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ORAL PRESENTATION

ENVIRONMENTAL HEALTH

OP 1

Neurotoxic Effect of Lead among Adults in Tanjung Karang, Selangor

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Lead (Pb) is widely used in the manufacture of domestic products because of its unique characteristic. Pb can exert effect on peripheral nervous system. Minerals (Ca, Mg, and Zn) were found in previous study to inhibit Pb absorption, hence prevent intoxication. Our main aim was to determine the relationship between Pb and the handgrip strength among adult population and to evaluate the protective effects of minerals towards Pb intoxication. This was a cross sectional study conducted in Tanjung Karang, Selangor, Malaysia from January 2013 until December 2013, involving 144 adults. The study subjects were recruited from Population, Urban and Rural Epidemiology (PURE) respondents through purposive sampling. Anthropometric measurement and handgrip strength test were performed during PURE study. Blood for minerals and for Pb were obtained from the selected respondents. The results showed that the prevalence of blood Pb level above 5 µg/dL is 9.7 percent. Females had higher blood Pb level than males. Respondents without formal education had higher Pb level than those who received formal education. The blood Pb level increased with increasing age and BMI. The handgrip strength was directly proportionate with the blood Pb level. Zinc was the only minerals which protected against neurotoxic effect of Pb. A decreasing level of Pb exerts reducing trend of handgrip strength. The effect of Pb on peripheral nervous system could not be ruled out, even though there was no significant association found between both variables, in this study.

OP 2

Relationship between Urinary Manganese and Neurobehavioural Symtoms among Residents in Klang Valley

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A mental health issue has a significant influence on the economy due to loss of productivity or working-days and loss of young lives due to depression-related suicides. As the human population become more industrialized and modernized, the risk of daily exposure to heavy metal pollutants is increasingly more significant. Manganese poses a risk of toxicity due to excessive exposure towards certain human populations such as populations who live in close proximity to active/former mining area, steel manufacturing workers/welders, miners of manganese dioxide or/and smelter workers. This study aimed to determine the relationship between urinary manganese level and depression/anxiety symptoms. The objectives were to establish the prevalence of adults with manganese toxicity in Klang Valley, to explore the relationship between socio-demographic factors and depressive/anxiety symptoms, and to determine the relationship between obesity, diabetes and hypertension, with depressive/anxiety symptoms. This will be a cross-sectional study, involving adult aged 35 years and above, who participated in health screening programmes from urban and suburban locations, in the Klang Valley, Malaysia. The period of the research is projected to be between April 2019 and August 2019. A purposive sampling method will be conducted at each programme by using the attendees' registration list to obtain the needed number of participants (which are determined to be 200 participants based on previous literature using the Kish formula). Each participant is required to produce a sample of mid-stream urine, which will be analyzed using mass spectrophotometry to quantify their manganese exposure level; and to answer the DASS (Depression Anxiety Stress Scale) questionnaire set, to measure their level of depression and anxiety. Both sets of data (urinary manganese level; depression and anxiety score) will be analyzed for strength of association using logistic regression.

OP 3

Levels of Knowledge, Attitude, Belief and Practice on Mercury Spillage Management among Healthcare Workers in Selangor and Melaka

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Mercury is a toxic heavy metal that is hazardous to health. Exposure to its vapour may induce broad sequels of symptoms and cause multi-organ damage. Glass thermometers and manual sphygmomanometers are still used in some hospitals. Breakage and mercury leaks from these equipments pose risk for mercury exposure to healthcare workers (HCWs) as they use these equipments on daily basis. This study aims to plan further actions by evaluating HCWs' awareness on mercury spillage management. This study utilized a cross-sectional study design. Respondents' awareness on mercury spillage was assessed using a validated knowledge, attitude, belief and practice (KABP) questionnaire. 441 HCWs were selected from 35 Ministry of Health (MOH) facilities across Selangor and Melaka using stratified random sampling. Answered questionnaires were marked using a scoring system designed by a panel of experts and data analysis was performed using SPSS version 20. This study revealed that majority HCWs had acceptable attitude (89.3%) and belief (89.3%). However, only few had good knowledge (29.9%) and practice (39.7%). Results have also indicated that level of education influences belief, while profession influences all parameters of the questionnaire; knowledge, attitude, belief and practice. Further analysis showed that respondents with acceptable belief are more likely to have good knowledge (OR = 3.21, CI = 1.329-7.765) and acceptable attitude (OR = 6.88, CI = 3.408-13.872). Unsatisfactory levels of knowledge and practice are definitely disconcerting as it reflects that mercury wastes in hospitals are still inappropriately managed. However, majority had acceptable attitude and belief which may indicate the HCWs' willingness to improve. Hence, effective interventions should be planned to impart knowledge and good practices on correct mercury spillage handling.

OCCUPATIONAL HEALTH

OP 4

Refinement of Interview Protocol for Multi-Racial Lower Income Group Workers: How to Make It Reliable?

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The protocol used for the interview process should pass the reliability and validity tests before being considered as a reliable tool. This study was to refine the pre-constructed interview protocol to a comprehensive protocol that can be easily understood by the multi-ethnic populations. The pre-constructed interview protocol was refined replicating the 4-step Interview Protocol Refinement (IPR) Framework in a cyclical repetition till saturation was achieved. First, all questions in the protocol were mapped into a matrix to ensure questions were aligned with research objectives and to identify existence of mismatch between the questions. The statements' structure and style of language were reviewed to ensure comprehensibility to the sampled population. Subsequently, the corrected statements were reviewed by the experts to ensure the statements were ethically constructed. Finally, those reviewed protocol items were tested on five respondents as a final validation process. All the interview questions required modifications to suit the colloquial nature of the respondents. The refinement processes corrected some shortcoming in the protocol such as formal language style that hindered rapport building and poor understanding of the interview questions. The study revealed that close-ended items were preferred compared to broad open-ended items, which often lead to irrelevant responses. List of synonyms in different languages for specific terminologies were added into the protocol to facilitate interviewer in explaining any difficult question item to the respondent. Questions that yield similar responses were eliminated from the protocol or replace with specific probing questions. A repeat pilot testing showed that the refined items were well understood by the respondents and answered accordingly within and beyond the research objectives. The interview protocol for multi-racial workers group is ready for next phase of study.

EPIDEMIOLOGY AND STATISTICS

OP 5

Determinants of Stroke Recurrence: A Nationwide Registry-Based Study in Malaysia, 2009-2017

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Stroke morbidity is of paramount importance worldwide. The Malaysia Ministry of Health reported that stroke survivors have a 39% cumulative risk to suffer from recurrence within five years. Limited information exists on the risk factors of stroke recurrence, particularly pertaining to Malaysians, where disease of circulatory system is listed as the leading cause of death. We aim to identify the determinants of stroke recurrence among first-diagnosed stroke patients in Malaysia. We abstracted the data from the National Stroke Registry, which compiled the non-mandatory notifications for patients hospitalised with the diagnosis of stroke based on WHO's definition. We analysed data of patients aged 18 years or older, who had their first-diagnosed stroke admitted from July 2009 to 31 December 2017. The event was the subsequent admission with the diagnosis of stroke. The survival time was the number of years between first-diagnosed stroke registered and subsequent notified stroke episode. Data were analysed with the software R version 3.4.4. Of 9581 patients with first-notified stroke, 1005 (10.5%) died and 8576 were analysed. Eight significant variables were obtained from the Simple Cox regression analysis. The final parsimonious model on Multiple Cox regression with complete data analysing a total of 2946 subjects, with 163 suffering stroke recurrence was built. Age and dyslipidaemia were significant determinants to prognosticate stroke recurrence, while Diabetes Mellitus and abnormal triglycerides level were adjusted. The findings fill the limitations from previous studies and provide data from multiple centers to assist in planning post-stroke healthcare management for this population after first stroke.

OP 6

Prevalence and Factors Associated With Overweight and Obesity among Healthcare Workers in Pejabat Kesihatan Daerah Melaka Tengah

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Overweight and obesity are a serious public health problem globally. Healthcare workers in some countries have been reported to be having a high prevalence of overweight despite them being well informed of aetiology and risks of excessive body weight. However, the problem of overweight and obesity among Malaysian healthcare workers still poorly understood. Thus, the aim of this study was to assess prevalence and factors associated with overweight and obesity among healthcare workers in Health Office, Malacca district. Tengah. This was a cross sectional study conducted between June and August 2018 involving 702 respondents sampled from all health facilities under PKD Melaka Tengah. Demographic, socio-economic and lifestyle data was collected using questionnaires and anthropometric measurements were taken using electronic weighing scale and height measuring bar. Mean age was 35.81 years and overall prevalence of overweight/obesity was 55.6%. Prevalence of overweight, class I obesity, class II obesity and class III obesity was 34.3%, 14.2 %, 4.8% and 2.1% respectively. The identified risk of overweight were aged forty and above (OR: 1.998, 95%CI: 1.389-2.846), non-Chinese (OR: 4.974, 95%CI: 2.129-11.620), married (OR: 1.773, 95%CI: 1.150-2.733), big family size (OR: 1.426, 95%CI: 1.074-1.991), underlying NCD (OR: 1.733, 95%CI: 1.240-2.423), family history of NCD (OR: 1.935, 95%CI: 1.328-2.817), and sedentary lifestyle (OR: 1.522, 95%CI: 1.067-2.172). This study found high prevalence of overweight/obesity among healthcare workers, which was about 1.5 times higher than national average. Older age group and non-Chinese ethnicity emerged as the most conspicuous factors of overweight/obesity.

OP 7

Factors of Pneumococcal Vaccination Acceptance among Adult Population: A Systematic Review

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Pneumococcal disease causes considerable morbidity and mortality, including among adults. Adult pneumococcal vaccines help to prevent these burdens, yet, they are underutilized. Our objective is to systematically collect and summarize the available evidence on the potential factors that lead to pneumococcal vaccination acceptance among of adult community. A systematic literature search was conducted involving studies published from January 1999 to December 2015. The studies were identified by searching electronic resources (PubMed/MEDLINE and Pro Quest database) and manual searches of references. Study setting was focused on factors and determinants that associated with pneumococcal vaccination intake or acceptance. Final studies result and data were reviewed by two independent authors. Disagreement was resolved through discussion and consensus. 17 studies were included in final discussion with 10 domains identified in the paper. 7 studies (41%) reported that the provider domain, patients' perception and socio-demographic factor had the most effect on the pneumococcal vaccination acceptance rate. In addition, only 18% (3) of reviewed papers highlighted that socio-economic factor influenced the pneumococcal vaccination acceptance while 24% (4 studies) were attributed to the comorbid domains. Healthcare provider and patients' perception about pneumococcal vaccination for adult population are significant domains that influence the acceptance towards vaccination. Strong recommendations from healthcare provider for pneumococcal vaccination would be an important step to increase vaccination acceptance among the population. In addition, by increase awareness among high risk group and provide education on benefit of pneumococcal vaccination are believed may increase the acceptance of vaccination.

OP 8

Leptospirosis Prophylaxis for High Risk Adults

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Alcohol use among adolescent is a major public health concern globally due to its health and social impact. Due to rapid biological and psychological development, adolescents are more vulnerable to alcohol abuse and increase chance of taking risky behaviour. Therefore there is a need to determine the magnitude associated with alcohol use among adolescents in Malaysia and its determinant factors. The objective of this study is to estimate the prevalence of alcohol use among school-going adolescents in Malaysia and to determine the factors associated with alcohol use. This study used data from the Malaysian Adolescent Health Risk Behaviour study (MyAHRB), a nationwide cross sectional study in 40 schools in Peninsular Malaysia between May to September 2013. A total of 2610 respondents included in this study. Chi square test and multiple logistic regression were used to calculate odds ratio. The prevalence of current alcohol use and ever drinker among students is 6.1% and 11.7% respectively. Factors associated significantly with the alcohol use were Chinese ethnicity, current smoker, current drugs use, school truancy, mental distress and lack of religious value. Despite of alcohol use was prohibited among students; this high risk behaviour is still prevalence. Intervention focusing on the above factors is pertinent to reduce the level of alcohol use among adolescent.

