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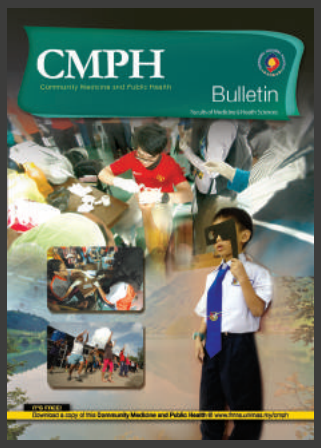
# CONTENT







Knowledge Saves': A Health Intervention Programme For the Iban Community of Philip Kayak Longhouse
pg. 15

Teaching Ethics to Medical Students at UNIMAS
pg. 24

# IS ZIKA A THREAT TO MANKIND?

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Mosquitoes spread many disease-causing viruses and parasites between people and other animals, including viral infections such as dengue, chikungunya and now Zika. It is important for us to have the exact knowledge on the distribution of *Aedes aegypti* on the global scale as the spread of this mosquito to different continents is fuelled by the increase in global trade and travel.

It is seen that *Aedes* has spread extensively on all continents, including North America, Europe and Asia. Speaking about Zika, almost 3 to 4 million people are at risk in the past 9 months, and 23 countries have reported these cases and more than 4,000 babies are born with microcephaly (CDC, 2015). These disturbing statements have shaken the public health authorities and have forced all government agencies to strengthen their disease surveillance to curb this potential global pandemic. The race is on to stop this deadly VIRUS.

In any potential outbreak, WHO (2016) plays a significant role in calling the shots. Such a declaration of "Emergency" would trigger urgent mobilization of resources, scientific research, and vaccine development that could stop a deadly outbreak in a more efficient and less bureaucratic way.

Zika was discovered in Uganda in 1947 by a group of scientists from the Rockefeller Foundation. They experimented on Asian lab monkeys and American research mice. It was seen that the mice experienced milder form of the disease then due to sylvatic transmission (David, 2008). "Sylvatic" means "occurring in or affecting wild animals." The sylvatic cycle is the fraction of the pathogen population's lifespan spent cycling between wild animals and vectors. Humans are usually an incidental or dead-end host, infected by a vector. In other words, human are the unlucky ones. Scientist proved that Zika was carried by *Aedes africanus* mosquito in the African continent for millenniums and now it shows that people are acquiring infection from two other *Aedes* mosquito species; *aegypti* and *albopictus* which are now spreading Zika all over South America, constantly moving from one species to another (Johan, 1994).

Based on Laurie Garrette's write up; in 2014, chikungunya was found in Africa and Southeast Asia but by the summer of 2015, the U.S. Centres for Disease Control and Prevention identified human cases of the mosquito-carried disease all over the Americas. Within two years, chikungunya has gone from a tropical disease to a global phenomenon, infecting new animals, mosquitoes, and human beings. It seems like the culprits are evolving tremendously. In 1993, Chinese study suggested that *Culex* mosquitoes could spread dengue viruses as well while researchers in Senegal captured 13 mosquito species in West Africa, and found Zika viruses in 10 of them, including African forms of *Aedes* and *Culex*. Further work in Senegal showed that an extensive list of viruses including dengue, yellow fever, Zika, and chikungunya infected African monkeys, as well as multiple species of mosquitoes, shifting from sylvatic cycles. It is clear now that these viruses mutate dramatically and move on from species to primates and even to humans.

Regarding the clinical manifestations of Zika, the first confirmed Zika case was reported in May 2015 by the Pan American Health Organization (PAHO) in Brazil. The outbreak in Brazil led to reports of Guillain-Barré syndrome and pregnant women giving birth to babies with birth defects and poor pregnancy outcomes that shocked the entire nation. It was also reported that the most common

symptoms of Zika virus disease are closely related to fever, rash, joint pain, and conjunctivitis (red eyes). The illness can last from several days to a week.

Countries that are currently affected are: Barbados, Bolivia, Brazil, Colombia, Dominican Republic, Ecuador, El Salvador, French Guiana, Guadeloupe, Guatemala, Guyana, Haiti, Honduras, Martinique, Mexico, Panama, Paraguay, Puerto Rico, Saint Martin, Suriname, S. Virgin Islands, Venezuela, Samoa and Cape Verde.

Zika is primarily transmitted through the bite of an infected *Aedes* species mosquito. These are the same mosquitoes that spread dengue and chikungunya. These mosquitoes usually lay eggs in standing water such as buckets, flower pots and vases. There are also aggressive biters, preferred biting time are during the day and usually live indoors and outdoors near people in urban and suburban areas. Only one in four people develop symptoms and the onset of the disease is usually 2 – 7 days after being bitten by *Aedes Aegypti*

It is also said that Zika virus could be passed from mother to fetus during pregnancy. This mode of transmission is being investigated and scientist still prefers to use the word "associated" rather than "Causative-Effect". It is also important to understand that till today, there are no scientific reports to suggest that Zika virus passes through breastfeeding. However, the spread of this virus through blood transfusion and sexual contact have been reported. In terms of laboratory findings, Zika can only be detected in human blood during the first five days of infection and by the time individuals seek help the virus is usually undetectable. A longer-term assay, which tests for the presence of antibodies to Zika, is considered weak and it cross-reacts with dengue and chikungunya, rendering it useless in the context of concurrent spread of all three viruses.

There are no vaccines to prevent Zika virus till today. The prevention method lies on individual similarly to dengue. Stop dengue and you can stop Zika.

**THE BASIC PRINCIPLES ARE THE SAME:**

1. **Eliminate breeding sites**
2. **Cover all household water tanks**
3. **Dispose rubbish into sealed bags**
4. **Keep drains clear**
5. **Wear long sleeves in outbreaks areas**
6. **Use certified insect repellents**
7. **Take charge of your family's health.**

**Keep in mind that the Ministry of Health and scientists all around the world are working hard to curb this issue since not enough is known about Zika in order to definitively answer all the relevant questions. There are still many uncertainties about Zika, for instant the highly debatable issue of whether Zika directly causes microcephaly to infected mothers and so on.**

**Why are the health authorities unsure about Zika and microcephaly when the community needs an answer fast? According to one of Laurie Garrette's write up, the WHO is cautious in using the term "Causes" microcephaly. So why is the WHO so careful about these terms? Well here are some sets of examples from Laurie Garette. Let's take dengue as an example, there are four types of dengue virus, and the severity of dengue varies from mild aches all the way to an Ebola-like hemorrhagic death. Scientists have been studying this for years in order to pinpoint which dengue strain causes which symptom and only now it is known that the worst outcomes arise when an individual is infected sequentially (re-infected) with different strains and not necessarily a single dengue strain. This is the reason why the WHO is carefully referring to the cases as "association" between microcephaly and Zika not cause and effect until further investigations.**

**The fight against Zika Virus is a long-haul battle. They will mutate, hide and infect. They have no mercy. Zika will continue to haunt and endanger our future generations if no action is taken aggressively.**

References:


- CDC Atlanta (2015): http://www.cdc.gov/zika/prevention/index.html
- David L. Heymann (2008). Control of Communicable Diseases Manual
- WHO (2016). Foreign Policy. Retrieve from:
- http://foreignpolicy.com/2016/01/28/the-zika-virus-isnt-just-an-epidemic-its-here-to-stay-world-health-organization/
- Johan Giesecke (1994). Modern Infectious Disease Epidemiology. Second Edition.

# Cost Effectiveness Analysis in Public Health

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*Public health help develop and implement the program and policies for improving the health of population. But before these policies can be implemented, we need to make sure that these have the potential for better results – improving population health. One way to ensure efficient results and minimize risk is to carry out the economic evaluation exercise for the policies and program before implementation. Economic evaluation methods are developed to help inform the public health professionals about the difficult choices by simultaneously considering costs and consequences of program, interventions and policies. There are various methods available for carrying out this economic evaluation, and every type of economic evaluation seeks to simultaneously estimate the tradeoff associated with cost and effect (benefits). In this article, we only discuss the Cost Effectiveness Analysis in detail.*

As public health practitioners, we are concerned with improving and maintaining the health of entire population. For that purpose, the public health professionals are continuously developing and implementing public health programs, interventions and policies. Throughout the history public health efforts has been directed to control transmissible disease, reduction of environmental hazards and provision of safe drinking water. All that has resulted in the increase in the life expectancy, and decrease in the disease burden. Public health policies and programs like more accessible health services, prevention of occupational and environmental hazards and fostering healthier behaviours has contributed to that success. Evidence has shown the importance the population based measures on increasing the life expectancy, and it is stated that the major portion of the increase in the life expectancy can be attributed to public health measures such as better nutrition, sanitations, and safer housing.

As public health practitioners care about improving the health of the entire population, so they try to maximize desired health outcomes of society. But why should they care about economic evaluation in public health? All public health programs, policies, and interventions have costs or financial investments (implications), and the reality is the resources in society are limited and they can be used for many different alternative purposes. Decision makers and practitioners need information about the cost of potential strategies as well as their benefits to ensure that good value is obtained for the resources invested in such strategies.

Another way to say this is that we should care about returns on society's investments in public health. Economic evaluation methods provide a systematic way to identify, measure, value, and compare the costs and consequences of various programs, policies, or interventions in public health environments. Economic evaluation methods are developed to help inform the public health professionals about the difficult choices by simultaneously considering costs and consequences of program, interventions and policies.

**Types of Economic Evaluations**

Literature describe four main types of economic evaluations in the healthcare. The economic evaluation we use depends on who makes the decision about which intervention to use.

