

# Introducing a Collection of Reviews on Major Diseases in Malaysia

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This collection of reviews of major diseases in Malaysia was initiated by the National Clinical Research Centre (NCRC) of the Ministry of Health (MOH). The aim was to examine what has been published on diseases that contribute most to disease burden in Malaysia, to highlight research findings that have significant clinical implication and to identify research gap. The Malaysian Burden of Disease Study<sup>1</sup> published in 2004 by Institute of Public Health, MOH showed that, for cause-specific mortality, cardiovascular deaths (36%), consisting mainly of ischaemic heart disease and strokes, is the leading cause of deaths in Malaysia, followed by infectious diseases, chiefly septicaemia (12%), cancers (11%) and unintentional injury, contributed mainly by road accidents and falls (Table I).

When seen in the light of years lost to life (YLL), the same four categories still contributed most to Malaysia's disease burden, albeit their relative weight changes slightly. Unintentional violent deaths rose to become the second highest condition for YLL after cardiovascular diseases<sup>1</sup> (Table II).

A third view of disease burden is from the perspective of years lived with disability (YLDs). Data collected in the year 2000 showed that mental disorders assumed a greater weight and became the leading cause contributing to most YLDs<sup>1</sup> (Table III).

The top five disease groups, based on their contribution to disease burden in YLL and YLDs, namely cardiovascular disease, infection, cancers, mental disorders and intentional and unintentional injury were selected for review.

The purpose of this review project is, firstly to compile essential findings from published articles from both published and unpublished clinical research on Malaysian data, to see what research findings can be translated into clinical practice and to identify research gap. It is hoped clinicians will translate important findings that are relevant to clinical practice. In addition we hope policy makers, health educators and public health officers will take note of findings that need action to prevent disease occurrence and improve standard of care. Secondly, these reviews will not only show what has been done but reveal gaps and unfinished research that may give investigators, such as postgraduate master and PhD students, research ideas to pursue. Individual papers are often like pieces of a jigsaw puzzle. A review will hopefully put the pieces together in a more coherent picture. Too often published work ends up lost on some shelf back in a library, or in the web-world today, lost in some unsearchable corner.

The structure and topics for reviews previously published in the book entitled 'A Review of Diseases in Malaysia' published in

2001<sup>2</sup> was used as a model for these reviews. This book which compiled reviews of articles published up to the year 2000 on all diseases in Malaysia is a reference for medical professionals for knowledge on diseases specific to Malaysia. This supplement contains reviews that carry forward from the year 2000. The major diseases in the top five disease groups were selected for review. The details of the method of literature search for these reviews are described in the following article in this supplement entitled. 'Bibliography of clinical research in Malaysia: methods and brief results'.

With the exponential growth of publications on diseases in Malaysia, numbering over 38,000 till date, the work of reviewing the literature is clearly beyond the capability of one person or even a few to do. Subject matter experts (SME) were sought and invited to participate in this task. We targeted clinicians and researchers who have experience and have published papers in the selected disease areas. They were requested to write a review on articles extracted from a bibliography prepared by Prof. Teng Cheong Lieng. We have, in this supplementary issue of journal 11 review articles on cancer (3 articles), infectious diseases (5 articles) and mental health (3 articles). In addition, we have the privilege of including a relevant update on Nipah encephalitis written by Tan Chong Tin and Sherrini Bazir Ahmad, not specifically written for this series.

Several findings from the reviews are worth highlighting here. In breast cancer, Malaysian women were found to have poor knowledge on risk factors, symptoms and early detection of breast cancer. That leads to late presentation, which carries a poorer prognosis. Public health education on screening methods such as breast self-examination (BSE), clinical breast examination (CBE) and screening mammography are important preventive measures that are not adequately exploited. For colorectal cancer, studies also revealed poor awareness of symptoms; risk factors and available measures for early detection of colorectal cancer among Malaysians compared to developed countries. Malaysians also perceive colorectal cancer as not such a severe disease compared to the population in our neighbouring countries. The late presentation and poorer prognosis for colorectal cancer adds up to over 1,000 lives lost annually. For cervical cancer, the mortality rate in Malaysia was more than twice as high as in developed countries. There is a need to examine why cervical cancer, potentially preventable and with good chances of early detection is still high in prevalence and mortality. There is lack of outcome research in cancer treatment. Research is needed to look into reasons for non-compliance to cancer treatment and delay in seeking treatment which currently has a big negative impact on prognosis of cancer.

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**Table I: Cause-specific Mortality in Malaysia 2000**

	Total Deaths	%	Males	Females	M:F
Cardiovascular	39,812	36	21,705	18,107	1.2
Infectious Diseases (excludes respiratory infection)	13,607	12.3	7,657	5,832	1.31
Cancers	12,216	11.1	6,729	5,487	1.22
Unintentional injury	10,799	9.8	8,532	2,267	3.76
Respiratory diseases	8,882	8	5,532	3,350	1.65
Respiratory Infections	5,684	5.1	3,162	2,522	1.25
Digestive (includes oral)	5,335	4.8	3,343	1,956	1.71
Urogenital	3,421	3.1	1,781	1,640	1.09
Perinatal	2,575	2.3	1,441	1,134	1.27
Diabetes	2,261	2	857	1,404	0.61
Intentional injury	2,210	2	1,603	607	2.64
Congenital Abnormalities	1,545	1.4	840	705	1.19
Neurological	877	0.8	507	370	1.37
Mental Disorders	367	0.3	311	56	5.55
Skin	344	0.3	171	173	0.99
Maternal	231	0.2	-	231	--
Musculoskeletal	177	0.2	55	122	0.45
Nutritional	88	0.07	42	46	0.91
Sense Organs	13		6	7	
<b>Total</b>	<b>110,442</b>		<b>64,552</b>	<b>45,889</b>	<b>1.41</b>