OP 9

Factors Associated With Failure to Quit Smoking among Attendees of Quit Smoking Clinics in Hulu Langat District, Selangor, Malaysia

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Tobacco smoking is a main public health concern because it is one of the risk factors for non-communicable diseases such as lung cancer, chronic obstructive lung disease, ischaemic heart disease and stroke. Quit smoking clinic is one of the interventions provided by Ministry of Health Malaysia to help smokers to quit smoking. The present study aimed to look into the common characteristics of attendees of quit smoking clinic and factors contributed to failure of smoking cessation among the attendee of quit smoking clinics in primary health care setting in Hulu Langat District, Selangor. This was a cross-sectional study using a retrospective secondary data among 245 quit smoking clinics attendees of Health Clinic in Hulu Langat District from 2016 to 2017. A universal sampling method was used and data was analyzed using SPSS version 22.0. Failure to quit smoking was defined as failure to abstinence from tobacco smoking after attending the quit smoking clinics for at least 6-month. The majority of the smokers were middle-aged, male gender, Malay ethnicity, had at least secondary education level and married. The failure rate of quit smoking clinics was 61.2 %. Factors associated with failure to quit smoking were which clinic attended, being non-Malay, smoke more cigarette per day, lesser quit attempt, quit due to non-health reason, higher Carbon Monoxide level, lesser visit number and higher addiction level. From the logistic regression model, being non-Malay were more likely to fail 49.6 times, higher FTND were 16.2 times more failure while smoke more than 15 years were lesser failure rate. Emphasis should be made towards smokers who are at risk to failure and factors associated with it.

OP 10

Invariant Assessment of Leptospirosis Knowledge and Awareness in Dog Handlers

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Leptospirosis knowledge should be transferred regularly through in-service training to the dog handlers to enhance their awareness pertaining to self-protection against the disease. This study aims to determine the training impact by evaluating the extent of pre and post test scores had changed within the multi-centre of dog handlers. A pre-post test was given to dog handlers recruited at four government organizations using 41 tick-off items. The items were developed for assessing general knowledge about leptospirosis (one item), specific mode of *Leptospira sp.* transmission replicating animal-human-environment interaction concept (13 items) and common Leptospirosis clinical presentations for human (14 items) and animal (13 items). The individual pre-post test scores were generated using Rasch Measurement Model using WINSTEPS version 3.72.3 before submitting it for invariance analysis. The invariance analysis was executed using excel spreadsheet to produce graphical illustration of individual mean and its 95% Confidence Interval value. A total of 100 dog handlers completed both pre- and post-tests (response rate = 100%). As an individual, 98% of dog handlers' knowledge and awareness significantly increased from the pre- to post-test beyond upper limit of 95% Confidence Interval (Mean difference increment of scores= 2.07 logits). The remnant of dog handlers was easily spotted as invariance in pre-post test scores implying further improvement can be done to the specific dog handlers. The dog handlers had increased knowledge and awareness after a session of in-service training. The invariance analysis opens an opportunity to the training evaluator to identify further improvement in future.

OP 11

A Review of Validity of the Social Responsiveness Scale (SRS) for the Detection of Autism Spectrum Disorder (ASD)

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Autism Spectrum Disorder (ASD) is characterized as a neurodevelopmental disorder that affects social and communication skills as well as cognitive and behavioural functions of the affected individual. The recognition and early detection of Autism Spectrum Disorder (ASD) using a validated tool is crucial for a better management of a child with ASD. The objective of this study to conduct a systematic review of the validation studies of the Social Responsiveness Scale (SRS) as a screening tool for Autism Spectrum Disorder (ASD) using the Cochrane Diagnostic Test Accuracy Protocol. This review was conducted using the following electronic databases and search engines: PubMed, Scopus and Science Direct with the following main keywords of autism, autism spectrum disorder (ASD), autistic traits, social responsiveness scale (SRS), children, DSM IV, DSM V, accuracy, validity, reliability, screening and diagnosis. Studies published between the years 2008-2018 were included in the analyses for its relevance to the objective of this review. Studies that involved the general population (typically developing) and or clinical samples of children (ages between 5-18 years old) under the ASD spectrum, including those with ADHD, Asperger's Syndrome, and PDD diagnosed under the clinical definitions of DSM IV and V criteria were included in this review. A total of 125 articles were obtained from the three electronic database searches and upon further screening of titles and abstract of the studies only 10 articles were selected for final data extraction and review. A correlation value of $r > 0.4$, sensitivity and specificity of the SRS of above 90% and 80% were observed across the studies. Only four studies used the 'gold standard' diagnostic measurement tool in their validation process. The use of the Social Responsiveness Scale (SRS) to detect Autism Spectrum Disorder (ASD) is highly encouraged as its validity as discussed and demonstrated in the review shows that the SRS has good screening ability to detect ASD across all ages and population.

OP 12

Partial Least Squares Structural Equation Modelling (PLS-SEM): Application in Medical and Health Sciences Research

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Business and social science researchers have been using partial least squares structural equation modelling (PLS-SEM) analysis technique for many years to extend their ability to develop, explore, and confirm research findings. Although, PLS-SEM is considered as second-generation multivariate data analysis, this technique is still an alien to the medical and health sciences researchers. The purpose of this presentation is to explicate PLS-SEM to medical and health sciences research and exemplify their application. This presentation aggregates new insights on when PLS-SEM becomes a handy statistical technique to nursing researchers. It presents the fundamental aspects of the technique that can be comprehended by individuals with non-statistician mind. To demonstrate its use, we present a research-related example of how PLS-SEM has been utilized. We then provide a series of systematic ways to evaluate and interpret the PLS path models. We also illustrate the analysis of mediating effects, which researchers are increasingly testing in their model. PLS-SEM is the method of choice if a research framework contains both factors and composites. It provides opportunity to visualize how research framework and statistical model match lead to understanding of the displayed results. It is a tremendous analysis technique that is able to test multiple regression models simultaneously and maximize the explained variance of the endogenous latent constructs. It gives researchers the opportunity to gain insight about the effect of independent on dependant variables as a whole by evaluating the map of structural model. PLS-SEM can provide a new perspective on analysing data and potential for advancing research in medical and health sciences.

OP 13

Chronic Kidney Disease Perception Scale: Development and Construct Validation

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The aim of this study was to confirm the construct validity of a recently formulated chronic kidney diseases perception scale as a measure of the perception of chronic kidney diseases among diabetic patients in Primer Clinic, Hospital Canselor Tuanku Mukhriz. The chronic kidney diseases perception scale (CKDPS) was developed based on through literature review guided by socio-psychology and The Health Belief Model. Total of sixty-five items were initially reviewed by experts for face validity, pooled, pretested by 30 health care workers and translated into Malay using simple back translation. The scale was distributed to 300 diabetic patients in Primer clinic for construct validation purposes. The obtained data were analyzed using statistical program MonteCarlo%PA.exe.zip to systematically compare between the eigenvalue that obtain in SPSS with the value that generated by parallel analysis..Then followed by varimax and oblimin rotation method for exploratory factor analysis (EFA). The data was submitted for further confirmatory factor analysis (CFA) using AMOS software. Supported on EFA, the result for socio-psychology produced four constructs as predicted: fear, timeline and motivation, medical practice and cooperation. Two items with low factor loading were removed. The results for perception based on Health Belief Model (HBM) had five constructs as per stated: perceived benefit, perceived barrier, perceived susceptibility, perceived severity and cue to action. Those that unrelated to the recovered domains were removed and two items deleted. The chronic kidney diseases perception scale with likely psychometric properties is now ready to measure risks among diabetic patients that free from chronic kidney diseases and can be used for larger study purposes.

OP 14

Association between Knowledge, Attitude, and Practices on Lifestyle and Cardiovascular Risk Factors among Adults in Rural Area of Yogyakarta, Indonesia

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Prevalence of cardiovascular disease tends to increase among Indonesians. Lifestyle plays an important role on the development of cardiovascular (CVD) risk factors. This study aimed to explore association between Knowledge, Attitude, and Practices (KAP) on lifestyle and cardiovascular risk factors among rural adults in Yogyakarta Province, Indonesia. Respondents were selected purposively. Data on KAP was gathered using a pre-tested questionnaire. The cardiovascular risk factors included BMI (Body Mass Index), WC (waist circumference), Blood Pressure, FBG (Fasting Blood Glucose), and Cholesterol was measured. Data was analyzed using descriptive and correlative statistics. There were 127 respondents recruited purposively, three of them were excluded (response rate: 98.4%). Of the respondents (N=124), 64.5% (80) were female and 35.5% (44) were male. Mean of age is 50.9 years (range: 26 to 75). Most of them (82.3%) had graduated from junior or elementary school only, even had not attended a formal school. Of the 44 male respondents, 52.3% are smokers. As much as 56.5% of 124 respondents had high level of knowledge on healthier lifestyle, 66.1% tended to have a positive attitude towards healthier lifestyle, and 67.7% had healthier lifestyle practices. The CVD risk factors are described as follows: 55.6% are overweight and obese, median of WC, systole, diastole, FBG, and total cholesterol are 82cm (61 - 110.5), 135 mmHg (98 - 216.5), 83.25 mmHg (50.5 - 128.5), 85mg/dl (65-282), and 169 mg/dl (99-316). Knowledge is negatively associated with WC, systole, diastole, and cholesterol; attitude is negatively associated with systole, diastole, and cholesterol; practice is negatively associated with WC and cholesterol, but the associations are weak and not statistically significant. Interestingly, KAP scores are positively associated with FBG levels. There are also interesting findings that the more positive on attitude are associated with higher BMI ($r=0.209$, $N=124$, $p=0.02$) and with higher WC ($r=0.220$, $N=124$, $p=0.014$) significantly. Further research is needed to explore underlying factors that affect CVD risks.

HEALTH MANAGEMENT

OP 15

What Does It Take To Afford Healthcare?

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The Full Paying Patient (FPP) scheme was a Government initiatives introduced in 2007 to lessen the government's subsidy for health services while giving patients the option to choose the specialist doctors. Prior to FPP services expansion, this study aimed to evaluate current healthcare services affordability amongst the FPP and non-FPP patients. This is a cross sectional study, using a pre-tested, self-administered questionnaire, carried out at Selayang Hospital. Patients in Ophthalmology and Obstetrics & Gynaecology departments were purposively sampled from both non-FPP and FPP group. From this questionnaire, affordability was measured using source of payment for healthcare in the last twelve months. Those who borrowed from family/friend(s) outside of their household loaned from banks or sold their possessions to pay for healthcare was deemed unaffordable. Data analysis was done using Stata 12. A total of 192 respondents were involved (88 FPPs and 104 non-FPPs). The findings showed 13.6% of FPPs and 25% of non-FPPs could afford not to pay for their healthcare. The top two sources of payment among those who could not afford in both groups were from family/friend(s) and bank loan. Additionally, 1.1% of FPPs sold items while 3.9% non-FPPs needed to obtain funds from multiple sources. Healthcare is affordable for both FPP and non-FPP groups. Further research involving larger population is needed to confirm generalisability of our findings to enable effective action for the improvement of public health. It is critical to ensure future FPP services expansion aid to improve the nation's healthcare service delivery.