Types of economic evaluations include (1);
Cost Minimization Analysis

1. Cost Effectiveness Analysis
2. Cost Utility Analysis
3. Cost Benefit Analysis

Every type of economic evaluation seeks to simultaneously estimate the tradeoff associated with cost and effect (benefits). In economic evaluations costs in a common format, these techniques differ in the way they approach benefits. The four types of economic evaluations are summarized in the following table.

| Type of Analysis | Cost | Consequences | Results |
|---|---|---|---|
| Cost Minimization Analysis | Money | Identical in all respect | Least cost alternative |
| Cost Effectiveness Analysis | Money | Different magnitude of a common ***measure*** e.g., LY's gained, blood pressure reduction. | Cost per unit of consequence e.g.. cost per LY gained |
| Cost Utility Analysis | Money | Single or multiple effects not necessarily common. ***Valued*** as "utility" e.g. QALY | Cost per unit of consequence e.g.. cost per QALY. |
| Cost Benefit Analysis | Money | As for CUA but ***valued*** in money. | Net Monetary ($)<br><br>cost: benefit ratio. |

In public health economic evaluation, costs are determined by a method called "cost analysis." Cost analysis should be the starting point and forms the basis of all public health economic evaluation. Cost analysis is the systematic collection, categorization, and analysis of the costs of a program or disease. In public health, "costs" is usually determined from the perspective of society though there exist other perspectives such as patient's, providers, and purchasers.

**Cost Effectiveness Analysis (CEA)**

As with any other economic analysis, the cost-effectiveness analysis compares an intervention's costs to its outcomes. The costs are measured in the monetary terms (using RM or $) whereas the outcomes are expressed in natural health units, such as the number of cardiovascular disease cases prevented or the number of lives saved. The CEA summarizes all program costs into one number, and all program benefits (the effectiveness) into a second number, and it prescribes rules for making decisions based on the relation between the two. The method is particularly useful in the analysis of preventive health programs, because it provides a mechanism for comparing efforts addressed to different diseases and populations.

To assess the cost-effectiveness of a new intervention, it must be compared to at least one other intervention. Typically, the new intervention under study is compared to the commonly accepted intervention and two estimations must be made: the extra cost (ΔC) and the extra effect (ΔE) of the new treatment.

When comparing two treatments, four possibilities exist for the intervention under study: these include;

1. The treatment can be more expensive and more effective,
2. More expensive and less effective,
3. Less expensive and less effective, and
4. Less expensive and more effective

This is shown in the following Figure 1.

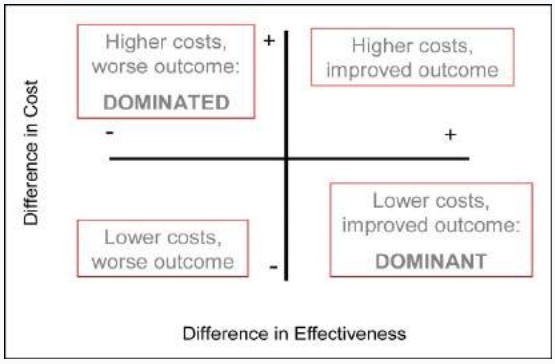


Figure 1: Cost Effectiveness result interpretation.

Treatments that fall into the second category are said to be dominated by the other alternatives because one would not be willing to pay more for less benefit. Treatments that fall into the last category are considered dominant and offer health gains at a lower cost.

Where CEA is most useful, however, is when considering the treatments that fall into the other two categories: more expensive but more effective and less expensive but less effective. CEA helps with this decision by estimating the additional cost per one unit of additional gain. The extra cost per extra unit of effectiveness (ΔC/ΔE) represents the incremental cost-effectiveness ratio (ICER) for strategy A compared to B.

This is shown in the following equation.

$$ICER = \frac{Cost\,(A) - Cost\,(B)}{Effect\,(A) - Effect\,(B)} = \frac{\Delta C}{\Delta E}$$

ICERs can be compared with those of other interventions or with a threshold value representing what is considered cost-effective. There is no 'magic' cut-off number that establishes whether or not an intervention is 'cost-effective'. Threshold values are frequently debated and do not represent widely accepted standards. The decision to label a treatment as cost-effective depends on the amount the payer is willing to pay for an extra unit of outcome. It depends on what is termed as the decision maker's 'ceiling ratio'. The ceiling ratio can be inferred from the amount that decision-makers are

willing to pay. In other words, "willingness to pay is in the wallet of the beholder."

To decide about which option to pursue, decision rules are developed. For CEA these are:

- If ICER of the program ≤ ceiling ratio → adopt the program
- If ICER of the program > ceiling ratio → do not adopt the program

Additional information can be generated through sensitivity analysis, where the inputs for the analysis are changed to assess their impact on the final estimate. Sensitivity analysis is used to demonstrate the confidence that can be placed in the calculated ICER.

**Steps in Cost Effectiveness Analysis**

There are five major steps in the formulation of cost-effectiveness analysis. These include;

**STEP 1.** Define the program to be analyzed. The program to be analyzed can then be described by answering the six questions which include; who, what, when, where, why, and how.

**STEP 2.** Compute the net monetary cost for prevention and treatment of illness under the proposed program compared with the cost of the other program or status quo in absence of other program. Generally, costs are computed from a societal perspective, that is, the value of all societal resources used in the program are counted as costs, regardless of who pays for them. It is often convenient to compute costs on a per participant basis.

**STEP 3.** Compute the health effects or benefits. The cost effectiveness analysis permits the use of any commensurate measure of benefits for e.g. lives saved, complications averted, or cases of illness prevented. A more general and sometimes preferable measure is the additional healthy year of life, also known as the quality adjusted life year, or QALY.

**STEP 4.** Apply a decision rule based on the net costs and net health effects. The rule must be selected from among the four cases, as described earlier and shown in the figure.

**Step 5.** The final step in a cost effectiveness analysis is to perform a sensitivity analysis. Many of the procedures required to estimate costs and benefits require estimates of data and preferences that are not known with certainty. The sensitivity analysis is the process of deliberately varying these uncertain factors to examine their effect on the decision rule.

**Conclusion**

It is the unfortunate reality that resources in health care are limited and decisions must be made regarding allocation. CEA is an important tool for decision-makers in all areas of the health care system to utilize when attempting to maximize these resources at a population level. CEA studies are useful for policy makers, administrators, and clinical practitioners involved in allocating resources across programs for groups of patients. Value for money considerations are crucial in health care given that resources are not reusable. Well-informed decisions regarding resource allocation can help us provide better care for both individual patients and the population as a whole.

**References:**

Jeffrey S Hoch, MA, PhD, Carolyn S Dewa, MPH, PhD An Introduction to Economic Evaluation: What's in a Name? The Canadian Journal of Psychiatry. Vol 50, No 3, March 2005

P. Musgrove and J. Fox-Rushby, 2006. "Cost-Effectiveness Analysis for Priority Setting," in Disease Control Priorities in Developing Countries, 2nd edition,ed. D.T. Jamison et al: 276.

Hoch JS, Dewa CS. A Clinician's Guide to Correct Cost-Effectiveness Analysis: Think Incremental Not Average. The Canadian Journal of Psychiatry. 2008;53(4):267-74.

# Teaching Ethics to Medical Students at UNIMAS

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*The article is a description of teaching medical ethics to undergraduate at the Universiti Malaysia Sarawak (UNIMAS). A short explanation of ethics and medical ethics is made before focusing on the undergraduate teaching. The faculty of Medicine and Health Sciences, UNIMAS follows an integrated curricular and the teaching is divided into two phases, the pre-clinical phase and the clinical phase. The teaching of medical ethics starts right from the first year in the pre-clinical year. As students move to clinical years more ethical issues and subjects are discussed to get them ready to face the community as an independent practitioner. It is hoped that professionalism ethical principles are imbibed strongly when students graduated from the faculty.*

The Faculty of Medicine and Health Sciences, UNIMAS mission states that it is committed to be an exemplary educational centre which will not only educate and train men and women to care for the health needs of the individual and community, but will also inspire them to do this with dedication and compassion, and will imbue in them a spirit of enquiry, integrity, creativity and courage (Medical Handbook, 2012). As such the educational programme gives emphasis to the total development of highly competent professionals who will be an integral part of the community and sensitive to its needs. They will be imbued with high morals and ethical values as well as aesthetic sensibility.

The medical profession is no doubt a noble profession. It has to abide by the code of conduct and medical ethics so that the practice falls into what is regarded as acceptable. The main objective of the lesson is to help medical students clarify his thoughts in analyzing a problem from the perspective of moral right and wrong. It thus assists him to pave the way in rational decision making for the good of individual and community under their care.

Ethics is a complex subject but taught in an integrative manner. A few lectures serve as introduction to the concept and meaning of ethics. The question asked of them in the beginning is to explain what they understand by the word ethics. Most response are that ethics is the principle and decision of carrying an action rightly or wrongly.

What is Ethics? Ethics comes from the Latin word *"mores"* meaning moral. In the Greek language, the word *"ethikos"* means, character, manners and morals (Kassim, 2007). Collins Dictionary and Thesaurus explain that ethics are moral belief about right and wrong. Legally speaking it is a branch of philosophy that defines what is good for a person and for society. Moral is used to describe character, behavior and belief of a person whereas ethics is decision making guided by morality and how to act as a professional. Ethics has developed as a code of conduct especially for professionals. Every profession has their own ethical principles to accept. For example, lawyers, nurses, engineers, dentists, pharmacists, and counselors have their own professional codes of conduct.

**Medical ethics**

Medical ethics is the application of ethics in the medical profession. It is the study of moral values and judgment as they applied to medicine. Is the study of ethics alien to medical students? Malaysian school curriculum includes "Pelajaran Ugama" or religious knowledge for Muslim students and moral study for non-Muslim students. These subjects are compulsory at the lower secondary school level. Hence the basic principles in moral are already taught formally in schools. Moral upbringing is a way of life in most homes starting from the very young who are taught about caring and respect for one another, to their teachers, neighbors, the invalid persons, the orphans and others. Religious teaching brings in the spiritual aspects of moral values.

**Teaching medical ethics**

Why is it necessary then to teach ethics to medical students? The ethics and moral values they learn in school are not adequate to make them face the world of the sick and infirm in the medical profession. Medicine as a service can be taught by teaching them clinical medicine through textbook reading, research, bedside teaching and other modes of teaching. However, the package is not complete without these being imbibed with moral values and ethical consideration. Thus, students are taught to

deal with human being in a more humane way. Moral values as guiding principles in medical ethics are often repeatedly emphasized.

