. Within a year, 69% had an arteriovenous fistula (AVF) created, with a success rate of 56%. Only 18 patients (21%) had cuffed catheter insertion over a year. Catheter-related bloodstream infections (CRBSI) occurred in 24% of patients, with 5% experiencing multiple episodes. There were 27 deaths (31%), primarily due to cardiovascular causes (16%), infections (9%), and ESKD (6%). **Conclusion:** Crashlanders experience significant challenges, with high rates of morbidity and mortality. Our findings indicate that a quarter of patients suffered from CRBSI and one-third died within a year. Contributing factors include a high prevalence of diabetes mellitus, the catastrophic presentation to healthcare facilities, prolonged use of uncuffed catheters, and a low rate of pre-dialysis AVF creation. These results highlight the critical need for timely kidney replacement therapy planning and early referral for vascular access in managing ESKD.

# Audit on receiving of enteral nutrition product within 24 hours of dietitians' prescription among patients in Hospital Sultan Idris Shah, Serdang

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## ABSTRACT

**Introduction:** Dietitians prescribe ENP to ensure that patients with malnutrition receive sufficient nutrients to improve their clinical status during hospital stays. Nutrition support therapy should be initiated within 24 hours hospitalisation. Provision of nutritional supplements to malnourished patients reduces complications such as infections and wound breakdown by 70% and mortality by 40%. A quality improvement study has been conducted to develop strategies on achieving high standard of at least 90% patients receive the ENP within 24 hours of dietitians' prescription. Related standard of procedure on ENP delivery has been updated to ensure sustainable achievement. **Materials and Methods:** A cross-sectional study has been conducted every year for the period of one to two months to audit the receiving of ENP are within 24 hours of dietitian prescription. Using universal purposive sampling, the sample size was varying between 133 to 253 from the year of 2019 to 2023 including all patients who has been prescribed with ENP within the study period. We exclude patient who refused or discharge within 24 hours of the prescription. Data has been collected through a validated audit form and has been analysed using MS Excel. **Results:** The results show an excellent achievement with the percentage of 97.48%, 97.65%, 99.22%, 100.00% and 98.26% for the year of 2019 to 2023 respectively. The standard was increased from 90% to 95% in 2021. The reason of patient did not receive the ENP within the stipulated time period were product not being served and the ENP not being collected from department counter. **Conclusion:** Nutrition support therapy should be initiated within 24-48 hours following hospitalization in patients who are unable to maintain oral nutritional intake. This audit shows we achieve the standard for five consecutive years. Cooperation and spirit of teamwork among multidisciplinary staff nurturing good working culture to improve healthcare service.

# Correlation of serum tumor necrosis factor-alpha (TNF- $\alpha$ ) with autoantibodies and disease activity in rheumatoid arthritis patients: Data from the Malaysian Rheumatoid Arthritis Disease Progression (myRAPID) study (2005-2021)