OP 16

Determinants of Hospital Waiting Time in India

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Hospital Waiting Time is an important condition which determines the satisfaction of the patient, access to health care, poor health outcomes, trust in the hospital, willingness to return to the hospital and the revenue of the hospital. This study aimed to analyse the determinants of hospital waiting time based on the demographic characters such as age, sex, race, arrival of the patient by ambulance to the health facility and the type of ownership of the hospital. Studying these important determinants will provide essential evidence about the groups of population experiencing higher waiting times and also the nature of the health facilities wherein such waiting times are higher. This study was conducted among the health facilities in Chittoor district, India between May 2015 and September 2016. The study shows significant effect of age, gender, certain races, ownership of the hospitals and arriving by ambulance in specific facilities on the hospital waiting time. The study thus provides important policy implications, which will be useful for both the Government agencies to take policy actions for both improving the health outcomes of the vulnerable population needing more focus and also policy perspectives for the different hospitals to change their behaviours for certain groups of people who need better care to maximize client satisfaction, to improve revenues and better health outcomes. The study also brings about important gender differences in the hospital waiting time, which needs not only Government policy changes, but also changes in the society as a whole. The study also highlights the policy changes for providing faster care for people arriving in ambulance in Government healthcare facilities.

OP 17

Cost Effectiveness in Cardiopulmonary Bypass Heart Lung Pack

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Cardiopulmonary bypass (CPB) in cardiac surgery is common in Malaysia. It incorporates an extracorporeal circuit to provide physiological circulatory support during cardiac surgery which involves a complex mechanical system. Conventionally, each component and its accessories are purchased and stored as separate items. Due to the rising cost in health-care setting, we introduce a new concept of circuit accessories purchase and storage to achieve effective cost reduction and management. Compared to conventional purchase, our complete heart lung pack consist of additional items include cardioplegia set, pressure transducer sets, Vacuum Assisted Venous Drainage (VAVD) system, and Quick clip “PRONTO” emergency bypass circuit. Purchase price of each separate item, with heart-lung pack were compared. Annual cost reduction was calculated. It is a more complete purchase with lower price as a whole, and therefore we had achieved cost reduction by 27%. In addition, the storage management system is also easy as space conservation. With the same expiry date as a whole set, it facilitates store management and avoiding wastage. Compared to conventional purchase, the new concept of complete heart lung pack purchase and storage has achieved a better cost reduction, wastage avoidance and storage management. It is an important change in our rising costly health-care system, where we can optimize the cost-effectiveness of cardiopulmonary bypass.

OP 18

Cost Analysis of Laparoscopic and Open Hernioplasty at Universiti Kebangsaan Malaysia Medical Centre in 2016

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Inguinal hernias account for 75% of abdominal wall hernias, with a lifetime risk of 27% in men and 3% in women. Repair of an inguinal hernia is one of the most common operations in general surgery, with rates ranging from 10 per 100 000 of the population in the United Kingdom to 28 per 100 000 in the United State. It can be approached by open or laparoscopic. This study aimed to determine cost analysis of open and laparoscopic hernioplasty in UKMMC 2016. This study used retrospective cross-sectional design in order to determine the cost analysis of laparoscopic and open surgery from the provider's perspective per patient-day. Cost of the surgical intervention was obtained from patients' medical record who underwent hernioplasty from 1st January until 31st December 2016. A total of 60 samples (30 each) were eligible for analysis from 102 patients who fulfilled the inclusion and exclusion criteria. The cost is derived from cost calculation on capital and recurrent costs. Results showed that the total cost of inguinal hernia treated by open surgery is RM 3047.39 and if treated by laparoscopic hernioplasty is RM 2211.93. The saving if one patient undergone laparoscopic to undergo open hernioplasty is RM 835.46. This saving is true if we consider all assumptions were acceptable and the co-morbidity of a patient is similar. The recent cost of laparoscopic hernioplasty per patient is RM 2211.93 for an average length of stay per admission is 2.53 days while the recent cost of open hernioplasty per patient is RM 3047.39 for an average length of stay per admission is 3.85 days.

OP 19

Health Financing among Homeless and Its Influential Factors

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The presence of homeless in Malaysia is not a new issue. The existence of homeless population is seen growing along with the development of the country. It is concerning. With the increasing number of homeless, the range of issues that related to them are beginning to appear. Among the issues are related to health and health services received by this population. Although this issue is common to be heard, but there was limited study. A cross-sectional study of 196 homeless sample was conducted using a questionnaire which conducted by using face to face interview. The main objective of this study was to identify the use of health services and the financier of health services among the homeless in Kuala Lumpur and the factors that influence it. This study was conducted in Pusat Transit Gelandangan Kuala Lumpur and Anjung Singgah Kuala Lumpur. The sample in this study was chosen by using the convenient sampling. Furthermore, through the distributed questionnaires, they must answer the questions about the utilization of health services that they received as well as the financiers for their health services. The analysis of this study showed 57.7% homeless were using utilization of health service. This study found there is an association between socioeconomic factors which is employment status and income with financier of health service (income category) by the significant value of $p= 0.009$ and $p=0.00$, $p<0.05$. Next, this study found there is a relationship between demographic factor which is gender, socioeconomic factor which is income and health factors like drug usage with the health services financiers with significant $p=0.039$, $p=0.00$ and $p=0.042$, $p<0.05$. In conclusion, all parties should play a role in ensuring that homeless people are not left behind in the health care accessibility in Malaysia.

OP 20

Combined Systolic Diastolic Hypertension among Adults in Saudi Arabia: Prevalence, Risk Factors and Predictors: Results of a National Survey

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This study aims to determine the prevalence, risk factors, and predictors, of systolic diastolic hypertension among adults in the Kingdom of Saudi Arabia. A community-based cross-sectional study using STEPWISE approach among adults using a multistage, stratified, cluster random sample was carried out. Data were collected using questionnaires which included sociodemographic, blood pressure, biochemical, anthropometric measurements, and lifestyle practices. Statistical analysis included calculating means and standard deviations, proportions, univariate and multiple logistic regression analysis. A total of 4588 subjects, 413 (9.0%) suffered from systolic diastolic hypertension, which was significantly related to age, gender, employment, education, geographical location, smoking, physical activity, diabetes mellitus, obesity, and hypercholesteraemia. Significant predictors of systolic diastolic hypertension were male gender, advancing age, retirement, urbanization, diabetes, and hypercholesteraemia. Systolic diastolic hypertension is associated with some sociodemographic characteristics and co-morbidity. Given the various risks associated with systolic diastolic hypertension, the findings of this study emphasize the need for attempts to prevent and early diagnose the disease focusing on the modifiable risk factors.

OP 21

Willingness to Pay for Cancer Genetic Testing in University Kebangsaan Malaysia Medical Centre (UKMMC)

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Genetic testing can help people understand the risks of their diseases, determine their health care and medical treatment plans as well as adjust their lifestyles. For cancer, genetic testing is most suggested for people with family history that has an inherited cancer risk conditions. This is the first study to evaluate the factors associated with willingness to pay not only among the patients but also their family members and community. The objective is to determine the factors associated with the willingness to pay for cancer genetic testing. This is a cross sectional study done in January to February 2017. A self-administered questionnaire was distributed to 175 respondents in the oncology and day care unit in University Kebangsaan Malaysia Medical Centre (UKMMC) consisted of patients and their care takers (family and community). There were 149 (85.14%) respondents have high knowledge about cancer and 99 (56.57%) respondents have high knowledge about genetic. Majority of the respondents, 66 (94.86%) have positive attitude towards cancer genetic testing, however, most of them, 167 (95.43%) did not practice the testing. There were 103 (58.86%) of respondents were willing to pay for genetic testing for cancer which consisted of 42 (24.02%) respondents among patients, 39 (22.30%) among family members and 22 (12.59%) from the community. The willingness to pay for out of pocket money were majority of them, 121 (69.14%) respondents were willing to pay for RM 500 and below, followed by 23 (13.14%) respondents willing to pay for RM 1,000 and below, 18 (10.29%) respondents willing to pay for RM 2,5000 and below. There were significant associations between status of educational level, income, knowledge and attitude with the respondents' willingness to pay. These findings revealed that community with risk were willing to pay certain amount of money for genetic testing.

FAMILY HEALTH

OP 22

Development of Logical Framework Analysis for Newborn Screening Program for Congenital Hypothyroidism

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Ministry of Health Malaysia has implemented a nationwide Congenital Hypothyroidism (CH) screening program for all babies delivered in government hospitals since year 2013. Based on national data, indicators that hardly achieved are percentage of recalled patients seen for retesting and percentage of treated confirmed cases within 14 days. Besides, monitoring of this program are not clearly documented for evaluation. This study aim to develop a validated Logical Framework Analysis (LFA) tool for the purpose of monitoring of the program activities. LFA is an analytical tool for objectives-oriented project planning and management. Content analysis qualitative study was carried out. Relevant documents such as publish articles, annual report, program guideline and reten were reviewed to develop LFA of this program. To ensure validity and reliability of the data, three in-depth interview among program managers and three focus group discussion among program implementers were conducted to obtain agreement in the LFA drafted. A Validated LFA tool was develop consisted of project descriptions (inputs, activities, outputs, purpose and goals), indicators, sources of verification and risks. LFA is designed to use as management tool during project implementation monitoring and evaluation of NBS Program for CH.

OP 23

Cheras Campus for Special Education Teachers: Post-Training Evaluation on Sexual Reproductive Health (SRH) for Special Children

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Adolescence are always at risk of performing risky behaviour such as sexual risk behaviour. SRH education is essential for adolescents including those with special needs. Child with special needs require a different approach to be educated on SRH. In fulfilling this, a SRH training program was conducted among trainee teachers aimed to assist and instil confidence in educating SRH among adolescents and to educate trainee teachers in recognizing common SRH issues among adolescents particularly those with special needs. This qualitative study objective is to evaluate the postgraduate students' facilitation skills in training 150 trainee teachers (also known as Guru Ilmuan Khas) on SRH based on a developed module, as well as exploring feedback on the program implementation. Focus group discussions were conducted on trainee teachers who had participated in the training program conducted by the postgraduate students. The participants were divided into nine groups comprising 15 participants in each group. A semi-guided questionnaire was used to guide the discussion. Discussions were audiotaped and video recorded with permission. All the audio and video recordings were transcribed verbatim. Transcriptions were analysed using thematic analysis to capture similarities and differences in view expressed by the participants. Eight themes were derived. Three were related to the facilitators which were personality and characteristics, knowledge and skills. Five were related to the programme - time, input, output, outcome and venue. Generally, the programme received positive remarks. However, the programme input needs further improvement in the future. Based on the participants' feedback, the programme managed to achieve its objectives and the competency level of the postgraduate students in facilitating the program was satisfactory. Participants were also encouraged for continuous training programme on sexual reproductive health involving other teachers as the program is very beneficial.

OP 24

Breast Milk Influence on Gross Motor Development

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Though the biocultural phenomenon of breastfeeding is recognized as an unmatched means of feeding, global and local records of breastfeeding pattern indicate substantial room for improvement. This study sought to investigate whether infants who receive six months of exclusive breastfeeding as per recommendation outperform their peers who are not exclusively breastfed in terms of gross motor milestones achievement. This institution based cross-sectional study recruited 360 Malaysian mothers aged above 18 years with children aged six to 36 months old. Information on sociodemographic distribution, child and obstetric characteristics, home stimulation and nutritional factors that include breastfeeding practices were obtained through interviews based on a structured questionnaire. The “Ages and Stages Questionnaire-3” was used to assess child gross motor developmental level; classified into above, close to and below cut-off value. Mothers who did not breastfeed at all made up 5.4% of total respondents. The prevalence of six months exclusive breastfeeding was 36.4% and 31.7% children aged above two years old received continued breastfeeding for at least 24 months of life. Duration of breastfeeding was positively associated with gross motor scoring. Six months of exclusive breastfeeding is a significant predictor of advanced gross motor attainment among children after adjusting for potential confounders (aOR 2.61, 95% CI: 1.04 - 6.56), p-value 0.041. The positive impact of exclusive breastfeeding revealed in this study is hoped to provide an insight in overcoming issues of early cessation of exclusive breastfeeding through community empowerment.