Making decisions in clinical practice can be a complex issue. It is not just to be based on textbook prescribed manner of judgment. It should neither be based purely on previously observed practices or practices handed down by consultant to medical officers. A clinician has to bear in mind the person (patient) opinion, request, and needs before making a final decision. Thus, students are directed to focus on a few accepted common ethical values which help to guide them in making moral decision (Kassim 2007, Kadir 2008). These are:

*Autonomy* – this principle focus on a person right to make decision. This person must think rationally and decision is free from deceit, constraints and not forced or coerced on him. He then decides on the decision and take consequences thereof. In public health, a physician is often faced with a dilemma of protecting an individual right against the right of a group of people in the community. An example is when a person cites his right to refuse immunization against an infectious disease during an outbreak.

*Beneficence* - this is the positive duty of a doctor to perform good actions, kindness and assist others in live. Doctors are to serve in the best interest of his patient. In public health, this include his actions to promote healthy living in the community, remove or minimize hazards and menace which can lead to disease states.

*Non-maleficence* - "First do no harm". Students are taught to hold to this belief and action always. There is an obligation not to inflict harm to a person intentionally. This action must be balanced by the principle of beneficence in that the risk of management of a patient outweigh the benefits that ensure.

*Social Justice* - this principle focus on fair distribution of resources in treatment of a person, in delivering of services especially when faced with limited resources. Doctors are often faced with a difficult dilemma in emergency treatment where triaging system is often adopted. Making the health system fair is a basis for social justice.

*Dignity* - this principle is to upkeep the dignity of a patient in his choice of management. Similarly, the dignity of the practicing team in the decision making has to be considered and respected.

*Truthfulness and Honesty* - this principle focus on the importance of doctor-patient relationship. There must be mutual trust between the patient and doctors such that the treatment decision can be arrived at appropriately and correctly and that the patient will receive the benefits of the action.

The Malaysian Medical Association added two more values to the above and these are Confidentiality and Communication (Malaysian Medical Association, 2007).

*Confidentiality* – this is the patient-doctor privilege. Ethical considerations prevent doctors to disclose their discussion with patients. It is challenged in cases of sexually transmitted disease when the doctor need to disclose the diagnosis to the patient's spouse for disease control. It is also challenged in instances where health insurance and third party payers require total declaration of confidential health history and illnesses.

*Communication* – communication breakdowns between patients and health care team and providers, between patients and families and between professional members must be remedied to solve ethics problems.

**When does teaching moral values and ethics begin in the programme?**

The teaching comes in various forms during the first year of the medical programme.; sStudents are taught soft skills lessons and practicum which gives emphasis on communication principle, communicating with the sick, communicating with children, differences in cultural practices and others. Making decision, dress code for medical students, and image building are also discussed and practiced.

Within the third month of the course students are taken to rural villages (kampongs) as "adopted children" to the kampong families. There they learn to communicate with rural villagers and learn their culture and way of life. This is through the Family Health course. This exposure hopefully helps them in decision-making with the background of patients coming from various cultures and areas to their place of practices in the future. More ethics lessons are taught as they move to upper classes in preclinical years. The subsequent three years are spent in the clinical departments of hospitals and clinics. At the beginning of the third year more lessons on ethics are taught as they are introduced to clinical practices. Here the emphasis is given on the six ethical values or ethical principles, illustrated with ample examples of real clinical cases and anecdotes. Students are again taught acceptable communication technique, bedside manners, and dress codes. Emphasis is also given to confidentiality, the principles of obtaining several types of consents, the need for chaperon, keeping case notes, records and reports, disclosure of information, working as a team, consultancy, breaking negative news and others.

**More lessons as they move to upper classes**

Additional subjects discussed included abortion, euthanasia, brain death, organ transplantation, aesthetic medicine, assisted reproductive technology, dealing with children, geriatric patients and others. The Medical Act and Regulations, code of professional conduct is again emphasized during the final year. Students are introduced to terms like infamous conduct giving common pitfalls and mistakes made by doctors and how discipline are meted in these cases (Medical Act 1971,

Medical Regulations 1974, Malaysian Medical Council documents on Code of Conduct 1986, Confidentiality 2002001, Good Medical Practices 2001). References are also made to the Prevention and Control of Infectious Diseases Act 1988 in relation to confidentiality and the requirement of the law to notify cases, the dilemma faced by doctors in decision making either to disregard ethics when compelled by laws and vice versa.

**The benefits**

The teaching in the classroom is practiced in the clinical areas where students have the clinic and ward doctors to mentor upon. Quick quiz is usually given at the end of lessons only to gauge whether students have understood the lessons given. Questions in the form of Multiple Choice Questions and Best Answer Questions are set for the final exit examination. In the clinical examinations marks are also awarded for good approach to patient examination, in front of both internal and external examiners.

Regretfully there is no chance to witness complaint cases brought for investigation by the Malaysian Medical Council as the faculty is too far away from the Council office and in all cases reports are always confidential in nature thus making it impractical to observe any live proceeding. However, abstracts of case reports by the Malaysian Medical Association are available for reference. The true impact of the lessons could only be seen when the students have started practicing. It is hope that lessons in medical ethics benefit the students and guide them in their practice for the good of the individual patient and the community they serve in.

**References**

Abdul Hamid Abdul Kadir-Medical Ethics, Etiquette and Law, University Malaya Press 2008

"Amalan Perubatan Yang Baik" (Good Medical Practice) document of the Malaysian Medical Council, 2001

Code of Professional Conduct, document of the Malaysian Medical Council, adopted on 9 Dec 1986

The Prevention and Control of Infectious Disease Act 1988.

"Kerahsiaan" (Confidentiality), document of the Malaysian Medical Council, 2001.

Medical Handbook 2012/2013, Faculty of Medicine University of Malaysia Sarawak

Puteri Naemi J Kasim - Laws and Ethics relating to Medical Profession, International Law Book Series, 2007

The Malaysian Medical Act 1971

The Malaysia Medical Regulations 1974

# Pattern of internet use and medico-social and behavioural problems associated with its use among university students

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**Abstract**
*The Internet has become the most popular medium utilised by the adults, children and adolescents. It enriches the lives by providing entertainment, information, social networking, gaming and to connect peoples all over the world. However, problematic usage leads to negative consequences. Considering this view, a study was conducted among the university students to assess the pattern of problems associated with internet use. A total of 463 students from Universiti Malaysia Sarawak (UNIMAS) participated in this study. The students were selected by systematic random sampling. Data was collected using structured self-administered questionnaire. Data entry and analysis was done by IBM SPSS version 22.0. Analysis revealed that 15.3% of the students had complaints of difficulty in sleeping followed by dry/strained eyes (12.3%), headache (11.1%), neck pain (12.2%), back pain (12.5%), numbness in the fingers (6.5%) and wrist/ joint pain (5.4%). As for socio-behavioural problems, more than one-tenth (12.1%) students had mood changes followed by slowness in completion of the works/assignments (11.2%), feel bored (8.8%), feel fatigue (8.4%), feel lonely (7.2%), feel irritated (6.9%), lost interest in learning (6.3%), feel depressed (5.8%), feel anxiety (5.2%), lost interest in any forms of social gathering (3.9%), problem or quarrel publicly with family members (3.2%) and few others complaints were problem or quarrel publicly with friends (2.8%), problem or quarrel publicly with other than friends and family (2.1%), feel guilty (1.9%), absent in class session (1.9%) and skip or failed to submit assignment (1.8%). Though the study did not depict the scenarios of all universities, however, actions should be taken to educate the young adults about the sign and symptoms of problematic internet uses and how to have a controlled internet uses.*

***Key Words**: Behaviour, Internet, Medico-social problem, UNIMAS*

**Introduction:** Internet usage has occupied most of the people's time, especially among students. According to Internet Live Stats, as of August 7th, 2015, there was estimated 3,179,035,200 internet users worldwide (Beal, 2015). The main purpose of the internet is to provide a variety of information and communications facilities. However, the usage has increased exclusively as the technology advanced that allows the different range of ages including children to access the internet. Nowadays, there are various websites such as social networks and entertaining sites. This is one of the sources for the internet addiction which becoming social issues and popular research topic in this modern era. Excessive internet usage can lead to health problems which are categorised to physical and mental. As for physical health problems, a person's sitting posture and over usage of fingers can cause pain in the fingers, wrists or other parts of the body, numbness, joints stiffness and discomfort on the shoulders, neck or back. Other than that, excessive usage of internet is the cause of Carpal Tunnel Syndrome (CTS), a medical condition due to repetitive movement of the wrist joint. One of the common mental health problems in internet use may lead users to suffer from depression and feeling of low self-esteem. According to Diagnostic and Statistical Manual of Mental Health Disorder (DSM-V), Internet Usage Disorders (IUD) may soon be included as an actual mental health disorder. American Psychiatric Association stated that a person with Internet Use Disorder (IUD) will experience "preoccupation" with the internet or internet gaming, withdrawal symptoms when internet is no longer available, the need to spend more and more time on the internet to achieve the same "high", loss of other interests, unsuccessful attempts to quit, and use of the internet to improve or escape dysphoric mood (Alice, 2012).

On one hand, it is believed that the internet as resource enables teenager to access information and conduct research; and this way, support skills such as problem-solving, creativity, and critical thinking (Berson & Berson, 2003). There are several social impacts due to over usage of the internet such as isolation from society and negative impacts on social skills development and relationships. The internet users tend to isolate themselves from face-to-face social interactions, especially gamers.

They are used to the virtual world that makes it difficult to approach the society. Hence, the users' social skills will deteriorate as they seldom interact with other people and this might cause flaws in their futures since social skills are vital for building their careers. In addition, they tend to ignore their families, friends and spouse, due to their internet addiction. The internet users can also have the sleep deprived by using the internet excessively such as games and social networking. This can affect their daily schedule and physically damage their health in time. As for gamers, they behaviour might change based on the types of game they are into and consequences for this sudden change of behaviour can ruin the gamers' reputation because they may ditch school or even involve in gangsterism out of curiosity from the games (Castells, 2014).