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## ABSTRACT

**Introduction:** TNF- $\alpha$  is a major inflammatory cytokine involved in the pathogenesis of Rheumatoid Arthritis (RA). In this study, we measured the serum TNF- $\alpha$  level and investigated its correlation with disease activity and autoantibodies in RA patients who had been undergoing treatment with various combination of Disease-Modifying Anti-Rheumatic Drug (DMARD). **Materials and Methods:** A total of 398 RA patients from the Malaysian Epidemiological Investigation of Rheumatoid Arthritis (MyEIRA) case-control study (2005-2009) were recruited for a follow-up assessment after an average of 12 years. Serum levels of anti-cyclic citrullinated peptide 2 (anti-CCP2), rheumatoid factor (RF) isotypes, C-reactive protein (CRP), and TNF- $\alpha$  were measured using commercial ELISA kits. The 28-joint disease activity score (DAS28) were assessed while the relationship between TNF- $\alpha$  level, DAS28-CRP, as well as RF and anti-CCP2 autoantibodies were evaluated. **Results:** A total of 282 (70.85%) patients were positive for anti-CCP2, while 241 (60.55%), 192 (48.24%), and 285 (71.61%) patients were positive for RF IgA, RF IgG, and RF IgM respectively. There were statistically significant positive correlations between serum levels of TNF- $\alpha$  and all four autoantibodies namely anti-CCP2 ( $r=0.1259$ ,  $p<0.05$ ), RF IgA ( $r=0.2028$ ,  $p<0.0001$ ), RF IgG ( $r=0.1946$ ,  $p<0.0001$ ), and RF IgM ( $r=0.1484$ ,  $p<0.05$ ). The serum TNF- $\alpha$  level in RF IgA, IgG and IgM positive patients were significantly higher when compared to RF negative patients. Out of the 398 RA patients, 192 (48.24%) patients have achieved remission while 81 (20.35%), 114 (28.64%), and 11 (2.76%) patients have low, moderate, and high disease activity respectively. There was no significant difference in the serum TNF- $\alpha$  level in the different disease activity category and no significant correlation between serum TNF- $\alpha$  level and DAS28-CRP. **Conclusion:** Our findings showed that the serum TNF- $\alpha$  level significantly correlates with autoantibodies, particularly with RF IgA/IgG/IgM, with higher TNF- $\alpha$  level in seropositive patients, but does not have any correlation with disease activity.

# Clinical predictors model as practical alternative to international IgA nephropathy risk prediction tool in estimating renal end points of patients with IgA nephropathy

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## ABSTRACT

**Introduction:** IgA nephropathy (IgAN) is the most common glomerular disease globally. The IgAN heterogeneity presents significant challenges in predicting disease progression and its management. The International IgA Nephropathy Risk Prediction Tool (IIgAN-RPT) was created to estimate the risk of disease progression. However, its reliance on histological features limits its practicality. This study evaluates the effectiveness of clinical predictors compared to the IIgAN-RPT. **Materials and Methods:** This retrospective study included all patients with biopsy proven IgAN from January 2008 to May 2019 in Hospital Sultan Idris Shah, Serdang. Patients with kidney failure and lost follow-up were excluded. The primary outcome was 50% reduction in eGFR or kidney failure. We used discrimination and calibration as principles method to evaluate the IIgAN-RPT model and compared it with clinical model includes age, proteinuria, eGFR at diagnosis and mean arterial pressure (MAP). **Results:** Seventy patients were analysed over a median follow-up period of 5 years. The cohort was predominantly female (65.7%) with a mean age of 32 years, a median eGFR of 76 ml/min/1.73m<sup>2</sup> (IQR: 41–109), and a median UPCI of 2.65 g/day (IQR: 1.7–5.7). The median 5-year IIgAN-RPT risk score was 23.1% (IQR: 11.3–53.5), with 38.6% reaching the primary outcome. The IIgAN-RPT demonstrated reasonable discrimination with an AUC of 0.893 (p<0.05; CI: 0.819–0.968) but tended to underestimate progression risk. In contrast, the clinical predictor model exhibited superior discrimination with an AUC of 0.952 (p<0.05; CI: 0.905–0.999). **Conclusion:** Our study has demonstrated comparable predictive utility between IIgAN-RPT and clinical predictors (eGFR at diagnosis, MAP, age and proteinuria). Although IIgAN-RPT is a widely validated tool in predicting IgAN disease progression, their value for everyday clinical practice is limited. Ideally, prediction tools should consist clinically practical markers that readily accessible, easy to interpret, and suitable for routine clinical practice.