OP 25

Study Protocol Development on Customized Antenatal Growth Chart Monitoring Using Grow-My Application in Improving Perinatal Outcome

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Incidence rates of preterm birth and small for gestational age (SGA) are still high in Peninsular Malaysia. The incidence varies among different ethnic groups. This is a study of the development and validation of the GROW-MY chart which is a customized antenatal fetal growth monitoring in UKM Medical Centre (UKMMC). GROW stands for gestation related optimal weight and MY stands for Malaysia. The chart plots symphysio-fundal height (SFH) measurement according to gestational age. The curve standard is plotted based on coefficient measurement obtained from retrospective analysis of the UKMMC labour room data. Through the analysed relationship of maternal ethnicity, height, weight, parity and fetal sex to birth weight, intrauterine growth restriction (IUGR) and stillbirth, the chart is developed to obtain optimal fetal growth based on the Malaysian population standard. Collaboration with the Perinatal Institute of Birmingham who has implemented the customized antenatal GROW chart for National Health Service in United Kingdom is formed to develop this present study protocol. Screening and management of algorithm for SGA cases has been developed based on consensus meeting and validation by the experts. The antenatal growth chart will be developed using retrospective data that reflect the national multi-ethnicity population of Malaysia. Ultrasound data from the hospital will be used to determine if the customized fetal growth charts are accurate in predicting optimal fetal weight. All Malaysian (Malay, Chinese & Indian) singleton normal births (without present/stated maternal illness or fetal anomaly) delivered in UKMMC from January 2019 to December 2019 will be selected to assess the effectiveness of the chart and algorithm in preventing SGA. Feasibility testing of the customized fetal growth chart is conducted to observe limitation in its implementation.

OP 26

Factors Associated with Health Literacy among Type 2 Diabetes Mellitus Patients Attending Tanjung Karang and Sungai Tenggi Kanan Health Clinics in the District of Kuala Selangor, 2017

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This article aims to determine the factors associated to health literacy and the predictors of adequate health literacy among T2DM patients attending Tanjung Karang and Sungai Tenggi Kanan health clinics in the district of Kuala Selangor. A cross-sectional study using a self-administered questionnaire was conducted with a total of 223 respondents with T2DM. The respondents were selected using systematic random sampling from a list of T2DM patients attending the two health clinics. The questionnaire consists of 8 sections. IBM Statistical Package for Social Science (SPSS) Version 23.0 was used to analyse all collected data with significance level at $p < 0.05$. The predictors were then analysed using multiple logistic regression. The response rate was 86.9%. A total of 85% of the respondents had adequate health literacy. Factors found to be significantly associated with the level of health literacy are the level of education, household income, diabetes duration, diabetes knowledge, SDSCA exercise, blood glucose testing, and foot care and all DQOL domains. The odds of having adequate health literacy among those with secondary/tertiary education people were 5.9 times higher compared to those with primary education [AOR = 5.917, 95% CI (0.038, 0.757)]. Adequate health literacy is also increased 4.5 times with 1 unit increase of household income [AOR = 4.566, 95% CI (1.064, 19.598)]. The odds of having adequate health literacy increased by 1.5 times with the increase in 0.4 units of exercise score [AOR = 1.459, 95% CI (1.016, 2.095)]. The odds of having adequate health literacy increased by 1.4 times with the increase in 0.3 unit of foot care score [AOR = 1.362, 95% CI (1.018, 1.823)]. The prevalence of adequate health literacy was high among the T2DM patients. The predictors of adequate health literacy are level of education, household income, and SDSCA.

OP 27

Antepartum Depressive, Anxiety and Comorbid Symptoms among Men and Women in East and West Coast of Malaysia: A Cross-Sectional Analysis of a Perinatal Psychiatric Morbidity Cohort Study

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Research on antepartum psychiatric morbidities investigating both depressive and anxiety symptoms in women and men are lacking in low- and middle-income countries. This study estimated the prevalence of depressive, anxiety and comorbid symptoms and explored the associated factors in a cross-section of Malaysian pregnant women and their husbands. The study used cross-sectional data originating from a prospective cohort study of 911 women and 587 husbands during the third trimester of pregnancy, from health clinics of two states in east and west coast of Malaysia. The validated Malay version of Edinburgh Postnatal Depression Scale, and the anxiety scale of Depression, Anxiety and Stress Scale were used to measure depressive and anxiety symptoms. Multiple logistic regression analyses identified the determinants of antepartum depressive and anxiety symptoms (ADS and AAS). Prevalence of ADS was 12.2% in women and 8.4% in men, while AAS was 28.8% in women and 13.3% in men, and co-morbid symptoms was 8.0% in women and 4.0% in men. Women and men having perceived social/family support were less likely to suffer from ADS. Intimate partner violence, poor relationship with husbands, depression in earlier pregnancy and husband's depression in current pregnancy in women, and living in rented house, sex preference for the unborn child, stressful life events and wife's depression in current pregnancy in men were associated with a greater likelihood of ADS. The determinants for AAS were living in rented house and with parents/in-laws, poor relationship with husbands, restrictions during pregnancy and stressful life events for women, and stressful life events and being unsupported towards wives in household chores for men. Depressive and anxiety symptoms during pregnancy are prevalent in women and men, and largely an undetected problem in Malaysia. Administration of couple-based screening and referral programme during antenatal check-up should be universal practices to identify and treat the psychiatric morbidities.

OP 28

Breastfeeding Mothers Understanding of Growing-Up Milk Advertisement in Malaysia and Singapore

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A study was conducted to determine if marketing of growing up milk in mass media influences a mother's choice of feeding. Objectives of this study are to determine whether mothers could differentiate advertisement on growing-up milk from other types of formula milk and to determine whether the marketing of growing up milk in mass media influenced a mother's choice of feeding. An interviewer based questionnaire was constructed with questions using the Likert Scale and targeted at mothers attending the maternal child health clinics in Alor Gajah, Kuala Langat, Serdang, Klang, Kuala Lumpur in Malaysia (n=106) and Singapore (n=202) for the period of March and October 2017. Systematic random sampling of breastfeeding mothers with children below the age of 5-years was conducted to obtain the samples for this study. Verbal consent was taken before commencement of the study. The mean age of mothers was 32+4.6 years and the mean age of babies was 2.1 + 1.0 years. 89.8% of mothers had tertiary education while the remainder had secondary education (10.2%). The pilot study to test the validity and reliability of the questionnaire was conducted in June 2014. The Cronbach Alpha value for negative oriented questions was 0.77 and for positive oriented questions was 0.67. It was found that 90.6% of mothers were able to recall the brand name of the formula after being exposed to the picture for 10 seconds. The words "Mama's Milk" was seen by a higher percentage of mothers compared to the numbers 1, 2 and 3 & 4 which points to a possible linking of mother's milk to infant and growing up formula. The paradoxical finding was that even though the majority of mothers thought they could differentiate the advertisement for infant formula and growing up milk, the only thing that attracted them to the paper advertisement was the brand name and many could not recall what type of milk was being advertised.

OP 29

An Assessment of Knowledge, Attitude and Practices towards Premarital Carrier Screening of Beta Thalassemia: A Cross-Sectional Survey among University Students in Larkana Sindh, Pakistan

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Beta thalassemia is one of the most widely inherited hematologic disease and can provoke extreme transfusion-dependent anaemia. Around 56000 individuals worldwide are conceived every year who are effected with beta thalassemia and around 30,000 individuals have to depend on blood transfusion throughout life. The most practical methodology for decreasing the weight of haemoglobin disorders is to manage the disease with awareness and prevention programs. Knowledge towards premarital carrier screening for beta thalassemia is necessary to decrease the burden of the disease in society. The aim of this study was to assess the knowledge, attitude and practice about premarital carrier screening towards beta thalassemia among the university students of Larkana city, Sindh, Pakistan. A cross-sectional study was conducted among 420 university students aged 18 to 25 years old from three universities of Larkana city, Sindh, Pakistan. A self-administered questionnaire on knowledge, attitude and practice towards premarital carrier screening for beta thalassemia and its associated factors was distributed among the respondents immediately after the lectures in the lecture halls of selected universities. The results showed that overall 56.9% respondents had poor knowledge, 63.8% respondents had negative attitude towards premarital carrier screening, around 62.1% respondents had poor practices towards premarital carrier and premarital carrier screening for beta thalassemia was performed among the family members of only 41.7% respondents. There was a significant association between gender and knowledge where more female respondents had good knowledge around 58.5% than male respondents (35.8%). There was a significant association between university of respondents and knowledge, where majority of the respondents from medical university (SMBBMU) had more knowledge around 57.8%. The association between university of respondents and attitude was significant, where majority of the students from medical university (SMBBMU) had positive attitude. As a conclusion, university students of Larkana city, Sindh Pakistan had poor knowledge, attitude and practice towards premarital carrier screening of beta thalassemia. Health promotion for premarital carrier screening for beta thalassemia should be done on a larger scale.

OP 30

Study on Health Education in Managing Pregnant Women with Anemia in Sepang: A Study Protocol

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Anaemia in pregnancy is a common health problem in Malaysia and has a significant health consequence to mother and their infants. The aim of this study is to develop, implement and evaluate the effects of a theory-based health educational intervention on the haemoglobin level among anaemic pregnant women. This study uses a quasi-experimental study design and involve two groups of antenatal mothers (control and intervention) from two health clinics in the sepang district. There will be 81 anaemic pregnant women per group. The primary outcome is haemoglobin level. Secondary outcome include knowledge regarding anaemia, Health Belief Model constructs, dietary iron intake and level of compliance towards iron supplementation. Both groups will be receiving routine antenatal care. Additionally, the intervention groups will be given a validated theory-based health education intervention on anaemia in pregnancy. This module was developed based on Health Belief Model and will be implemented using three strategies: pre and post intervention assessment and health education intervention. The pretest assessment will be measured before 24 week of gestation and followed by the health education intervention will be held within 12 weeks. The methods used in the module included health talk, small group discussion, poster presentation and pamphlets. Post intervention evaluation will be measured between weeks 35 to week 37 of gestation. If the intervention is effective in improving the outcome for pregnant women with anaemia, this approach could be taken into consideration to improve the anemia in pregnancy after further research.

OP 31

The Health-Related Quality of Life of Malaysian Gastrointestinal Cancer Patients

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Gastrointestinal (GI) cancer cases diagnosed are increasing in trend. Numerous literature is available on the epidemiology, pathogenesis and treatment of GI cancers but there is scarcity of studies on the quality of life (QOL) of GI cancer patients specifically. The purpose of the study was to determine the QOL of GI cancer patients and the associated factors. This cross-sectional study (from August 2017- February 2018) recruited a purposive sampling of 323 GI cancer patients from three major oncology centres. The patients completed questionnaires on demographic, clinical characteristics and SF-12 after given their written consents. A Malay validated SF-12 was used to measure the QOL. Analysis of variance (ANOVA) and Pearson correlation were carried out. The mean age of the patients was 59.59 + 11.98, ranged 22-86 years old. The proportion of patients was Malays (50.2%), Chinese (35.3%), Indians (13.6%) and others (0.9%). The mean duration of the cancer was 20.27 months +26.19. An estimated 53.6% of them were in stage 4. The Physical Component Summary (PCS) of 38.03+12.67 was lower than the Mental Component Summary (MCS) of 45.12+11.75. Out of the 8 domains of QOL, the Mental Health score was the highest (45.42+11.71) while the lowest was General Health score (37.88+10.80). Income level ($r=0.12$, p value=0.04), ethnicity ($F=2.87$, p value=0.04), duration of cancer ($r=0.12$, p value=0.04), and type of cancer ($F=7.71$, p value<0.01) were significantly associated with the MCS. None of the factors were significantly associated with the PCS. The GI cancer patients had lower score in the physical health aspect compared to their mental health. Further research is required to look for the determinants for low scores of physical aspect which may be related to the GI symptoms.