Internet offers a world of information and is a helpful tool in communicating and researching all different subjects. The beneficial use of internet use also includes help students develop their computer skills, writing skills and thinking skills. Students are faced with more information than they could ever use or need and his required them to sort through the information than they could ever use or important and relevant. Students may have longer attention spans with technology than with other forms of traditional learning. Furthermore, nowadays many university and college offer online library systems which allow students to find information on books using lab computers, or to access databases of scholarly articles that they can read online. Hence, the internet is a powerful tool for learning which benefit the users (Deore, 2012). However, the relationship of excessive internet usage with health and behavioural problems obvious and has been publicised to the community for quite some time. In fact, there have been countless campaigns, talks and advertisements promoted by the government or any organisations to point out the negative impacts of excessive internet usage. Moreover, numerous studies accentuate the importance of examining the impact of problematic Internet use on the most vulnerable to this, adolescents (Ferraro *et al.,* 2007; Johansson & Gotestam, 2004). In general, adolescents are at the critical period of addiction vulnerability, based on their social and neurobiological factors (Jang *et al.,* 2008; Pallanti *et al.,* 2006). There is very limited study has been conducted on the internet among the students, especially in the Sarawak contexts. Thus, this study would have the tremendous impact of social, medical and the national health programme as well.

**Materials and Methods:** This was a cross-sectional study with quantitative approach. The study was conducted at Universiti Malaysia Sarawak (UNIMAS) in Kota Samarahan. The undergraduate students in all faculties irrespective of sex were the study population. In the first stage of sampling procedure, all faculties were selected purposely, then second stage, one year of students were selected randomly. In the selected year, the entire students present in the class session were taken as the sample, representing about 70-80% students. Self-administered questionnaire in English was used to collect data. Before distributing the questionnaires, a brief explanation was given to ensure all the respondents clearly understand the objectives of this research. A respondent was also given sufficient time to answer the questionnaire and the questionnaire was directly collected right after that. Data was checked manually for any inconsistency and completed data was then entered into the computer. After validation checking, simple frequency tables and uni-variate analysis was done. IBM SPSS version 22.0 was used for data analysis. Concerning the ethical issues the identity and information of the students kept confidential. Ethical clearance was obtained from Ethics committee from Faculty of Medicine and Health Sciences, Universiiti Malaysia Sarawak.

## Results

**Pattern of internet use:** The mean (SD) age of the students was 22.0(1.6) years with minimum age 19 and maximum age was 28 years. The majority of the students were female (75.8%) and 24.2% were male students. Data analysis revealed that 82.2% of the students connected with internet more than 4 times per day. Median duration of internet use was 5.5 hours. About one fifth of the students were connected with internet more than 9 hours. More than two-fifths (44.5%) of the students uses internet by their mobile phone followed by Wi-Fi (44.3%), data plan (28.9%) and broadband (13.2%). In terms of device for internet use, majority of the students use internet through their mobile phone (87.9%) followed by laptop (29.2%), tablet device (8.9%). Most frequent location of internet use was hostel (59.6%) followed by residence (38.4%), library (14.9%), classroom(12.7%). Two-fifths (41.9%) of students reported that they always uses internet for coursework. They always uses internet for getting the general knowledge (27.8%) and 35.6% frequently. The most widely use of social network was Facebook (40.8%) followed by Instagram (25.5%), Twitter (14.3%). However, few students use blogger, Tumblr and Flow as social networking. Internet as entertainment, 27.2% uses internet for downloading the movies followed by listening to online music (21%) and downloading apps (19.4%). Very few students use interent to play online games. The most widely used apps for social communication was Whatsapp (75.4%) folowed by email (33.3%), Wechat (32.0%) and Messenger (23.3%). However, few students uses, Telegram, Skype, Viber etc. (Table 1).

**Table 1 Pattern of internet use (n=463)**

| Characteristics | n | % |
|---|---|---|
| **Mode of use*** | | |
| Mobile Internet | 206 | 44.5 |
| Wi-Fi | 205 | 44.3 |
| Data Plan | 134 | 28.9 |
| Broadband | 61 | 13.2 |
| **Devices for internet use*** | | |
| Mobile Phone | 407 | 87.9 |
| Laptop | 135 | 29.2 |
| Tablet | 41 | 8.9 |
| Desktop | 11 | 2.4 |
| **Purposes of internet use** | | |
| ***Educational*** | | |
| Coursework | 194 | 41.9 |
| General knowledge | 175 | 37.8 |
| Academic reading | 124 | 26.8 |
| Reading news | 99 | 21.4 |
| ***Social networking*** | | |
| Facebook | 189 | 40.8 |
| Instagram | 116 | 25.1 |
| Twitter | 66 | 14.3 |
| Others (Blogging, Tumblr, stake overflow) | 36 | 7.7 |
| ***Entertainment*** | | |
| Download movies | 126 | 27.2 |
| Download apps | 90 | 19.4 |
| Listen to online music | 97 | 21.0 |
| Watch online movies | 82 | 17.7 |
| Play online games | 53 | 11.4 |
| **Social Communication** | | |
| WhatsApp | 349 | 75.4 |
| E-mail | 154 | 33.3 |
| WeChat | 148 | 32.0 |
| Messenger | 108 | 23.3 |
| Telegram | 48 | 10.4 |
| Others (Skype, line, viber, iMessage) | 48 | 10.4 |

**Pattern of medico-social problems** The complaints of internet use was categorised into medical and socio-behavioural problems. Analysis revealed that most frequents medical complaints were difficulty in falling asleep (15.3% followed by dry/strained eyes (12.3%), headache (11.1%), neck pain (12.2%), back pain (12.5%), numbness in the fingers (6.5%) and wrist/ joint pain (5.4%). The most frequent socio-behavioural problems encountered by the students were mood changes (12.1%) followed by slowness in completion of the works/assignments (11.2%), feel bored (8.8%), feel fatigue (8.4%), feel lonely (7.2%), feel irritated (6.9%), lost interest in learning (6.3%), feel depressed (5.8%), feel anxiety (5.2%), lost interest in any forms of social gathering (3.9%), problem or quarrel publicly with family members (3.2%) and few others complaints were problem or quarrel publicly with friends, problem or quarrel publicly with other than friends and family, feel guilty, absent in class session and failed to submit assignment (1.8%) (Table 2).

**Table 2 Pattern of medico-social and behavioural problems associated with internet use (n463)**

| Characteristics | n | % |
|---|---|---|
| ***Medical problem*** | | |
| Difficulty in falling asleep | 71 | 15.3 |
| Dry/strained eyesw | 57 | 12.3 |
| Headache | 51 | 11.1 |
| Numbness in the fingers | 30 | 6.5 |
| Neck pain | 52 | 11.2 |
| Back pain | 58 | 12.5 |
| Wrist/ joint pain | 25 | 5.4 |
| **Socio-behavioural problems** | | |
| Slow in complete works | 60 | 13.0 |
| Have mood changes | 56 | 12.1 |
| Feel bored | 41 | 8.8 |
| Feel fatigue | 39 | 8.4 |
| Feel lonely | 33 | 7.2 |
| Feel guilty | 33 | 7.2 |
| Feel irritated | 32 | 6.9 |
| Lost interest in learning | 29 | 6.3 |
| Feel depressed | 27 | 5.8 |
| Feel anxiety | 24 | 5.2 |
| Lost interest in social gathering | 18 | 3.9 |
| Quarrel with family members | 15 | 3.6 |

**Discussion**: Internet use is considered normal among teenagers, mainly students and it has already become a daily basis of their life. Students are attracted towards internet as it is used worldwide to fulfil any purposes such as education, entertainment and social networking. Thus, this research is carried out to determine the pattern and problem associated with internet use among UNIMAS students. Research indicates internet use is highest in the 16-24 age groups (Kandell, 1998; Öztürk et al., 2007). Odacı & Kalkan (2010) suggest this implies a potential risk of internet dependence among this age group. Hours of internet use appeared to be an issue of medico-social problems. Krishnamurthy and Chetlapalli (2015) reported that 4.7% for 5-10 hours and 86% for 0-5 hours which is consistent our study. However, Koyuncu et al. (2014) reported a difference from our study where less than 2 hours was among 64.9% and more than two hours was 35.1%.

Ruzgar (2005) in Turkey reported that most of the students use the internet mainly for communicating, even though these students prefer more the use of e-mail (64.4%) than chatting (56.8%) As the study was done a decade ago, this may suggest that WhatsApp application is more popular nowadays than e-mail among the adolescents, since it was first created in 2009. WhatsApp is more user-friendly and the user can send almost everything including documents and videos through it, in a more informal way. More than half of the students also use internet for academic research purposes. These correspond to the study done by Hawi (2012). The study showed that the respondents mainly use the internet for communication and messaging (84.2%), followed by information and research (65.7%) and for entertainment such as gaming (51.8%), music and video (51.2%). This correlates to our study, in which downloading video is also a popular purpose in using the internet. However, Facebook is one of the least applications used which is only 1.2%. This shows that the adolescents in Lebanon may have the least preference to Facebook compared to Malaysian young adults. Majority of the studies showed that usage of internet for educational and research purpose is the most consistently popular purpose of internet use (Ruzgar, 2005; Hawi, 2012; Jones, 2002; Salman, 2011; Al Otaibi, 2012; Muniandy, 2010). These shows that the internet has developed as the most used platform to find information, perhaps because it is easier to use and many information can be obtained from a single click, rather than going through multiple pages in the books.

This study had found that the most frequents medical complaint was difficulty in falling asleep (15.3%), but according to Suris (2014), it was stated that 55.2% of adolescents had sleep problems due to excessive internet use. Dry or strained eyes is the second most common medical complaint which is lower if compared to a finding by Suris (2014) which showed 22% of the internet users had sight problems. The third common medical complaint was a headache (11%), but according to Suris (2014), 27.2% of the adolescents presented with headaches due to internet use. Apart from that, 12.2% of UNIMAS's students presented with neck pain due to internet use. It was also found that 12.5% of students in our study presented with back pain due to internet use which is slightly lower if compared to a study done by Suris (2014), which showed 23.7% of the respondents with back problems due to internet use. This followed by 6.5% of UNIMAS's students presented with numbness in the fingers and 5.4% presented with wrist or joint pain due to internet use. These conditions were significantly lower if compared to a finding by Suris (2014) that showed 31.7% presented with musculoskeletal problems due to internet use.