# Reducing blood gas test wastage in Department of Emergency and Trauma at Hospital Selayang

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## ABSTRACT

**Introduction:** There was high amount of blood gas test wastage in the Emergency Department due to sample clotting resulting in delay in patient management, wastage of resources and increase in cost. The aim of the study was to reduce the total number of blood gas test wastage. **Materials and Methods:** The study measured the percentage of blood gas test wastage by calculating the total number of blood gas test wastage in a cartridge over the total number of blood gas test per cartridge. Standard used was 15% and below based on an interdepartmental meeting between Emergency and Pathology Department. A prospective cross-sectional study was conducted from 1st March 2022 until 31st March 2023. Data was extracted from cartridge replacement audit book and vendor blood gas machine log. Data analysis was done using Microsoft Excel. Pre-intervention, blood gas test wastage was 57%. **Results:** Main contributing factors were improper sampling technique, improper sample storage, lack of standardised training on sampling and poor staff attitude in not evaluating sample quality and sharing of personal identification number among staff. Multiple strategies for change were implemented including training via continuous medical education, distribution of video on blood gas handling, staff adherence to a standard operating procedure and establishment of a standardised protocol for blood gas sampling. Refresher training, competency assessment, show cause letter, temporary freezing and auto-termination of accounts were also undertaken. The achievable benefit not achieved (ABNA) was narrowed down from 42% to 1% during the end of first cycle. There was slight increase at the end of second cycle to 10%. Subsequently, at the end of cycles three and four, blood gas test wastage fell to 0% which was ideal. **Conclusion:** Continued structured monitoring and evaluation including regular interval training and audits are essential to ensure high compliance among staff to maintain wastage of blood gas test at a minimal.

# Ocular manifestations of syphilis and visual outcome after treatment: A 7-year single site review

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## ABSTRACT

**Introduction:** To review the incidence ocular manifestations, demographic, comorbidities and visual outcomes of ocular syphilis. **Materials and Methods:** Retrospective review of medical records of patients treated for ocular syphilis in Hospital Shah Alam from 1st January 2017 till 31st December 2023. **Results:** A total of 20 patient, involving 36 eyes were diagnosed with ocular syphilis. Mean age was  $32.2 \pm 8.154$ . Only two patients were female (10%). 15 patients (75.5%) had HIV co-infection, in which 11 patients (55.5%) were newly diagnosed. The ocular manifestations include panuveitis (21 eyes, 58.3%), posterior uveitis (8 eyes, 22.2%), intermediate uveitis (5 eyes, 13.9%), and interstitial keratitis (2 eyes, 5.6%). None were a recurrent episode. One patient refused treatment while patients 17 patients were treated with IV Benzylpenicillin 4MU 4 hourly for 14 days, and 2 other with IV ceftriaxone 2g OD for 14 days. Seven eyes presented with vision of 3/60 or worse, in which three eyes improved to 6/12 or better after treatment. No eyes had vision 3/60 or worse after treatment. **Conclusion:** Panuveitis is most common manifestation in ocular syphilis. And HIV coinfection is not uncommon. Visual prognosis with treatment is good despite poor presenting visual acuity.

# The association of the use of chem-sex, adherence of antiretroviral therapy and lost-to-follow-up among people with HIV

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## ABSTRACT

**Introduction:** Chem-sex, defined as the use of substances to enhance sexual activities, has emerged as a growing concern in HIV treatment owing to its potential effects on adherence to antiretroviral medication (ART). Engaging in chem-sex can lead to poor ART adherence and increase the risk of lost-to-follow-up (LTFU), both of which are critical for sustaining viral suppression. This study aims to determine the association between chem-sex and its impact on ART adherence, as well as the risk of LTFU among people living with HIV (PLHIV). **Materials and Methods:** A multicentre, retrospective cohort study was conducted at Hospital Sungai Buloh, Selangor and Hospital Tuanku Ja'afar Seremban, Negeri Sembilan. Data were collected from patients' medical records from 2010 to 2023. Bivariable logistic regression was employed to assess the association between the use of chem-sex and its effects on ART adherence and LTFU. Multivariable logistic regression to identify factors associated with the use of chem-sex in PLHIV. **Results:** Of the 355 PLHIV patients recruited, 54 (15.20%) were involved in chem-sex. 159 (44.80%) PLHIV were non-adherence to ART medications. 69 (19.40%) PLHIV had a history of LTFU. The most common drug used in chem-sex was methamphetamine (n = 35, 64.81%), followed by ketamine (n = 17, 31.48%). The use of chem-sex was significantly associated with ART non-adherence (OR = 1.99, p = 0.02) and increased risk of LTFU (OR = 3.03, p = <0.001). The factors associated with the use of chem-sex in PLHIV were smoking, sexually transmitted infections and history of missed appointments. **Conclusion:** The involvement in chem-sex significantly compromised adherence to ART and contributed to a loss of follow-up in HIV care. This is a critical and alarming HIV issue that demands attention and intervention. Healthcare professionals should deliver awareness and health education when providing HIV care.