OP 32

Stres Kebimbangan dan Kemurungan dalam kalangan Penjaga Pesakit Leukaemia Kanak-Kanak

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Penjagaan pesakit kanak-kanak leukemia memerlukan pemerhatian dan tumpuan yang tinggi untuk memastikan rawatan yang disarankan oleh Pakar Perubatan dapat dilaksanakan dengan baik. Perkara ini sedikit sebanyak akan menjejaskan kefungsi sosial, meningkatkan stres, kebimbangan dan kemurungan dalam kalangan penjaga. Oleh itu, kajian irisan lintang ini dijalankan untuk mengkaji prevalen serta faktor-faktor yang mempengaruhi stres, kebimbangan dan kemurungan dalam kalangan penjaga kepada pesakit leukemia kanak-kanak. Oleh itu, kajian irisan lintang ini dijalankan untuk mengkaji prevalen serta faktor-faktor yang mempengaruhi stres, kebimbangan dan kemurungan dalam kalangan penjaga kepada pesakit leukemia kanak-kanak. Sampel kajian adalah 54 orang. Data diukur menggunakan DASS-21 versi Bahasa Malaysia yang telah divalidasi oleh kajian lepas. Hasil kajian mendapati bahawa prevalen stres rendah dalam kalangan penjaga kepada pesakit leukemia kanak-kanak adalah 88.9% manakala prevalen stres tinggi adalah 11.1%. Prevalen kebimbangan rendah adalah 90.7% dan prevalen kebimbangan tinggi adalah 9.3%. Prevalen kemurungan rendah adalah 96.3% dan prevalen kemurungan tinggi adalah 3.7% dalam kalangan penjaga. Terdapat beberapa faktor yang mempengaruhi stres dan kemurungan dalam kalangan penjaga secara signifikan ($p < 0.05$). Faktor yang mempunyai hubungan dengan status kemurungan adalah jantina penjaga dan hubungan antara penjaga dengan ahli keluarga sama ada erat atau tidak erat ($p < 0.05$). Sebagai kesimpulan, faktor sosiodemografi dan hubungan antara penjaga dengan ahli keluarga sama ada erat atau tidak erat mempengaruhi stres dan kemurungan dalam kalangan penjaga kepada pesakit leukemia kanak-kanak manakala faktor tahap pengetahuan tidak mempengaruhi stres, kebimbangan dan kemurungan dalam kalangan penjaga. Strategi diperlukan untuk bantu mengurangkan stres, kebimbangan dan kemurungan dalam kalangan penjaga kepada pesakit leukemia kanak-kanak.

OP 33

Development and Effectiveness of Sexual Reproductive Health Training Module for Children and Adolescent with Disabilities

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Sexual reproductive health (SRH) is an important topic for discussions to be taught in the community. The increase in cases involving unwanted pregnancy among adolescents, sexual transmitted infections, illegal abortions and sexual exposure at young age asking attention by the society. Children and adolescents with special needs are more prone to sexual abuse and deal with sexual behaviour problems, as they not able to identify and report the situation they faced. The right for this group of population to be provided with knowledge and skills which required them to understand and able to manage their own reproductive health and their security. Low confidence level among teachers on SRH teaching is one of inhibiting factor. The objective of this study project is to determine the effectiveness of Training Module on sexual reproductive health for children and adolescent with special needs. The project conducted by 19 Doctorate of Public Health student UKM, with undergraduate student of special needs education program in IPG. The module presentation through interactive seminar, forum and structured group activities. The assessment by guided self-administered questionnaire pre and post program on SRH knowledge, SRH teaching attitudes and confidence level. Paired t-test is used for statistical analysis. The total post-test average score is higher with mean difference 4.054 (95% CI: 2.993 - 5.114). There are statistically significant difference ($p < 0.001$) in all domains with higher post-test average score; with mean difference for confidence level 0.652 (95% CI: 0.502 - 0.802), mean difference for knowledge is 2.536 (95% CI: 1.898 - 3.173), while attitude mean difference 1.518 (95% CI: 0.894 - 2.142). The Training Module was effective in improving knowledge and attitudes of the participants on SRH teaching, while the overall confidence level of the participants were improved. SRH education among children and adolescent with special needs are important, to ensure the understanding and prevention of SRH related problems.

HEALTH PROMOTION

OP 34

Developing a School Based Mental Health Program to Prevent the Incidence of Psychotic Illness in Yogyakarta, Indonesia: A Screening Phase

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The prevalence of psychotic disorders has been estimated to be only between 1 to 2 percent of the population, but the burden of disease is very high. There have been increasing studies that focus on the early phase of the illness, aiming at developing a primary prevention. This paper aiming at describing a screening phase of the development of a school based mental health program to prevent the incidence of psychosis. The screening for Ultra High Risk (UHR) individual was conducted using self-report surveys in two high schools in the area of Yogyakarta province. Total number of students participated was 381 (15 - 17 years old). 5 standardized instruments were used: (1) CAPE (Community Assessment Psychic Experience) to measure life time psychotic experience, (2) Self-esteem Scale, (3) Mental wellbeing scale, (4) Resilience scale, (5) social support scale. Qualitative data was gathered through Focus Group Discussion. Using a cut-off score of 3.20 for CAPE scale, 28.65% subjects (110 students) met the criteria for a UHR status for psychosis. This percentage is comparable to a number of previous studies indicated that psychotic experience among adolescence is considered a normal experience. T-test analysis showed that there were no significant different between UHR group and Non-UHR group on self-esteem, mental wellbeing, resilience and social support ($p > .01$). This result suggested that the UHR group currently live a normal life. However, FGD data indicated that 10% of subject with highest CAPE score experienced psychological trauma and domestic violence. Data screening survey in this research support the literature that psychotic experience is considered normal experience among adolescence. Only very few of them are predicted to turn into psychosis. Prevention and early intervention program at school is crucial to prevent the incidence of psychosis

OP 35

Validity of the Bahasa Malaysia Version of Patient Education Materials Assessment Tool

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The Patient Education Materials Assessment Tool (PEMAT) is a tool to evaluate understandability and actionability of patient education materials (PEMs). It has two versions: PEMAT-P for printable materials and PEMAT-A/V for audio-visual materials. This study determined the validity of the Bahasa Malaysia version of PEMAT, designated as PEMAT-P(M) and PEMAT-A/V(M). Twenty health care workers (HCW) of various health fields involved in delivery of health education to patients at the Ministry of Health (MOH) facilities were recruited to evaluate one printable and one audio-visual PEM. This was followed by reassessment of the materials using the Suitability Assessment of Materials (SAM) instrument, an established instrument for measuring suitability of PEMs. In addition, a consumer testing was done on 16 adult patients attending MOH facilities. Each patient evaluated one PEM, either printable or audio-visual. Their understanding of the PEM and the extent of knowing what actions to take was assessed. Two types of scores were yielded: comprehension score and numeric score. Significant correlations were observed between the understandability and actionability scores of both PEMAT-P(M) and PEMAT-A/V(M), with correlation coefficient of 0.852 and 0.702 respectively. The understandability and actionability scores of both PEMAT-P(M) and PEMAT-A/V(M) were also significantly correlated with SAM scores. The correlation coefficient ranged from 0.693 to 0.894, suggesting positive and moderate to high correlations. The understandability and actionability scores of all 16 PEMs were significantly correlated with the consumer testing comprehension and numeric scores, with correlation coefficients that ranged from 0.521 to 0.758. The Bahasa Malaysia version of PEMAT is a valid instrument for measuring understandability and actionability of PEMs developed in Bahasa Malaysia.

OP 36

Framework of Initiatives to Address Antimicrobial Resistance - Global to Local Interagency Coordination

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Recent initiatives to address antimicrobial resistance (AMR) vibrate concerted efforts from global to local interagency coordination (IAC). This presentation aims to demonstrate the labyrinth of IAC in addressing AMR issues to provide an insight about the issues for future public health actions to be taken. Content analysis was applied on working document of Interagency Coordination Group on Antimicrobial Resistance entitled AMR Framework for Action and Operational Framework for Strengthening Human, Animal and Environmental Public Health Systems at their Interface. The establishment of content categories was guided by One Health System Mapping in a hierarchical manner i.e. type of agency and its major role, and movement of data/information. In each document, context related to task, ways of communication and decision making were analysed. These contexts were recorded in Excel sheet with colour coded indicators. World Health Organization initiated the effort in combating antimicrobial resistance, the result improves as Food and Agriculture Organization of the United Nations and World Organisation for Animal Health partakes in the ownership. UNGA Political Declaration to tackle AMR 2016 set up pillars to combat antimicrobial resistance using one health approach via multi-levers as laid out in the 5 strategies of Global Action Plan through One Health Approach 2016. The declaration was birth from Global Development and Stewardship framework for AMR 2016 in synchronizing effort with Sustainable Development Goals (SDGs) 2015-2030. Interagency Coordination Group for Antimicrobial Resistance summarized the Framework for Action for antimicrobial resistance in year 2017. The global to local framework of initiatives to address antimicrobial resistance was simplified visually. This IAC mapping can be a useful tool for the public health specialist to ally with others to combat AMR issues at Malaysian setting.

OP 37

The Association of Knowledge, Attitude and Practice of Hand Hygiene and Methicillin-Resistant Staphylococcus Aureus (MRSA) Influence the Prevalence of MRSA among Haemodialysis Patients

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Staphylococcus aureus, particularly methicillin resistant (MRSA) colonization have been identified as a reason in developing infection which lead to mortality among end stage renal failure patients who received haemodialysis. Meanwhile, survey of knowledge, attitude and practice of hand hygiene and MRSA mostly being recruited on healthcare workers only. The present study aimed to investigate the knowledge, attitude and practice of hand hygiene and MRSA colonization in haemodialysis patients. A further objective was to determine the prevalence of S. aureus and MRSA, their association with KAP as well as the sensitivity of the antibiotics. A cross sectional study was conducted at Nephrology Unit Hospital Canselor Tuanku Muhriz between February 2017 to February 2018. Convenience sampling method was selected for the respondents. Face-to-face interview using standardized and validated questionnaires of KAP were used. Sample of nasal swabs were collected, cultured on mannitol salt agar and other biochemical tests for S. aureus determination. Isolates were further screened for MRSA using 30 µg cefoxitin disc and others six antimicrobial drugs by disc diffusion procedure. Data of questionnaires were analyzed using SPSS version 23.0. A total of 134 respondents participated in this study. The mean score of hand hygiene and MRSA colonization knowledge was low 7.40 (± 3.26), moderate attitude 4.79 (± 1.65) and high practice 4.57 (± 0.84). There were 27 (20.1%) S. aureus and no MRSA detected. The most effective antibiotics to S. aureus were teicoplanin, linezolid and cefoxitin with each recorded 100% susceptible. The highest resistance to S. aureus isolates was erythromycin with 29.6%. This study identified high score of practices among HD patients of hand hygiene and MRSA colonization is the factor that prevents the occurrence of MRSA. However, education structured programs need to develop to create awareness and might reduce the overall prevalence of S. aureus.

UNIKL

OP 38

A Low-Cost Smart System for Real-Time Pulse Rate Monitor to Identify Heart Problem Using IoT

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Heart disease is rapidly growing in every year due to unhealthy life style and lack of health diagnosis and treatment. People should aware and avoid of manmade environmental effects that causes heart problem i.e. smoking, consuming unhealthy cooking oil, polluted air in the industrial areas etc. The heart problem can be avoided by using Internet of Things (IoT) technology for early detection of heart disease. This paper aims develop an embedded system which will monitor the patient's pulse rate in real-time basis in order to diagnose the heart status by the medical doctor. This research is covered a wide range of study especially in pulse rate and the health of patient's body which will be communicating through cloud computing network. This work investigates the IoT platform using Texas Instrument CC3200 Launchpad Microcontroller system that integrates with the pulse sensor, microcontroller and the IoT system. The sensor is used to estimate the changes of blood volume at fingertips and eventually detect the heartbeat of the patient. The signal received from fingertip will processed via analog filters and the output is sent to a computer through a microcontroller interface to be processed using Energia IDE, which is a software that compatible with the Texas Instruments controller. The data obtained send through the MQTT sever which acts as Internet Protocol and keep the data in the server by using Internet. Furthermore, the data is monitored from the website or the apps used by the medical doctor. The proposed system was developed and tested on the five number of subjects with the age group 20-30 years old male. They were tested in different time but each of them was continuously tested for two hours and keep track their pulse rate in real-time basis no matter wherever they are or what they do. The results show the real-time pulse rate for the subjects which were verified, and we found 93% data was accurate observed from cloud server. Finally, the pulse data was sent for further diagnosis. This work will able to help the patients to monitor their health condition especially for those who suffered from heart problems. Early detection of problems can be treated by the doctors. At the same, this work also can promote the awareness about the importance of health indirectly towards people. By adding more sensors to detect other health parameters such as blood pressure, body temperature, and daily physical activities will be enhancing this system in future.