The most frequent socio-behavioural problems encountered by the students due to internet use were mood changes (12.1%) while according to Black *et al.* (1999), 15% of the respondents were presented with mood disorders. On the other hand, the second most frequent problems faced by students was slow in completing the works, which showed a prevalence of 11.2%. Young (1998) stated that when internet user increases his or her time online, other responsibilities often suffer and maybe this is why students are slow to complete the works. The third frequent socio-behavioural problem faced by students due to internet was felt bored with the prevalence of 8.8%. Black *et al.* (1999) also stated that 15% of the respondents presented with mood disorders due to internet use. Apart from that, our study found that students also presented with fatigue (8.4%), loneliness (7.2%), feel irritated (6.9%), lost interest in learning (6.3%) and feel depressed (5.8%) due to internet use. Bakken *et al.* (2009) stated that the most frequent socio-behavioural problems encounter due to internet use were feelings of depression in the 12-months prior to the study. In our study, it was also found that 5.2% presented with socio-behavioural problems of feeling anxiety due to internet use. However, if compared to Bakken *et al.* (2009), the prevalence of anxiety disorder due to internet use was 36.4%. Besides, the rest of the students in our study also presented socio-behavioural problems of lost interest due to in any forms of social gathering (3.9%), problem or quarrel publicly with family members (3.2%) and few others complaints were problem or quarrel publicly with friends (2.8%), problem or quarrel publicly with other than friends and family (2.1%), feel guilty (1.9%), absent in class session (1.9%) and skip or failed to submit assignment (1.8%). Nie *et al.* (2002) stated that nowadays people tend to have narrower social circles and higher levels of loneliness due to less time spent with family and friends because of excessive internet use.

The pattern of medico-social and behavioural problems associated with internet use is closely related to the attitude of the students towards internet use and the time and duration of internet use. Although social and behavioural problems associated with internet use seem to be low. Organizational campaigns on consequence of excessive internet use should be explained and to educate the students about the sign and symptoms of problematic internet use and how to practice a controlled internet use. Students must practice good self-controlled over internet uses and the right body posture when using gadgets.

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**References**

Al Otaibi, K. N. (2012). Attitudes Towards the Use of the Internet. *Psychology Research, 2*(3), 151-159.

Alice, W (2014). "Internet Addiction: The New Mental Health Disorder?" Forbes. Forbes Magazine, n.d. Web. 08 Dec. 2014. <http://www.forbes.com/sites/alicegwalton/ 2012/10/02/the-new-mental-health-disorder-internet-addiction/>. Study on Internet Addiction and if it is a mental disorder. Also what you should do to treat it. [Access on 6 February 2017]

Bakken, I. J., Wenzel, H. G., Gotestam, K. G., Johansson, A., & Oren, A. (2009). Internet addiction among Norwegian adults: a stratified probability sample study. Scand J Psychol 50:121-7.

Beal, V., (2015). Internet definition by Webopedia. Available at http://www.webopedia.com/TERM/I/Internet.html [Access on 6 February 2017]

Berson I., and Berson, M. (2003). Digital literacy for effective citizenship. Social Education, 67(3),164-167.

Black, D. Q., Belsare, G. & Schlosser, S. (1999). Clinical features, psychiatric comorbidity, and health related quality of life in persons reporting compulsive computer use behaviour. J Clin Psychiatry 60:839-44.

Castells M (2014). The Impact of the Internet on Society: A Global Perspective. Available on bbvaopenmind.com/en/article/the-impact-of-the-internet-on-society-a-global-perspective. [Access on 6 February 2017]

Deore, K. V. (2012). The educational advantages of using internet. International Educational E-Journal 1(2), 111–112.

Ferraro, G., Caci, B., & D'Amico, A., & Di Blasi, M. (2007). Internet addiction disorder: An Italian study. CyberPsychology & Behaviour, 10:170-175.

Hawi, N. S. (2012). Internet addiction among adolescents in Lebanon. Computers in Human Behavior 28: 1044-1053.

Jang, K. S., Hwang, S., Y., & Choi, K. Y. (2008). Internet addiction and psychiatric symptoms among Korean adolescents. Journal of School Health, 78:165-171.

Johansson, A. & Gotestam, K. (2004). Internet addiction: Characteristics of a questionnaire and prevalence in Norwegian youth (12-18 years). Scand J Psychol 45: 223-229.

Jones, S. (2002). The internet goes to college: How students are living in the future with today's technology. Pew Internet & American Life Project (pp. 2–23).

Kandell, J. J. (1998). Internet addiction on campus: The vulnerability of college student. Cyberpsychology Behaviour, 1(11), 11-7.

Koyuncu, T., Unsal, A., & Arslantas, D. (2014). Assessment of internet addiction and loneliness in secondary and high school students. (pp. 998-1002).

Krishnamurthy, S., & Chetlapalli, S. K. (2015). Internet addiction: Prevalence and risk factors: A cross-sectional study among college students in Bengaluru, the Silicon Valley of India. Indian journal of public health, 59(2), 115–121. doi:10.4103/0019-557X.157531

Muniandy, B. (2010). Academic use of internet among undergraduate students: A preliminary case study in a Malaysian university. International Journal of Cyber Society and Education, 3(2), 171-178.

Nie, N. H., Hillygus, D. S., & Erbring, L. (2002). Internet use, interpersonal relations, and sociability: A time diary study. In B. Wellman & C. Haythornthwaite (Eds.), The internet in everyday life (pp. 215-243). Oxford: Blackwell

Odacı, H. & Kalkan M. (2010).Problematic ınternet use, loneliness and dating anxiety among young adult university students. Computers & Education, 55:1091–1097.

Öztürk, O., Odabasioglu, G., Eraslan, D., Genç, Y. & Kalyoncu, Ö. A. (2007). Internet addiction: Clinical aspects and treatment strategies. Europe's Journal of Psychology 2012, 8(3), 327–351 doi:10.5964/ejop.v8i3.474

Pallanti, S., Bernardi, S. & Quercioli, L. (2006). The Shorter PROMIS Questionnaire and the Internet Addiction Scale in the assessment of multiple addictions in a high-school population: prevalence and related disability. CNS Spectrum, 11(12), 966-974.

Ruzgar, N., S. A research on the purpose of internet usage and learning via internet. The Turkish Online Journal of Educational Technology, 4(4), 28-31.

Salman, A. (2011). Internet usage in a Malaysian sub-urban community : A Study of Diffusion of ICT Innovation. Innovation Journal: The Public Sector Innovation Journal16(2), article 6.

Suris, J.C., Akre, C., Piguet. C., Ambresin. A. E., Zimmermann. G., & Berchtold. A. (2014). Is internet use unhealthy? A cross-sectional study of adolescent internet overuse. Swiss Medical Weekly 144.

Young, K. S. (1998) Internet addiction: The emergence of a new clinical disorder. CyberPsychology and Behavior, 1: 237-244.

# Komuniti Ke Arah Kesejahteraan

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*Body Mass Index (BMI) education was conducted among the primary school students in SK Buntal, Santubong, Sarawak during CSR Programme with SK Buntal "Komuniti ke Arah Kesejahteraan", Bengkel Universiti Malaysia Sarawak Strategic Engagement Retreat with Board of Director on 21 January 2016. The lesson learned from this programme are discussed in this report.*

## Aim

To create awareness and knowledge regarding the healthy body mass index (BMI) among the primary school children and to educate them how to use the mural BMI percentiles growth chart.

## Introduction

Many countries currently facing the overlapping 'triple burden' of malnutrition; overweight, obesity and under nutrition. Childhood obesity is one of the public health problems on the rise in 21st century. It affects low and middle income countries especially in urban areas.
According to World Health Organization, about 42 million children less than 5 years old are affected and more than 70% of them came from developing countries. From the National Health Morbidity Survey 2011, 3.9% children less than 18 years old were obese. Children who are overweight and obese more likely continue to adulthood and is associated with an increased risk of premature onset of illnesses such as diabetes and heart disease. For children ages 5-19, overweight is defined by body mass index (BMI) (calculated by weight in kilograms divided by the square of height in meters) more than one standard deviation above the WHO growth standard median and obese is defined as BMI more than two standard deviation above the median for age and sex. Meanwhile for underweight children, although the rates are falling, in 2014, 1 in 7 children were estimated to be underweight. BMI of underweight children ages 5-19 is defined as BMI less than two standard deviations below the WHO growth standard median.


*Dean of FMHS witnessing the pupils demonstrating their newly mastered BMI chart interpretation skill.*

## Background

The school setting is a logical choice for healthy weight education due to its existing infrastructure, staff, curricula, facilities, policies, and environments that have potential to promote healthy lifestyle. As for this special mini project, it served two purposes. First, as a health surveillance to identify the percentage of students in the school who are underweight, healthy weight, overweight or obese. As these data are typically anonymous, it can be used to identify trends over time or monitor the outcomes of a school practice aimed to improve student overall health.

Secondly, this activity can be seen as screening process to provide parents with information on whether their child is underweight, healthy weight, overweight or obese.

*Photo session with Vice Chancellor, deputy Vice Chancellor, board of Directors, Deans and UNIMAS staff after the launching ceremony.*

## Activities

The programme was divided into morning and afternoon sessions. In the morning, a random class was selected to participate in the BMI screening. As a matter of luck or coincidence, the class that was randomly selected was one of the three Primary 3 classes in the school.

Prior to the measurement of height and body weight, the class teacher and the students were briefed on the objective and procedure of the BMI screening. In addition, the students were also briefly taught about the healthy body weight. The weight was measured using portable spring

weighing scale. The height was measured using height chart that conveniently plastered on the classroom wall. Both readings then calculated for BMI and plotted on WHO BMI percentiles growth chart accordingly. A total number of 29 students participated in the screening. 15 were boys and the rest were girls. The results showed 4 students were underweight, 21 students with healthy weight, 2 overweight students and the remaining 2 were obese.