# Prevalence of posterior polar cataract and its complication in Hospital Selayang: A 9-year-study

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## ABSTRACT

**Introduction:** Posterior polar cataracts (PPCs) are an uncommon form of cataract with specific morphological features, characterized by circular onion ring or rosette-shaped lens opacities that involve the posterior capsule. Moreover, PPCs are notably thin and fragile, which increases the risk of posterior capsule rupture (PCR). PPC prevalence has been reported as 0.3% to 2%. The delicate nature of the thin posterior capsule demands careful surgical handling. Therefore, no specific surgical approach guarantees an uneventful procedure. Studies have reported intraoperative complication rates of PCR as high as 40%. Additionally, approximately 10.5% of PPC cases experience intraoperative nucleus drop (ND), with a 20-fold higher risk compared to other cataracts. **Objective:** To report the prevalence of polar cataract and intraoperative complications in Hospital Selayang between 2015 to 2023. **Materials and Methods:** Retrospective observational using data extracted from National Eye Database (NED) cataract registry, using keyword “Polar” and “polar cataract” from year 2015 to 2023 in Hospital Selayang. Data analysis was performed using Microsoft Excel. **Results:** Within a 9 years period, only 14 out of 9352 eyes (0.2%) was diagnosed with PPC. Among these cases, 6 eyes experienced PCR (42.8%), and 1 eye (7.1%) required vitreoretinal (VR) intervention due to nucleus drop. Of the 14 eyes, 9 underwent primary intraocular lens implantation (10 with posterior chamber intraocular lenses and 1 with an anterior chamber lens), while 3 eyes remained aphakic. **Conclusion:** Our study revealed a 0.2% incidence of polar cataracts, consistent with other studies. Despite advancements in surgical techniques, PCR remains nearly inevitable in PPC cases, as our findings align with those of other studies. However, with effective intraoperative management and the use of new techniques, the risk of complications such as nucleus drop can be minimized, making it safe to remove PPC without ND.

# Revisiting Herpes Zoster Ophthalmicus: A case series in Hospital Tuanku Ja'afar, Seremban

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## ABSTRACT

**Introduction:** Herpes zoster ophthalmicus (HZO) usually occurs decades after the first insult due to some triggering factors. It typically affects the dermatome respecting ophthalmic division of the trigeminal nerve (V1) and may be associated with keratouveitis. Variation in presentation may require multidisciplinary management. **Materials and Methods:** Medical records of four patients with HZO were reviewed retrospectively. We describe a series of four HZO cases with variable presentation encountered in Hospital Tuanku Ja'afar Seremban. There were three males and one female, age ranging between forty-one to seventy-one years old. The risk factors among these patients were advanced age, long-term use of immunosuppressants, and uncontrolled diabetes mellitus. **Results:** All four patients presented with facial pain and rash in the V1 dermatome, with one patient having an exaggerated rash extending into the maxillary dermatome (V2). Three patients with severe illness required inpatient care while the other patient had frequent follow-ups at the outpatient clinic. Meningitis was diagnosed in one elderly patient with ophthalmoplegia and positive culture of VZV from lumbar puncture, requiring long-term inpatient care and intravenous antiviral treatment. One of the patients developed recurrent keratouveitis and poor healing corneal ulcer. Treatment for him was challenging as the history of immunosuppressant use was initially missed. Extensive rash in V1 and V2 dermatomes was seen in another patient who was buying steroids over-the-counter for gouty arthritis. HZO complicated with severe preseptal cellulitis was seen in one patient who has uncontrolled diabetes. All four patients recovered from their illness, some taking a longer course of healing. **Conclusion:** In our study, the risk factors were advanced age and immunosuppression secondary to medication or uncontrolled diabetes. Clinicians should maintain a high index of suspicion to look for predisposing factors in cases of HZO especially those with atypical presentation. This may prevent sinister complications and aid in early recovery.