OP 39

Surface Functionalization and Characterization of Carbon Modified Graphene Nanoplatlet for Sensitive and Selective Immobilization Protein Tumour Markers

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The carbon modified graphene Nanoplatlets (GNP) electrode with amine terminated using 3-Aminopropyltriethoxysilane (APTES) represents an attractive features for active field of research and development in biosensor including biomedical analysis. Here we report the studies on carbon modified Graphene Nanoplatlet (GNP) and its surface functionalization using electrochemical method. The carbon electrode surface were first modified by GNP via drop casting method. The amount (dropcast) was calculated based on the dilution percentage of 4%, 8%, 12%, 16%, 20% and 100% in water from 1 mg of GNP. The selection was made based on the electrochemical response and Raman characterization. The oxidation and reduction peak of cyclic voltammogram was observed in all percentage; however, 16% GNP shows better peak separation. Curing time and oven baked temperature ratio of 1 hour: 100°C, 1 hour: 60°C, 1 hour: 120°C, 12 hour: 100°C and 12 hour at room temperature respectively were analyzed using cyclic voltammetry in redox solution of 1 mM Ferrocene Carboxylic acid in PBS pH 7.4. Significant result shows inconsistency of redox cycle and peak potential near to unmodified carbon electrode. Secondly, the GNPs surface was functionalized using 2% of APTES. The commercial reduced graphene oxide (rGO) screen printed electrode (SPE) was also functionalized to study their correlation in peak separation. We observed the GNPs peak-to-peak potential separation is 0.0993 mV smaller compared than rGO 0.432 mV at 100 mVs⁻¹ scan rate. The high conductivity of GNPs electrical properties could be due to an increase in reversibility of ion oxidation and ion reduction which resulted to a decreased in resistance charge transfer across GNPs. In addition, Raman measurements were performed to analyze the effect of hydroxylation and APTES functionalization on GNPs and rGO electrode. The contribution of these studies will be used for sensitive and selective immobilization of protein tumor markers related to lung cancer.

OP 40

A Real-Time Aedes Mosquito Detection System to Prevent Dengue Disease in Malaysia

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The dengue fever brought by Aedes mosquitoes is listed as the most prevalent disease in Malaysia with a ratio of 328.3 cases per 100,000 population in recent time. An automated computational system is required to detect Aedes mosquito to protect the mass population from this terrible disease. Traditional methods for mosquito classification involve highly manual process requiring tedious sample collection and supervised laboratory analysis. In this research, we introduce a novel method to identify Aedes mosquito by investigating biometric feature analysis. The identification system consists of video surveillance system where an OpenCV based tools will analyse the mosquito to classify the specific mosquito from among other species in real time. The tool uses Deep Learning Neural Network (DLNN) classification to classify the mosquitoes according to its species and other insects. The proposed solution will be tested and benchmark with existing classification techniques to validate its functionality. The OpenCV has built to focus on facial recognition for raw histogram computation using DLNN classifier. The results of the classification prediction show that most of the mosquito images were predicted correctly and only one was predicted as baby chair from eight images which were taken near Gombak, Kuala Lumpur area during afternoon time. The classification learning is basically depending on the images feed to the learning directory. The accuracy of the system is about 83% which quite good to be used for mosquito classification in real time basis to reduce dengue disease. Biometric analysis of mosquitoes have shown that mosquitoes can be identified using biometric markers such as wingbeat frequency, body colour, shape, and size. These biometric identifications can be used to classify the mosquitoes accordingly. Deep Learning Neural Network model shows a successful classification capability to prevent from Aedes mosquito bite. The research into classification of mosquitoes is a currently active however no solution has yet to be found since at the moment all the mosquitoes are being treated as equally dangerous. Therefore, the proposed solution will be a novel work for the researcher to work in further improvement for Aedes mosquito detection.

OP 41

Mediating Effects of Health on Stressor and Work Performance: A Case of Practical Training Students in a Malaysian Government-Linked University

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Study on the issue of internship students' stress is scarce particularly among students in government-linked universities (GLUs). From the literature review conducted, stress can have an impact upon health. This, in turn will affect work performance. Therefore, the purpose of this study is to examine the relationship between stress and health, and subsequently on the work performance of the internship students in a GLU. A Shortened Stress Screening Tool or ASSET was used to measure the stress level of the students. From the ASSET model of stress, the source of stress was identified. They are: Work Relationships, Work-Life Balance, Overload, Job Security, Job Control, Resources and Communication, Aspect of the Job, and Pay and Benefits. Meanwhile, the effect of stress which is Health is also measured. Health consisted of Physical Health and Psychological Well-Being. Finally, Individual Work Performance was measured using individual work performance measures. Work performance was measured through Task Performance, Contextual Performance, and Counterproductive Behavior. The sample of study was taken from the final year undergraduate business students from a GLU. They underwent a three-month practical training period with outside companies. Using the systematic sampling technique, 250 internship students were selected as the sample of the study. Multiple regression analysis (MRA) technique was utilized to analyze the direct and indirect effects of the study. Results indicated that certain stressors such as work relationship ($\beta = - 0.328$; $p < 0.01$); control ($\beta = - 0.186$; $p < 0.05$); resources and communication ($\beta = - 0.196$; $p < 0.05$); and pay and benefits ($\beta = - 0.243$; $p < 0.01$) were significant and negative in affecting their work performance at the workplace. In conclusion, organizations employing practical students are suggested to intervene the stress process.

OP 42

Design and Fabrication of Coconut Gripper V2

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Development and innovation in technology tends to change the existing products to the better. The main merits of this proposed machine were it is economical, efficient in terms of time and energy and to enhance the safety features of the existing Coconut gripper V1. There were few accident cases involving the conventional coconut gripper in Malaysia. Thus, it is important to educate people on the safety precautions and potential hazards of the conventional coconut gripper to avoid such accidents. The existing coconut gripper in Malaysia is normally time consuming, difficult to handle by amateur and lack with safety features. This paper aims to increased automation and safety in the existing coconut grated that will lead to lower demand on manpower and producing a compact design of coconut gripper. The design and innovation is taken from the Coconut gripper V1. In the implementation of the Coconut gripper V2 the addition aspect includes the use of a gripper which act as a human hand to grasp, move and place objects. The Coconut gripper V2 is equipped with three mechanical fingers to maximize the grip and to withstand the impact caused from the blade. The average time taken for conventional machine is less than 2 minutes. The average time taken is dependent upon the efficiency of the suction machine users. The average time taken to grate coconut using G-wedge is approximately three minutes. The process takes longer time due to strengthening process of the grip on the G-wedge. The use of G-wedge is also hard as the person need to balance the coconut position before strengthening the G-wedge grip. The average time taken of Coconut gripper 2 is 2 minutes 30 seconds. In conclusion, this tool is expected to make it easier for the user as well as the safety factor can be improved.

POSTER PRESENTATION

ENVIRONMENTAL HEALTH

PP 1

Association between Air Pollution and Respiratory Mortality in Selangor, Malaysia

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Every 1 in 9 deaths in the world were due to air pollution thus rendering air pollution as one of the major public health threats. Air pollution has negative impact on respiratory health. The air pollution in Malaysia comes mainly from land transportation, industrial emissions, and open burning sources. This ecological study investigated the relationship between monthly air pollution and respiratory mortality in Selangor between years 2010-2015. The associations between monthly respiratory mortality and air pollution were calculated. Air pollution are defined as particulate matter with aerodynamic diameter less than 10 μm , nitrogen dioxide, carbon monoxide, sulfur dioxide and ozone. Monthly data on air pollution, mortality, and weather condition were collected from Department of Environment (DOE). Data on monthly mortality are collected from Department of Statistic Malaysia (DOS) by using ICD-10 classification diseases of the respiratory system. The data were analyze with SPSS Version 21.0 and statistical tests such as Pearson/Spearman correlation, simple linear regression and multiple regression were performed. The results showed that sulphur dioxide (SO₂) and ozone (O₃) are significantly associated with number of respiratory mortality in bivariate analysis. SO₂ correlation coefficient with respiratory mortality (r): -0.339, coefficient determination (r²): 0.11 with p-value: 0.004. O₃ correlation coefficient with respiratory mortality (r): -0.254, coefficient determination (r²):0.065, p-value: 0.032. However, in multivariate analysis only SO₂ was found to have significant association with respiratory mortality with regression coefficient β : -254.899(p-value: 0.018). As a conclusion, sulphur dioxide is associated with respiratory mortality in Selangor, Malaysia. Others air pollutant such as particulate matter, carbon monoxide, ground level ozone and nitrogen dioxide were not statistically significant associated with respiratory mortality.

PP 2

A Systematic Review of Bauxite Mining on Malaysia: When Good Governance is Least Value

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Bauxite mining in Kuantan, Malaysia had caused disruption in the surrounding ecology, causing environmental pollutions and negative health impacts. This systematic review focussed on identifying specific impacts of mining industry on economic, governance, environmental pollution and health status of local community. A systematic search of articles published between January 2013 and January 2018 was conducted via six search engine (Scopus, Ovid Medline, PubMed, Google Scholar, Science Direct and Ebscohost). Articles were sorted using PRISMA flow. There were 19 studies identified, which met the criteria included in the review. Bauxite mining had caused severe air pollution, water pollution, soil erosion and health impact. Uncontrolled pollutions were due to bad governance and greed of 'hidden hand' despite of minimal contribution to local council income compared to actual trading of bauxite. This review revealed poor governance practice as major predictors for severe impact of uncontrolled bauxite mining in Kuantan. The knowledge opens for intervention and prevention by respective authorities to be concern regarding proper planning, discussion and improved coordination via top-down and bottom-up level for further formulation. Stringent and strong policy governance are required by the state government. Respective authorities should be held responsible for turning a blind eye on the poor impact of uninhibited bauxite mining activities.

PP 3

Cardio-Toxicological Studies Conducted at UKM in the Past Five Years

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Environmental Health unit at Department of Community Health UKM is one of most prolific centre in doing clinical toxicological studies in this country. The researchers are led by a toxicologist registered with the American Society of Toxicology. Various studies were conducted and published in seminars and journals. The UKM eRepository system and research works by students were used to retrieve the database. A study among the adults in Tanjung Karang found about 49% of them has abnormal resting ECG. Prolonged QTc (33%) was the most common changes followed with abnormal T wave axis (27%), and prolonged QRS (3%). Another similar study found that prolonged QTc was associated with older age (adjOR=1.12; 95%CI = 1.03 - 1.22), female (adjOR=2.95; 95%CI = 1.58 - 5.50), obesity (adjOR=2.75; 95%CI = 1.23 - 6.16), and bigger waist circumference (adjOR=1.06; 95%CI = 1.02 - 1.09). Meanwhile, the prolonged QRS wave was related to older age (adjOR=1.12; 95%CI = 1.03 - 1.22) only. Next related study found the evidence of serum zinc as a protective towards cardiotoxicity particularly prolonged QTc interval. The study also revealed that the abnormal ECG was also related to low education and current active smoker status. Those with hypertension, diabetes mellitus and a history of recent stress showed abnormal resting ECG too. In addition, another study found about 52.8% of the respondents has an abnormal P wave. And lower blood lead of 2.9 µg/L showed a significant influence on the prolongation of the P wave. Another recent study found a significant low blood lead of 3.1 µg/L with the occurrence of myocardial infarction. Nickel is another heavy metal that showed evidence of cardiotoxicity (p=0.022) through its ECG changes. Malaysia citizen are exposed to an existent risk of cardiotoxicity due to various factors like metabolic disorders and heavy metals particularly lead.