**Table II: Year of Life Lost (YLL) by Selected\* Diseases in Malaysia in 2000**

	Total(years)	%	%YLL: %Overall Deaths
Cardiovascular	497,668	28	0.77
Unintentional Violence	236,668	13.3	1.34
Infectious Diseases (excludes respiratory diseases )	222,833	12.5	1.01
Cancers	178,441	10	0.9
Respiratory	163,936	9.2	1.15
Respiratory Infections	77,646	4.4	0.86
Perinatal	77,303	4.4	1.91
Digestive	78,267	4.4	0.92
Urogenital	49,355	2.8	0.9
Intentional Violence	46,324	2.6	1.3
Congenital Abnormalities	45,407	2.5	1.79
Diabetes	31,069	1.7	0.85
Maternal	6,051	0.3	1.5
<b>Total</b>	<b>1,710,968</b>	<b>96.1</b>	<b>1</b>

\*some categories with small numbers are excluded

**Table III: Cause-specific Years Lived with Disability in Malaysia 2000**

Condition	Total(years)	%
Mental Disorders	235,787	21.2
Sense Organs	159,500	14.3
Respiratory	90,292	8.1
Musculoskeletal	78,577	7.1
Diabetes	72,381	6.5
Cardiovascular	62,303	5.6
Neurological	54,398	4.9
Respiratory Infections	51,948	4.7
Congenital Abnormalities	46,566	4.2
Nutritional	42,801	3.9
Digestive (includes oral)	42,620	3.8
Perinatal	40,756	3.7
Infectious Diseases (excludes respiratory)	39,188	3.5
Unintentional injury	35,803	3.2
Skin	18,009	1.6
Blood	14,535	1.3
Urogenital	14,038	1.3
Cancers	7,783	0.7
Maternal	2,484	0.2
Intentional injury	1,003	0.09
<b>Total</b>	<b>1,110,772</b>	<b>99.89</b>

The review of HIV/AIDS noted that although in the early years, the disease was mostly confined within the circle of injecting drug users (IDU); it has since spread to every stratum of society. In 2010, 40% of new reported HIV cases were from heterosexual transmission, a dramatic increase from 27% in 2009. Data on management of HIV-HBV and HIV-HCV co-infections is lacking. There is also a need for more research on children living with HIV, on marginalized-at-risk-populations (MARPs) such as transgenders, migrant workers and refugees. For tuberculosis (TB), studies showed a higher incidence of TB among patients with diabetes mellitus, smokers, HIV and immunosuppressed patients, health care workers and intravenous drug users. Screening of TB is currently conducted primarily on healthcare workers, TB contacts, prisoners and foreign workers. As the number of TB cases in the country has increased, concern has been raised concerning screening and treating latent TB among high risk groups within the population. As for malaria, the epidemiology of malaria has undergone significant change over the last decade, with *P. knowlesi*, a previously relatively unknown simian parasite rapidly becoming the most predominant malaria species that infect humans in Malaysia, especially in Sabah and Sarawak. The reasons for dramatic shifts from *P. falciparum* to *P. knowlesi* infection in some localities in Malaysia remain to be elucidated. Collaboration between clinical, entomological, laboratory, public health and social science disciplines and agencies need to be strengthened.

For mental health research, understanding the pathway an individual with schizophrenia takes to receive health care is important in order to reduce the duration of untreated illness. Depression is one of the common mental disorders worldwide and has become a leading cause of morbidity in Malaysia over the past decades. There is a lack of research in depression among men in Malaysia. Research on depression was using screening tools based on western cultures. There is a need to develop local screening tools based on our diverse culture and language and these tools need to be validated before being used in research or in clinical setting. We also need research on access to care and unmet needs in the care for people with depression. On drug abuse, secondary data analysis on data collected by the National Drug Agency is needed so as to demonstrate trend on type of drugs used by abusers in Malaysia and to demonstrate the change from opioids to recreational drugs.

While reviewing the bibliography of published articles as well as unpublished grey literature, the authors expressed concern on the significant number of unpublished research projects by Malaysian investigators, especially dissertations and thesis by local postgraduate and PhD students. Concerted effort among university supervisors and MOH specialists is needed in helping postgraduate master students to do better quality research so that their research findings can be published. One such effort is identifying research gaps and listing research ideas in this supplement. There is a section on future research in the respective diseases that postgraduate students and subspecialty trainees can.

While doing the review, we observed that there has been significant duplication of research ideas and lack of collaboration between the Ministry of Health and medical universities. Barriers in inter-sectorial research collaboration need to be overcome and duplication of research minimised. We also propose that future research in all disease areas should focus on treatment outcome, including patient reported outcome and cost effectiveness of management and prognosis of disease, as well as basic science research in genetics of diseases.

In conclusion, clinical research has been made a national agenda as is mentioned in the 10th and 11th Malaysian Plan and also one of the 17 entry point's projects in the Healthcare National Key Economic Area in the Economic Transformation Program. Therefore to set strategic direction for clinical research is timely and important in order to achieve the country's goal of Vision 2020, towards a high income country. We hope this supplement issue of 10 review articles on major diseases in Malaysia will contribute towards this effort. Though we understand this is certainly an unfinished work as there remain many other diseases to be reviewed. We hope others will join in the endeavour to publish review articles so future researchers can benefit from them.

## REFERENCES

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