# Adult intussusception: Case series

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## ABSTRACT

**Introduction:** Adult intussusception is a rare condition that accounts for less than 5% of all cases, with most cases having an identifiable pathological lead point. Common predisposing factors for adult intussusception include adhesions, benign or malignant lesions, and inflammatory conditions like Crohn's disease. **Case Report:** We present a case series of adult intussusception of 3 different patients with 3 different locations which were diagnosed with multidetector CT. A 70-year-old lady with 3 months history of abdominal pain and chronic constipation. CT abdomen showed long segment ileo-colic intussusception with caecal tumour. 27-year-old male with acute abdominal pain associated with vomiting and epigastric tenderness on palpation. Imaging showed enteroenteric intussusception causing mild small bowel obstruction. Seventy-three-year-old man with loose stool, haematochezia and significant weight loss. Per abdomen reveals infraumbilical mass. Ultrasound showed suprapubic bowel-related mass with sonographic features of intussusception which confirmed by CT to be sigmoid bowel mass causing colo-colic intussusception. Two patients had bowel and tumour resection, one succumbed without operation. **Discussion:** Patients often presents with nonspecific symptoms such as abdominal pain, nausea, vomiting, diarrhoea, and rectal bleeding. However, clinical presentation can vary, and some patients may remain asymptomatic or present with atypical symptoms. High index of suspicion is required to diagnose adult intussusception promptly. Diagnostic modalities are crucial in confirming the diagnosis of adult intussusception. Imaging studies, particularly computed tomography (CT) scans, play a central role in identifying the site and cause of intussusception. Treatment strategies depend on various factors, including the underlying cause, presence of complications and patient's overall health status. A study found that length of intussusception greater than 3.5 cm predicted persistence and the need for surgery. **Conclusion:** Imaging plays a vital role in the timely diagnosis of adult intussusception. Multidetector CT has been shown to be valuable in diagnosing intussusception with lead points<sup>3</sup>. Surgical resection is often recommended for adult intussusception, especially when a pathological lead point is identified.

# The first case report of passenger lymphocyte syndrome following minor ABO-incompatible liver transplant in Hospital Selayang

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## ABSTRACT

**Introduction:** Passenger Lymphocytes Syndrome (PLS) is a form of graft-versus-host disease that can be seen in minor ABO-incompatible stem cell or solid organ transplantation. **Case Report:** A 39-year-old man with liver cirrhosis due to alcohol-related liver disease underwent a cadaveric liver transplant. The patient is blood group A positive, while the donor is O positive. Pre-transplantation, his haemoglobin was 11.7 g/dL. One-week post-transplant, his haemoglobin dropped from 8.7 g/dL (post-transplant) to 7.3 g/dL. Two weeks post-transplant, it dropped further to 4.2 g/dL, with a reticulocyte count of 6.6%. Total bilirubin increased from 100µmol/L (pre-transplant) to 608µmol/L (Indirect bilirubin 462µmol/L). A peripheral blood film showed acute hemolysis with spherocytes and polychromasia. A blood group test revealed unexpected Anti-A in the reverse grouping, which was negative during pre-transplant testing. The direct Coombs test was positive (IgG 2+), and the indirect Coombs test was negative. Anti-A was eluted with an Anti-A IgG titer of 1:32 and an IgM titer of 1:4. The crossmatch was incompatible with group A donors but compatible with group O donors. A diagnosis of PLS was made and the patient was managed conservatively. He was discharged after 22 days with a haemoglobin level of 7.3 g/dL. **Conclusion:** PLS occurs when the viable donor B-lymphocytes from the allograft produce antibodies against the recipient's red blood cells causing immune haemolysis. PLS is generally mild and self-limiting, but in rare cases, it can result in acute renal failure, disseminated intravascular coagulation, hypotension, and multiorgan failure. There is no specific treatment for PLS, but management generally involves transfusion of blood products and immunosuppressive therapy.