OCCUPATIONAL HEALTH

PP 4

A Study on Knee Pain among Oil Palm Harvesters and Its Associated Risk Factors in Jerantut, Pahang

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Musculoskeletal disorders are one of the most reported cases among oil palm harvesters. Tasks which involve manual handlings such as lifting, lowering, carrying, pulling, pushing and awkward posture are some of the risk factors which may lead to musculoskeletal disorders especially in oil palm plantation. Knee pain is one of the common cases reported among oil palm harvesters besides lower back pain. This cross-sectional study involved a total of 97 oil palm harvesters at Pusat Penyelidikan Pertanian Tun Razak in Jerantut, Pahang and was conducted from November 2017 until December 2017. This study was conducted to determine the prevalence of knee pain and the associated risk factors which include sociodemographic and work-related factors. A general questionnaire which was adopted from Ng (2015) was used to collect socio-demographic background data while Modified Nordic Musculoskeletal Questionnaire which has been converted into the Indonesian language was used to determine the prevalence of knee pain among the respondents. Of the 97 respondents, 21.6% of them had knee pain in the last 12 months. Chi-Square test has been used to determine any significant association among the risk factors. The Chi-Square test showed that all factors had no significant association except for the respondents who have had previous knee injuries ($\chi^2=7.39$; $p=0.045$). Improvements from the employer and employee awareness are needed to prevent or reduce the incidence of knee pain amongst oil palm harvesters. Nevertheless, continuous research along with the comprehensive surveillance program is needed in order to determine the urgency or demand of appropriate intervention in the near future.

PP 5

How Effective is the Community Medicine Posting to Cultivate Teamwork, Leadership and Professionalism among Medical Students in Universiti Putra Malaysia? : Enhancing Best Practice of Future Doctors

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Community medicine is a compulsory posting in any medical degree program in Malaysia, aiming to expose the students on the health services provided in the rural areas, roles of the District Health Officer and experience to plan and conduct a community based health intervention program. This study aimed to assess the effectiveness of the Community Medicine Posting in instilling and cultivating teamwork, leadership and professionalism values among the year four medical students in Universiti Putra Malaysia. A pre and post-test quasi experimental study was conducted among all year four medical students who undergone the community medicine posting for a duration of 6 weeks. A total of 107 of medical students were involved in this study with mean age of 22.64 ± 0.63 years old. The mean score for professionalism and leadership were significantly ($p < 0.001$) increased following the posting, with leadership had the highest mean difference of 10.12. As a conclusion, the study revealed that the Community Medicine Posting is proven to be significantly effective to instill and cultivate leadership and professionalism values among the medical students, which are two very important aspects in their future medical profession.

EPIDEMIOLOGY AND STATISTICS

PP 6

Screening for Lung Cancer Using Low Dose Computed Tomography: A Systematic Review

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Incidence and mortality due to lung cancer is alarming both worldwide and in Malaysia. Lung cancer is anticipated to remain as a major public health problem for decades as 22.8% Malaysians aged 15 years or older were smokers in 2015. High risk group for lung cancer is defined in Malaysia as current or ex-smoker between 50 to 70 years old, with a smoking history of 30 pack-years; or 20 pack-years with one additional risk factor (radon exposure, occupational exposure, cancer history, family history of lung cancer, or chronic lung disease). Earlier screening using chest x-ray with or without sputum cytology demonstrated no mortality benefit. The advent of low dose computed tomography (LDCT), said to be more sensitive imaging modality created further enthusiasm for lung cancer screening. Therefore, this review was conducted to evaluate whether, it would be effective, safe and cost-effective to use LDCT for lung cancer screening among high risk group in Malaysia. Electronic databases were searched including PubMed, Medline, EBM Reviews - Cochrane Database of Systematic Reviews, Health Technology Assessment, Cochrane Database of Controlled Trial, National Horizon Scanning, and other websites; INAHTA, ARSENI-S, CADTH, FDA and MHRA for published reports up to 1st Quarter 2017. Literatures were critically appraised using Critical Appraisal Skills Programme checklist, effectiveness evidences follow the US/Canadian Preventive Services Task Force Level of Evidence (2001) grading. Data shows that the share of overall expenditures attributed to outpatient services in health clinic Taiping was significantly higher (RM 14,000,000.00-RM 16,000,000.00) compared to other health clinics. The lowest expenditure for OPD service was recorded in health clinic Jeruas (< RM 2, 000,000.00). This pattern was observed across the number of OPD visits. However, the numbers for MCH expenditures have greater variation in unit costs per visits. These show that the number of MCH visits do not alter the spending pattern as observe in OPD. Information on unit costs obtained from this study can be used as a benchmark to calculate reimbursement rates requested by the Ministry of Health (MOH) from insurance companies whose enrolees use public services. Similarly, in its role as funder of services, the MOH can use costing information to set payment rates for private providers and to tie those payments to performance indicators for health services.

PP 7

Benefit of Colorectal Cancer Genetic Testing: A Systematic Review

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Colorectal cancer is the third and second most common cancer, respectively, in men and women worldwide and is a major cause of morbidity and mortality. Mortality due to colorectal cancer is increasing, and it is the fourth leading cause of cancer death in the world. As colorectal cancer is related to inherited cancer, there is a new method of screening which is genetic testing. Genetic testing looks for mutations in a person's chromosomes, genes or proteins. Due to the scarcity of study in genetic testing screening to clarify the effect of detecting early colorectal cancer, hence this study aimed to conduct a systematic review of the benefit of genetic testing for colorectal cancer. PUBMED and Scopus were searched for the period 2012- 2017. Studies were eligible if published in a peer-reviewed journal in English, included the adult with a family history of colorectal cancer who underwent genetic testing and had either a randomized controlled trial or prospective design. As there was considerable heterogeneity in populations and measures, results were summarised rather than subjected to meta-analysis. Overall, genetic testing appears to produce benefits and effective in colorectal cancer detection. Genetic testing will inform the patient or family members have an increased risk of developing a condition later in life. The results can provide a sense of relief from uncertainty and help people make informed decisions about managing their health care. To date, the data on benefit & effectiveness after genetic testing are reassuring. Although benefits of screening are likely to outweigh harms for populations at high risk of colorectal cancer, more information is needed about the harmful effects of screening, the community's responses to screening and costs of screening for different healthcare systems before widespread screening can be recommended.

PP 8

The Impact of Poor Sleep Quality on Quality of Life among Teaching Profession in Selangor Malaysia

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Sleep quality is an important and essential factor that enhanced body and mind's ability to renew and refresh and maintaining physical, mental and emotional health. Poor sleep quality has been shown to be associated with quality of life. The purpose of this study was to examine the impact of poor sleep quality on quality of life among secondary school teachers in Selangor, Malaysia. The sample consisted of 1871 Malaysian secondary school teachers. The questionnaires were self-administered. Quality of life and other relevant characteristics to sleep were collected. We use the Pittsburgh Sleep Quality Index (PSQI) to measure sleep quality, and SF12 version 2 of social health to measure the quality of life. Univariate logistic regression was also undertaken, and, following that, the variables with values of $p < 0.05$ and significant Odds Ratios (OR) were tested in a multiple logistic regression model. General linear regression (GLM) were used to examine the impact of poor sleep quality on physical dan mental component summary score (PCS and MCS), on health-related quality of life (SF12). Total of 60.6% of the participants had poor sleep quality. Univariately, the quality of life, in the mental component summary score (MCS), 58.7% of the participants had a poor quality of life (MCS) and poor sleep quality, with the p-value of <0.05 . However, it is insignificant in multivariate analysis. The means MCS of those with good sleep quality (52.20), was significantly higher than those with poor sleep quality (47.84, $p: 0.02$). Our results suggest that poor sleep quality is prevalent among teaching profession in Selangor, Malaysia. Both physical dan mental component summary score (PCS and MCS), on health-related quality of life (SF12), became lower with poor sleep quality compared to good sleep quality.

PP 9

Sickness and Income Loss in India: Evidence from National Data

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Acute illnesses have been known to contribute significantly to poverty due to lost income, thereby stunting national economic growth. While the literature abounds in studies assessing income loss due to chronic illness, income due to acute illness remain understudied. This study aims to determine factors leading to income loss resulting from acute illness in India. Methods: Data from the National Sample Survey Organization (NSSO) Round 71 was obtained from the Ministry of Statistics and Implementation of Government of India. National weights were used to estimate relevant parameters. STATA version 14.1 was used to conduct a multiple regression to identify the causes of income loss due to acute illnesses in India. Among the 22,333 people studied, the average loss of income due to acute ailments was INR 597.04 per person. The average numbers of days on restricted activity were 3.12 days and 1.34 days confined to bed. About 9.48% people (n=3,431) did not undergo previous recommended treatment based on medical advice. The main reasons for not seeking early care were 59.05% did not consider the ailment to be serious, no medical facility availability (8.31%), facility of satisfactory quality was too expensive, involved long waiting time, or was not available (6.35%, 3.12%, 3.06% respectively). Non-adherent patient incurred INR771.28 (CI: 484.44 - 1058.12) higher income loss compared to patients who were adherent to medical regimen. People, not hospitalized for acute illness faced lower income losses of INR 512.36 (CI: -744.91 to -280.00) compared to people who were hospitalized. Acute illnesses pose a substantial threat to household welfare in India. Treatment non-compliance has to be reduced by taking adequate measures such as regular follow-ups, involvement of family members, and health education. Providing access to quality health care services with less waiting times is vital to prevent loss of income.

PP 10

Incidence Rate of Tuberculosis in Malaysia, 2013 to 2015: A Socio-Demographic Perspective

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The World Health Organization (WHO) reported that there were 5.2 million, pulmonary tuberculosis (TB) cases globally in 2014. The reported number of tuberculosis cases in Malaysia also have been rising for the past 5 years as well. The objective of this study is to describe the incidence rate of tuberculosis in Malaysian population by socio-demographic variables from the years 2013 to 2015 respectively. Data from the Malaysian National Tuberculosis Information System (My-TB) were analysed. My-TB system captures the cumulative yearly TB cases from all public and private health facilities throughout Malaysia. In this study, My-TB data was analysed according to gender, age groups, ethnicity, nationality, education level and states in Malaysia. Age Standardized Incidence Rate (ASIR) was computed based on WHO standard population. The incidence rate of TB in Malaysia was 81, 81 and 79 per 100000 adjusted population in year 2013, 2014 and 2015 respectively. The top 5 states in Malaysia with the highest incidence rate from years 2013 to 2015 were Federal Territory Kuala Lumpur, Federal Territory Labuan, Sabah, Sarawak and Kelantan. All 3 years (2013 to 2015), higher incidence were observed among males (vs. females) and among non-citizens (vs. Malaysian citizens). The incidence of TB increased with age. The lowest incidence of TB was noted among those who attained tertiary education. Incidence of TB have been an upward trend in Malaysia, therefore effective screening need to be strengthened in all health facilities in Malaysia with emphasis on male, urban, older age and poorly educated populations.