*BMI Calculation*

In the afternoon, five of the 29 students with different BMI readings, were selected for the "on site" training using the mural BMI percentiles growth chart. They were taught to check their height & weight, then plotted the BMI based on the weight in kg (on *y* axis) and height in $m^2$ (on *x* axis). The plotted BMI will fall within the respective percentiles of underweight, normal weight, overweight and obese. As they mastered their new skill, they taught their peers as well on how to use the mural BMI percentiles growth chart. They even showed off their new expertise by demonstrating it on the visitors who attended the CSR programme that day.

*Height and weight measurement.*

**Conclusion**

With this program, it is hoped that the pupils of SK Buntal can familiarize themselves with the concept of body mass index measurement. Most importantly, they can continue to adopt healthy lifestyle. At the same time, they can set up a good example and help to spread the importance of healthy lifestyle to their family and friends.

*Demonstration on height and weight measurement procedure to the pupils of SK Buntal*


*Final touch up on the wall painting by the Dean*

# 'Knowledge Saves': A Health Intervention Programme for the Iban Community of Philip Kayak Longhouse

*In line with the commitment to educate the community on the importance of health, the year four UNIMAS medical students conducted health related activities at the Philip Kayak Longhouse. The activities were part of the bigger programme with the theme "Knowledge Saves" that aimed to raise awareness on the common misconception of Traditional and Complementary Medicine (T&CM) among the community. In addition, the activities were imbued with information to promote good health-seeking behaviour and to get early treatment. The students were led by Muhammad Tsaqolain and supervised by Dr Helmy Hazmi.*

**Sports Day**

The first activity was "Sports Day" and it was held on the 6th of August. The physical activities were varied and were purposefully fun filled. It includes Poco-Poco, aerobic dance and several fun mini games. The variability of the activities was aimed to attract participations from residents of all ages.

*Children enjoying game session*

*Participants of mini games*

*Tug-of-war, the main event of the Sports Day*

**Health Screening**

A health screening programme was held on the 13th of August. Two dental and two medical officers from Klinik Kesihatan Kanowit and Sibu Hospital respectively assisted with the programme. A total of 106 residents were screened. Those who require further treatment at a better equipped facility were referred to by the attending doctors and dentists.

Health exhibitions were set up next to the screening suite. Among the health topics covered in the exhibition are chronic and infectious diseases affecting Malaysians today.

Women's health was not left out too. Demonstration on the techniques of breast self-examination was performed for the benefit of the women residents.

For children, quizzes on health were held. It maximizes the content delivery. of health information to all residents, regardless of age.

*Health talks*


*The health-screening session with 106 participants involved.*

*Dental Services*

**Closing Ceremony**

The closing ceremony for the whole event was held on the 20th of August to express gratitude to all the residents of the Rumah Phiip Kayak Longhouse for their endless cooperation and support in making the event a success. Officiated by the Penghulu Philip Kayak, Madam Gelima Anak Ubong, the closing ceremony saw ten strikes of gong marking the end of the programme. It was heartening to note that overall, the residents were positive and keen with the activities conducted. Such golden occasion has allowed the sharing of valuable knowledge and experience between the UNIMAS students and the residents of the longhouse.

# Elderly Health Screening Project in Kampung Semera

**Report compiled by**

**Faridah Binti Mohamed**

*In the preclinical years, medical students have the chance to acquire knowledge in various aspects of family structure, family dynamic and family health through the Family Health Program. A total of 134 Year 1 medical students were divided into 45 groups and assigned to their respective foster family. Each group will have to complete specific block tasks given to them that involve their families. There are nine blocks in total spreading throughout the two preclinical years.*

**Activities**

On 14th May 2016, the year one medical students participated in a Family Health Project, aimed at screening the elderly for any health conditions in Kampung Semera Hilir & Kampung Semera Jaya, Sadong Jaya. In addition, it was hoped that the activity will increase the awareness among the villagers to maintain a healthy lifestyle.


The health screening was held at the Semera Health Clinic. The students and the village elderlies above 60 years old gathered at the clinic before 9.30 am.

The clinic's medical officers were helpful enough to guide the medical students to conduct several physical examinations on the elderlies. These include height and weight measurements, blood pressure measurement, Snellen test and functional fitness test. For the latter, the physiotherapists lend a hand to guide the students.

The medical students, although a green horn in the field, had a chance to observe consultation works given by the medical officers to the elderlies. Regarded as an experiential learning, the students learned the skills to communicate health when dealing with an elderly on health issues.

The health screening activities ended at 1 p.m. Later in the afternoon, the students went to their respective foster families' home to complete the block specific tasks given to them. The students left for campus at 5 p.m.

The year 1 medical students generally opined that the project was beneficial not only for the elderly villagers, but also for the students themselves. It was hoped that they will be able to appreciate the need for care for this special segment of society in their future practice.

# PUBLIC HEALTH PRACTICE: EXPERIENCE FROM UNIMAS

Masashi Tanida[1]

Osaka University, Japan.

*One student from Osaka University, Japan has been attached to Department of Community Medicine and Public Health, Faculty of Medicine and Health Sciences, UNIMAS as an exchange programme between UNIMAS and Osaka University, Japan. He was attached here for about 4 months. During his stay in UNIMAS, he shared his experiences in this short article.*

**Introduction**

I studied about Internal medicine for 2 weeks and Public Health for about 1 week. In Medicine department, I was attached to Dr. Chai and joined ward rounds, bed side teachings, outpatient clinic, lectures and seminars with UNIMAS students. I had the chance to observe diseases in the ward of Sarawak General Hospital which are rare in Japan such as dengue, paraquat poisoning and so on. Comparing to my usual experience in Japan, where I am more trained to perform imaging examinations, I felt doctors in Malaysia put more emphasis on physical examination. For example, UNIMAS students are very good at listening to heart murmurs in physical examination whereas in

Japan we are more trained to see and interpret echocardiography. This is the case in Malaysia because as compared to Japan, the facilities are less and they rely more on basic clinical skills. I was surprised to hear that UNIMAS students can hear and differentiate the murmurs of MR and TR. In Public Health department, I followed the post graduate students and learned about the medical health care system in Malaysia. I also joined the active case detection and fogging activity. Through the program and lectures, I felt that to improve the people' health, not only medical treatment but also water supply, road access, education is very important.

I attach the details about what I did in Public Health posting below.

*Bed side teaching in SGH*

*Lecture from Dr Chai*

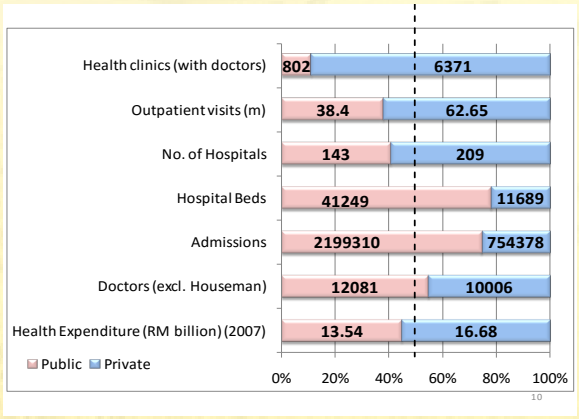
*Outpatient patient clinic in PJHUS*

*IDA*

Details of the programs

January 25, 2016
I followed Dr. Cliffton and took explanation about the main campus.

January 26, 2016
I was attached to Dr. Ivan and Dr. Emmanuel. I observed around PKB office. There are a lot of department such as Entomology, Human Resource, Financial, CDC, Food Safety and Quality and so on. In the Entomology room, I saw the breeding cage of mosquitos. I learned that they catch mosquitos from out-break area and breed them in the cage by using rat. They increase the number of mosquitos and investigate the sensitivity to drugs. They decide which drug and dose to use. In FSQ Unit, I learned how to protect people from food overseas which is bad for health. I was glad to hear that Japanese products haven't banned yet so far. I also went to urban clinic" Batu Kawa", which is located in Primary and Preventive Care and there were a lot of people there.




The building was too small to deal with all the patients and two doctors worked in a one room at the same time. Medical staffs measured patients' blood pressure, height, weight outside the room. I just observed around the clinic, but I can easily found that there are too many patients in Public Health facilities. The reason is maybe that, in Public Hospitals, people can receive medical treatment for only 1 Ringgit. On the other hand, people have to pay a lot of money in private hospitals instead of waiting. I attach the detail about Public & Private Sector Resources and Workload.

*The outpatient room in "Batu Kawa" clinic*

January 27, 2016

Today, I went to see the dengue active case detection with Dr. Ivan, Dr. Emmanuel, Dr. Easwary in the morning. They visited stores and houses in the outbreak area and searched and destroyed mosquitos breeding places. They also interviewed the residents whether there are people with fever. The area was so large (the radius 400m) that they divided their tasks among some groups and did at the same time efficiently. I also went for fogging activity from 5pm to 7pm (mosquitos are active during the period.). After fogging, they set devices" ovitrap" which resemble preferred breeding site of mosquitos and capture their eggs to check whether fogging succeeded or not after 48 hours.

*Right: the waiting room in "Batu Kawa" clinic*

| Purpose |
| --- |
| Active case detection to detect whether there are people with fever |
| Fogging to kill adults of mosquitos and investigate and kill larvae of mosquitos |

*Fogging*

I also went to rural clinic" Muara Tebas" which is classified as type 5 clinic. The clinic dealt with pregnancy checkup and pediatrics, but there were no doctors. They follow up as many pregnant women and kids as possible by introducing Personalized Care System, which is that each nurse has responsibility with her own region and follow up from the beginning till the end.

*In a rural clinic*

*In seafood restaurant*

January 28, 2016

I took the lecture about Water Supply and Sanitation by Mr.KASSIM. I learned about BAKAS program and the program is very important to avoid water-borne disease. I also felt that just providing good facilities is not enough and education is more important.

About BAKAS

The program "BAKAS" is divided into Rural Water Supply and Environmental Sanitation. Rural water supply deals with GFS (Gravity feed system), RWT, Sanitary. Environmental Sanitation deals with the problems about Solid waste disposal, Sullage, Perimeter drain. The objective of Rural water supply is to avoid water-borne disease and that of Environmental Sanitation is to decrease the breeding area. For example, BAKAS program invented new type of GFS or to prevent the infectious diseases like cholera. However, there are still problems for example, some people in rural areas don't go and burn or bury their trash but throw them around the house, which cause the breeding of mosquitos. I felt education is very important to build a safe health care system.

January 29, 2016

Today I followed post graduate students and interviewed shop and houses in outbreak area. We found some positive places and poured the pesticide into it. I felt as if I had been a police man. I thought education is necessary and they have to control the breeding places.

I also took the lecture from post graduate students about Mobile Health Care. Mobile Health Care is the system which provide health care service for the places distant from the center of the city. They try to ensure that 100% of the population has access to the health services by introducing boats and helicopters. The disadvantage of Mobile Health Care is that the level of treatment is limited because the frequency is once in a month and they can't bring medicine to the area because of the logistic problem.

**Acknowledgement**

I really enjoyed my stay in UNIMAS. Students were always very kind to me, so I didn't feel lonely at all. Post graduate students were very cheerful and I learned a lot of things from them. Last but not least, I would like to say thank you again to all the people I met in Malaysia, especially Dr. Tang, Dr. Chai, and Dr. Razitasham.

# Transforming Public Health Knowledge

**Report Prepared by**

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## 1. Training and Workshops 2016

**Costing Methodology in Healthcare.** This was a 2-day workshop organized by the Institute of Health System Research (IHSR) Ministry of Health Malaysia on 18 – 19 April 2016. It was conducted at the Institute of Health system research (IHSR) headquarter at the Setia Alam, Selangor. Objective of this course was to train the professionals, especially the Doctors involved in the management and Economic Evaluation during their work, in methods of doing the hospital level costing. Both Activity Base Costing and Step Down costing were introduced to the participants. But the main emphasis was on the Step-Down Costing methods, that was discussed in greater detail. Special emphasis was put on exercises during the course, so that the participants will develop technical skills while gaining the theoretical knowledge during the lecturers.

**Economic Evaluation in Healthcare.** This was a 2-day workshop organized by the Institute of Health System Research (IHSR) Ministry of Health Malaysia on 16th & 17th March 2016. It was conducted at the Institute of Health system research (IHSR) headquarter at the Setia Alam, Selangor. Objective of this course was to train the professionals, especially the Doctors involved in the management and Economic Evaluation during their work, in methods of doing the Economic Evaluation. Various techniques of Economic Evaluations were discussed but the special emphasis was on the Cost Effectiveness Analysis (CEA). CEA was discussed in greater detail with hands on exercises during the course including the Sensitivity Analysis, so that the participants will develop technical skills while gaining the theoretical knowledge during the lecturers.

**Cost Effectiveness and Sensitivity Analysis in Health care.** This was a 1 day workshop organized by the organizing committee of the 3rd UNIMAS public Health Seminar as the Pre-Seminar Workshop 17th October 2016. It was conducted at the Computer Lab at the Faculty of Medicine and Health Sciences, UNIMAS in Kota Samarahan, Sarawa. Objective of this course was to train the professionals, especially the post graduate Public Health student and the Department of Community Medicine and Public Health at UNIMAS and Doctors involved in the management and Economic Evaluation during their work. These participants were trained in methods of doing the Economic Evaluation. Various techniques of Economic Evaluations were discussed but the special emphasis was on the Cost Effectiveness Analysis (CEA). CEA was discussed in greater detail with hands on exercises during the course including the Sensitivity Analysis, so that the participants will develop technical skills while gaining the theoretical knowledge during the lecturers.

## 2. Public Health Seminar 2016

Every year, the DrPH Year 3 postgraduate cohort organise the Public Health Seminar as a part fulfilment of the academic requirement for MDP 71902 Public Health Seminar course. This year the theme *"Transforming Public Health Future Towards Global Goals"* was chosen to reflect the importance of Global Goals agenda (Sustainable Development Goals, SDG) and the roles of Public Health in multi-sectorial collaboration in achieving those goals. The focus on SDG was timely and important. Moving from MDG to SDG, the Global Goals/ SDG recognizes the importance of various social determinants of health in achieving health and well-being for all of humanity. It no longer is disease or health condition specific in setting its goals, but rather, it looks at a larger framework which addresses public health concerns in a more holistic manner. It is evident that poor health is closely linked to climate change, poverty, unsustainable use of resources, poor access to education, gender disparity, forced migration in times of conflict, among other factors. Therefore, the Global Goals is a public health agenda. It sets out to create

an environment with which people can be healthy, not just free from diseases but complete physical, mental, and social well-being. This is where public health professionals should take the helm and transform public health towards the attainment of Global Goals

**Objectives of seminar**

The seminar was organised around the Global Goals, also known as Sustainable Development Goals (SDGs) with the following objectives:

To create awareness among health care professionals and public health workers on SDGs.

To appreciate the roles of Public Health in achieving SDGs.
To strengthen collaboration and networking among various agencies or organisations.

**Seminar details**

The 3rd UNIMAS Public Health Seminar was conducted from 18-19th October 2016 at PITAS seminar hall in UNIMAS. It attracted a total of 100 participants from various agencies including institutes of higher learning, from various fields of profession such as medical, social science, environmental conservation, local authoritative bodies such as municipal councils throughout the country. This level of participation is unprecedented whereby the Community Medicine and Public Health Department, in line with the role of public health, reached out to different sectors in the community that share the same role of working together towards achieving the global goals. The PHS 2016 was well received by the participants where the overall rating in terms of organization, presentation and satisfactory level with a score of 8.42 out of 10. Seven key note papers were presented in the plenary session with current public health importance. The DrPH students were also present their research findings in this seminar. A total of seven scientific papers were presented in the 'free papers' session.

Overall the seminar organized was well accepted by the participants and have extended its reach to participants from other organisations and agencies. It should continue to serve as a platform for discussion of current public health issues and encourage collaboration between different agencies for the common goal of health and well-being in the community.

### 3. Research 2016

| | On Going Research (Faculty) | Type | Researcher(s) |
|---|---|---|---|
| 1. | Workplace Bullying and Metabolic Syndrome among Private Sector Workforce in Malaysia, | FRGS | Main researcher: Anselm Su Ting<br><br>Co-researcher: Victor Hoe Chee Wai, Marzuki Isahak, Azlan Darus, Sharon Kwan, Kanami Tsuno |
| 2. | Anthropometric indicators as predictors of high blood pressure in adolescents in Sarawak, | FRGS | Main researcher: Cheah Whye Lian<br><br>Co-researcher: Helmy Hazmi, Razitasham Safii, Chang Ching Thon |
| 3. | Prevalence and Correlates of Disability in Sarawak: An Analytic Cross Sectional Study | FRGS | Main Researcher: Md Mizanur Rahman<br><br>Co-researcher: Tan Sri Prof Mohd Taha Arif, Fadzillah bin Razak, Raili bi Suhaili, Asri bin Said, Zainab binti Tambi, Florence Ak Bakon, Ling How Kee |
| 4. | The distribution of Aedes spp mosquitoes and dengue virus in Kuching, Sibu and Miri division, Sarawak. | FRGS | Main researcher: Razitasham Safii; Co-researcher: Lela Su'ut, Siti Fairouz Ibrahim, Nor Aliza Abdul Rahim |
| 5. | Factors Associated with Care Seeking Behaviour of Bangladeshi Workers and their Acculturation Process in Sarawak: A Respondent Driven Sampling Approach | IBS | Main Researcher: Md Mizanur Rahman<br><br>Co-researcher: Tan Sri Prof Mohd Taha Arif, Zainab binti Tambi, Cliffton Akoi Ak Pangarah, Zulkifli Jantan |
| 7. | Development of the anthropometric database for children with disability in Malaysia | RACE | Main researcher: Shahrol Mohammadan;<br><br>Co-researcher: Ana Sakura Zainal Abidina, Mohd Syahmi Jamaludina, Noor Aliah Abd Majida, Muhamad Fadzli Asharia, Helmy Hazmi |
| 8. | Single Nucleotide Polymorphisms of Epstein Barr Virus EPV-Related Genes And Evaluation Of Immunoglobulin (Ig)A Antibodies To Epstein-Barr Virus (EBV) Capsid Antigens (EBVIga/VCA) Associated With Nasopharyngeal Carcinoma In Bidayuh Ethnic Group | RAGS | Main researcher: Mohd Aminnuddin;<br><br>Co-researchers: Samirah Abdullah, Helmy Hazmi |
| 9. | Developing a Psychosocial Model of Psychological Disturbance among University Students in Malaysia | | Main researcher: Ayu Akida Abdul Rashid |
| 10. | Program COMBI Pencegahan Demam Denggi dan Pengenalan Sistem Tadahan Air Hujan Sistematik: Satu Inisiatif Menangani Permasalahan Denggi. | Geran Program Pemindahan Ilmu, KTP | Main researcher: Khatijah Yaman;<br><br>Co-researchers: Rasidah Abd Wahab, Siti Halipah Ibrahim |
| 11. | Dokumentasi Pengamalan Rawatan Tradisional dan Implikasi Terhadap Tingkahlaku Mendapat Rawatan Masyarakat Melanau, Pulau Beruit | Geran Kursi Nusantara IPB | Main researcher: Rasidah Abd Wahab;<br><br>Co-researchers: Siti Zaleha Raduan, Muhd Wahizul Haswan Abdul Aziz, Alexander ak Chelum, Asrul Asshadi Mohd Morni dan Dyg Hajyrayati Awg Kassim |

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|---|---|---|---|
| 12. | Determinants of exclusive breastfeeding in different major *bumiputera* ethnic groups in Sarawak | DrPH | Main Researcher: Nordiana binti Rosli<br>Principal Supervisor: Datu Prof Dr Zulkifli Jantan<br>Co-supervisor: Prof Dr Md Mizanur Rahman |
| 13 | Effectiveness of physical activity intervention for rural preschoolers in Kuching, Sarawak | DrPH | Main Researcher: Melvin Chung Hsien Liang<br>Principal Supervisor: Assoc Prof Dr Cheah Whye Lian<br>Co-supervisor: Dr Helmy Hazmi |
| 14 | Association between health literacy and preventive lifestyle for metabolic syndrome (MetS) among different major ethnic groups in Sarawak | DrPH | Main Researcher: Sam Froze anak Jiee<br>Principal Supervisor: Tan Sri Prof Dr Mohd Taha Arif<br>Co-supervisor: Dr Rosalia Saimon |
| 15 | Determinants of Immunisation Coverage Among Under 5 Children in Central Zone of Sarawak | DrPH | Main Researcher: Suzalinna binti Sulaiman<br>Principal Supervisor: Assoc Prof Dr Razitasham bt Safii<br>Co-supervisor: Dr Rosalia Saimon |
| 16 | Health of Employed Mother After Childbirth - A Prospective Cohort Study | DrPH | Main Researcher: Majorie Ensayan anak Junting<br>Principal Supervisor: Dr Helmy Hazmi<br>Co-supervisor: Assoc Prof Dr Cheah Whye Lian |
| 17 | Motivation and Built Environment Factors Predicting Physical Activity Adherence in Urban Kuching, Sarawak | DrPH | Main Researcher: Lim Jyh Hann Principal Supervisor: Dr Helmy Hazmi<br>Co-supervisor: Assoc Prof Dr Cheah Whye Lian |
| 18 | Assessment of the Hepatitis B disease surveillance system in Public Health setting in Kuching, Sarawak: A mixed method approach | DrPH | Main Researcher: Robert Wong Kung Yee<br>Principal Supervisor: Assoc Prof Dr Zafar Ahmed |
| 19 | Social Networking and Mental Health Status Among Adolescents in Sarawak | DrPH | Main Researcher: Wong Khung Ying Principal Supervisor: Prof Dr Md Mizanur Rahman |
| 20 | A randomized control trial to compare the effectiveness of Employee Assistance Programme, Tai Chi and control group in the reduction of stress amongst healthcare workers in Sarawak General Hospital. | DrPH | Main Researcher: Peter Chang Chung Meng<br>Principal Supervisor: Assoc Prof Dr Anselm Su Ting |
| 21 | Indoor Air Quality and its Association with Sick Building Syndrome among the Staff in UNIMAS | MPH | Main Researcher: Saiful Ridzuan bin Abd. Hadi<br>Principal Supervisor: Assoc Prof Dr Anselm Su Ting |
| 22 | Blood Pressure Profile among Preschool Children aged 3- 6 Years in Kuching District | MPH | Main Researcher: Edmund Shin Chin Vui<br>Principal Supervisor: Assoc Prof Dr Cheah Whye Lian |

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|---|---|---|---|
| 23 | The Perception towards Autocidal Trap Device use in Larut, Matang and Selama district and its Effectiveness | MPH | Main Researcher: Syahrizal Bin Abd.Halim<br><br>Principal Supervisor: Tan Sri Prof Dr Mohd Taha Arif |
| 24 | Perception on Child Marriage among Rural Iban Adolescents and Parents in Selangau District, Sibu | MPH | Main Researcher: Ali Ak Puji Principal Supervisor: Assoc Prof Dr Razitasham bt Safii |
| 25 | Food Safety Knowledge, Attitude, and Hygiene Practices among Street Food Vendors under Padawan Municipalcouncil | MPH | Main Researcher: Drend ANAK jores Principal Supervisor: Tan Sri Prof Dr Mohd Taha Arif |
| 26 | Beliefs in Nutritional Supplement among UNIMAS Undergraduate Students | MPH | Main Researcher: Winnie Anak Johnny Principal Supervisor: AP Dr Zafar Ahmed |
| 27 | Risk Perceptions and Coping Strategies taken by Flood Victims in Selected area in Kuching and Bau District | MPH | Main Researcher: Nazibah Binti Baharin Principal Supervisor: Prof Dr Md Mizanur Rahman<br><br>Co-supervisor: Dr Cliffton Aki Pangarah |
| 28 | Religious Leader and Health Promotion: Does Role and Knowledge Affect Health Outcome | MPH | Main Researcher: Hasazli Bin Hasan Principal Supervisor: Dr Ayu Akida<br><br>Co-supervisor: Dr Helmy Hazmi |
| 29 | Knowledge Attitude Practice E-Cigarette among Adult in Urban Area at Kuching | MPH | Main Researcher: Ahmad Hafiz Bin Mohamad<br><br>Principal Supervisor: Prof Dr Md Mizanur Rahman<br><br>Co-supervisor: Datu Prof Dr Zulkifli Jantan |
| 30 | Factors Influencing Health Seeking Behavior among Young Male (undergraduate) Students in UNIMAS | MPH | Main Researcher: Kaliaperumal Rathakrishnan<br><br>Principal Supervisor: Dr Helmi Hazmi<br><br>Co-supervisor: Dr Ayu Akida |
| 31 | Knowledge, attitude and coping strategies of flood victims in Kuching and Bau district: A qualitative research | Full bright Scholar, USF, USA | Main Researcher: Jillian Edge<br><br>Principal Supervisor: Prof Dr Md Mizanur Rahman<br><br>Co-supervisor: Assoc Prof Dr Razitasham bt Safii |

**4. Publications 2016**


1. L Suut, MNA Mazlan, **MT Arif**, H Yusuff, NAA Rahim, **R Safii**, MR Suhaili. Serological Prevalence of Leptospirosis among rural communities in the Rejang Basin, Sarawak, Malaysia. Asia Pacific Journal of Public Health, 2016, Vol 28, No 5, 450-457.

**2.** **Rahman MM**, Ngadan DP, **Arif MT**. Factors affecting satisfaction on antenatal care services in Sarawak, Malaysia: evidence from a cross sectional study. Springer Plus (2016) 5:725 Doim10.1186/s40064-016-2447-3

**3.** **Arif MT, Jantan Z**. Village Health Promoter Project and Its Evaluation: A Rural Health Programme Problem Approach. CMPH Bulletin 2016 Vol 3, 4-6

4. Sharkawi HM, **Arif MT**. Delay in Tuberculosis Treatment: Evidence from a Cross Sectional Study in Sarawak. CMPH Bulletin Vol 3, 10-11

5. Azhar A, **Rahman MM, Arif MT**. Satisfaction on Primary Health Care Services in Malaysia: Evidence from a cross sectional community based study. Malaysian Journal of Public Health Medicine 2016, Vol 16(3):267-273.

6. **Su AT**, Maeda S, Fukumoto J, et al. A Proposal on Neurological Dose–Response Relationship for Inclusion in ISO 5349-1 Documentation to be Used in Tropical Environment. Acoust Aust (2016) 44:379–382.
7. **Cheah WL**, Ling NC, Chang KH. The Supportive Care Needs For Prostate Cancer Patients in Sarawak. The Chinese Clinical Oncology 2016, doi: 10.3978/j.issn.2304-3865.2016.02.01.
8. Fong EJ, **Cheah WL**. Unmet Supportive Care Needs among Breast Cancer Survivors of Community-Based Support Group in Kuching, Sarawak. International Journal of Breast Cancer, 2016, doi.org/10.1155/2016/7297813.
9. Chang CT, Philumena Kueh JF, **Cheah WL**. Risk factors of Low Back Pain among Nurses Working in Sarawak General Hospital. Health and the Environment Journal, 2016, Vol. 7 No. 1, pp 13-24
10. Chang CT, **Cheah WL**, **Helmy H**, Wan Manan WM. Domain-specific physical activity among indigenous overweight and obese communities in Sarawak. Baltic Journal of Health and Physical Activity. 2016. 2016, 8(3):40-48.
11. Gunggu A, Chang CT, **Cheah WL**. Predictors of diabetes self-management among type 2 diabetes patients. Journal of Diabetes Research. Volume 2016, Article ID 9158943, 7 pages, http://dx.doi.org /10.1155/2016/9158943
12. **Cheah WL**, Chang CT, **Helmy H**, Wan Manan WM. Gender and Racial Differences in the Cardiovascular Risk Factors among Overweight and Obese Rural Adults, Kuching and Samarahan Division, Sarawak, Malaysia. Journal of Nutrition and Metabolism. 2016, http://dx.doi.org/10.1155/2016/4536753
13. Jawa D and **Rahman MM**. Prevalence of Menopausal Symptoms among Women Aged 40 to 65 years in Sarawak, Malaysia. Community Medicine and Public Health Bulletin 2016, 3(1):7-9.
14. Aniza I, Saperi S, Zafar A, Aljunid SM, Wan Norlida, Oteh M, Husyairi H, Ismail S, Nor Hamdan Y, Faizal Amri H, Mohammad Hassan YS, Hamat H. Implementation of Clinical Pathways in Malaysia: Can Clinical Pathways Improve the Quality of Care? International Medical Journal Vol. 23, No. 1, pp. 47 - 50, February 2016
15. Elbio Paolillo, Alberto Scasso, Frank Torres, Gerardo Barrios, Guillermo Tavares, Zafar Ahmed, Diego Genta, Silvina Tortorella, Pablo Tort. Traffic accidents, the Related Groups by Diagnostics and hospital costs. Clinical characteristics and costs of 740 patients hospitalized for traffic accidents. Revista Medica Del Uruguay. 32:1 (25-35)
16. Ismail A, Suddin LS, Sulong S, Ahmed Z, Kamaruddin NA, Sukor N. Profiles and Factors Associated with Poor Glycemic Control Among Inpatients with Diabetes Mellitus Type 2 as a Primary Diagnosis in a Teaching Hospital. Indian Journal of Community Medicine: Official Publication of Indian Association of Preventive & Social Medicine. 2016;41(3):208-212. doi:10.4103/0970-0218.183590.

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