PP 11

Factors Associated with Level of Glycemic Control among Type 2 Diabetes Mellitus Patients in Klinik Kesihatan Sungai Tinggi Kanan and Klinik Kesihatan Tanjung Karang, Kuala Selangor

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Management of good glycaemic control is the key prevention of T2DM complication and the first step is to determine the underlying factors of good glycaemic control. The aim was to determine the factors associated with the level of glycaemic control (HbA1c) among T2DM patient and the predictors of good glycaemic control in two primary health clinic in Kuala Selangor. This cross-sectional study was conducted among 200 T2DM patients in both clinics. Michigan Diabetes Knowledge Test (MDKT), S-TOFHLA, adherence of treatment, Summary of Diabetes Self-care Activity (SDSCA), Diabetic Quality of Life (DQoL) and International Physical Activity Questionnaire (IPAQ) was used. Chi-square test, simple logistic regression and multiple logistic regressions was used for result analysis. The response rate was 87.7%. T2DM duration, type of treatment, blood glucose monitoring, diabetes quality of life (Worry) and BMI was found to be associated with level of glycaemic control ($p < 0.05$). The probability of respondents diagnosed with T2DM less than 10 years was two times more likely to have good glycaemic control (AOR=2.458, 95% of CI=1.504-14.282, $p=0.050$). The odds of having good glycaemic control higher with increasing frequency of blood glucose monitoring (AOR=1.341, 95% of CI=1.041-1.727, p -value=0.023). This study determined factors associated with the level of glycaemic control and the predictors of good glycaemic control. The findings showed that the duration of diagnosed with T2DM, type of treatment obtained, blood glucose monitoring, Worry and BMI was associated with the level of glycaemic control. Duration of diagnosed with T2DM lower than 10 years and blood glucose monitoring was found to be the predictors of good glycaemic control. The findings of this study can be used to develop more intervention towards T2DM patient in the rural area.

PP 12

Factor Associated with Glycaemic Control among Type 2 Diabetes Mellitus Patients, Attending Health Clinics in Tampin District, Negeri Sembilan, Malaysia

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Type 2 Diabetes Mellitus (T2DM) has become one of the most serious global health problems recently. The Malaysian National Diabetes Registry has reported that 76.2% of the population have poor glycaemic control (HbA1c \geq 6.5%). The objective of this study is to determine the association between sociodemographic and medical profiles with glycaemic control among T2DM patients in five health clinics in the Tampin district. A cross sectional study was conducted in five health clinics in the Tampin district, Negeri Sembilan, Malaysia. A Total of 324 patients with T2DM participated in this study. A face-to face interview was conducted with each respondent using validated questionnaire. Descriptive analyses, such as the chi square test, were performed using the Statistical Packages for Social Sciences version 22 software. The response rate was 90%. The percentage of poor glycaemic control was 66.4%. They were associated with age ($\chi^2=10.405$, p 0.006), marital status ($\chi^2=5.718$, p 0.017), and education status ($\chi^2=7.312$, p 0.026). In addition, types of medication intake ($\chi^2=18.058$, $p<0.001$), family history ($\chi^2=7.234$, p 0.007), and co-morbidities ($\chi^2=5.718$, p 0.017) are also associated with the percentage. The majority of the respondents of this study had poor glycaemic control. The factors that contribute to the poor glycaemic control are among respondents who are: of older age (≥ 65 years); single/widowed/separated/divorced; of non-formal education; on insulin alone / combination of oral agent and insulin; no family history; and do not experience co-morbidities. For the future wellbeing of all T2DM, a good glycaemic control is important. Therefore, plans with appropriate significance on early preventive measures to diabetic treatment need to be strengthened in order to boost quality of life among T2DM.

PP 13

Mosquito Ovitrap App (MOSOVI) for Mosquito Research and Surveillance

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Dengue is endemic in Malaysia and is a major public health concern. The continued absence of an effective tetravalent vaccine and specific treatment necessitate vector control as the sole option to control dengue. Effective monitoring of vector population is an integral component of a dengue control programme. Deployment of ovitraps, dark containers with water that mimic breeding site for mosquitoes, in a locality is one of the ways to monitor the density and distribution of dengue vector mosquitoes. The entomological researcher and vector control team both need the mosquito density, expressed as Ovitrap Index, to understand the vector density in a locality. Current method of obtaining the OI is slow and inefficient due to the delay in integrating the field ovitrap data to lab result. To reduce such delay, we propose a mobile app to manage the ovitrap data and species identification activities. MosOvi App, a hybrid mobile application, is developed on leveraging free and open source Apache Cordova platform using HTML5 and Javascript language. This App is supported with the mobile devices with minimum Android version 4.0. A MosOvi App is developed. The App enables user to set the name of study site and number of ovitraps. In the field, user records the description and GPS coordinates for every ovitrap. After four to seven days, user collects the ovitraps with reference to the map or description of each ovitrap and records the missing ovitraps. In the lab, user identifies and records the number of mosquito larvae by species. The App generates the OI and density of species. The MosOvi App provides a user-friendly interface, easy capturing of coordinates and description and minimal human error. We anticipate that this App could speed up the decision making process of the researchers and vector control team with regards to dengue control activities in the locality concerned.

PP 14

Prevalence of Diabetes Mellitus and Its Associated Risk Factors among Women in Malaysia

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The prevalence of diabetes is swiftly rising over the globe. It now affects more than 250 million people worldwide and is expected to affect over 380 million by 2025. Some individuals with diabetes mellitus (DM) do not realize that they have a disease that threatens their health and wellbeing. The objective of this study to determine the national prevalence of DM and its associated risk factors among women in Malaysia. A sub-analysis study of the National Health Morbidity Survey (NHMS) 2015 was conducted among 10,453 women respondents in Malaysia. Data were obtained from respondents aged 18 years and above via face-to-face interviews using pre-tested and validated questionnaires. In this study respondents who claimed that they were not having diabetes were asked to undergo a finger-prick test. A respondent was classified as having diabetes when their fasting capillary blood glucose (FBG) was ≥ 6.1 mmol/L (or non-fasting blood glucose of ≥ 11.1 mmol/L). The prevalence of DM among women was 18.3% (n=10,453). The highest prevalence of women with DM was among 60 years and above (39.8%), rural residents (19.0%), Indians (30.6%), those with no formal educational (31.9%), widow/widower/divorcee (29.9%), not working (22.9%), inactive (19.7%), obese (28.6%), hypertensive (36.2%) and those with high cholesterol (25.0%). Multivariable analyses revealed that age group, ethnicity, education level, marital status, obesity, hypertension and cholesterol were associated with DM. This study found that Malaysian women had a high prevalence of DM. Established risk factors like age, obesity, cholesterol and hypertension were associated with DM. Screening is crucial to detect early signs of diabetes especially among adults aged 40 years and above. Health education and behavioural interventions such as increasing physical activity and practicing healthy dietary changes should be integrated in the management of DM.

PP 15

A Case Study of Social Networking Site: Friendster vs Facebook

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In era of millennium technology, world have experienced many advancements happened ever since internet was made public. The evolution of social media started in 1969 to extensive phase in 2013. This is because social media is one of the most brilliant social interaction interface the technology world has ever invented. Social media is also a new platform for connecting people and businesses all around the world. Therefore, many types of social media were initiated; however, many became a history and only few managed to continue sustaining in the competitive technology world. A good example is Friendster and Facebook. A case study has been carried out to analyse the strength, weaknesses, threat and opportunity (SWOT) of both social interactive media which cause them to rise and fall in the market. Friendster was launched in 2002 to provide opportunities for people to make new friends and to stay in touch with old ones. It allowed users to communicates with other members, discover new events and brands, share media and online content, and to find new hobbies. At the beginning it had more than 10million registered users. But lost its fame in USA and Southeast Asia after turning down Google's offer to acquire it and weaker bond connecting users. Lather was bought by the Malaysian company transformed it from social networking site to social gaming platform. Unfortunately, in 2015 services of Friendster and its website was closed. Facebook started in 2004 and boomed with more than a billion users and more than \$19 billion stock market in 2012. In the lifecycle of social networking sites, Facebook is currently still at its maturity stage. Facebook rises when the time of smartphones and mobile internet services were globally utilised. In order to delay the momentum of declining, many innovative strategies have been implemented such as acquisition where many successful companies, example Instagram, were bought by Facebook. Nevertheless, Facebook also has a weak point on user privacy concern which poses a huge threat to the business. This weakness must be overcome to prevent the abandonment of Facebook in the future. In conclusion, business management strategy is very crucial to ensure the business sustainability to keep adapting changes and fit to current trend. Hence, proper strategic planning and management will enhance a popularity and continuity of any business organisation.

PP 16

Factors Associated with Utilization of Tuberculosis Health Services in Primary Healthcare Perbaungan North Sumatera Indonesia

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Currently, Indonesia is the country with the third largest TB cases in the world after China and India. WHO estimates that Indonesia had every year 539,000 new cases of TB occur with the death of around 101,000 people. One of the regency in North Sumatera province, Indonesia is Serdang Bedagai which is Perbaungan district based on the latest data tuberculosis center 2016 - 2017 explain that for tuberculosis patients who have had a positive smear don't use health services as well as treatment standards that have been set in primary health care. The aim of this study was to measure the prevalence of utilization and the determine factors related to utilization of Tuberculosis health services in primary health care in Perbaungan, North Sumatera, Indonesia. This is a cross-sectional study conducted among TB patients in Perbaungan, North Sumatera using Proportionate stratified random sampling. A self-administered questionnaire was used to elicit respondents' factors associated with utilization of health services in primary health care. Chi square test was then used to measure the associations. The inclusion criteria were respondents must be permanent residents of the area, age > 20 and < 70 years old whether male and female. A total of 198 respondents (40%) of TB patients had low utilization. About 60.0% of the respondents, the highest level of education was primary education and unemployed. There was a significant association between low utilization and education, occupation status, knowledge, attitude and practice. Nearly half of respondents have low utilization of tuberculosis primary health care. Health-related knowledge, attitude, practice, stigma on TB, accessibility to healthcare and socio-demographic factors were important predictors of low utilization. Health Office needs more concerned and attention on the said factors in order to reduce prevalence of TB in Indonesia.

PP 17

A Systematic Review on Associating Factors that Influence Cervical Cancer Screening among Immigrant Women

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Cervical cancer (CC) is one of the most frequently occur cancers among female population around the world and thus a significant public health problem. Human papillomavirus (HPV) is one of the most prevalent sexually transmitted infections (STI) in both men and women globally and more than 100 HPV types are known. Persistent infection with high-risk HPV types is the most important risk factor for CC. Low cervical cancer screening participation among immigrant women due to screening inaccessibility of healthcare services, ineffectiveness, unaffordable medical treatments and lack of awareness of screening. The objective of this study is to systematically identify factors that influence the cervical cancer screening among immigrant women. A systematic literature search was conducted to examine published studies on associating factors that Influence cervical cancer screening among immigrant women. Two independent researchers searched through Google scholar, PubMed/MEDLINE and Science Direct databases. A total of 11 eligible study papers were included for final analysis. Factors that influence the immigrant women to undergo cervical cancer screening services: literacy in local language (OR: 4.04, 95%CI: 1.76-9.23), married (OR: 2.50, 95%CI: 1.32-4.73), knowledge (OR: 1.19, 95%CI: 1.09-1.29). As for barriers: living in rural area (OR: 1.96, 95%CI: 1.11-3.46), discrimination (OR: 2.19, 95%CI: 1.16-4.14) and unemployment (OR: 0.56, 95%CI: 0.36-0.87). Effective interventions and program are required to tackle immigrant women in order to prevent late stage cervical cancer cases. Early prevention strategy and any suspicious screen-detected lesion or cytological result can be easily channelled to appropriate diagnosis and treatment.

PP 18

Reduction of Hepatocellular Carcinoma (HCC) Occurance Over 15 Years. Follow-Up of Hepatitis B Vaccination Program: A Systematic Review

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Neonatal Hepatitis B vaccination has been implemented worldwide to prevent hepatitis B virus (HBV) infections which the major cause of Hepatocellular Carcinoma (HCC). Our objective is to systematically collect and summarize the available evidence on the effectiveness of Hep B vaccination program in successfully decrease the rate of HCC in young and adulthood. A systematic literature search was conducted involving studies published from January 2002 to November 2017. The studies were identified by searching electronic resources (PubMed/MEDLINE, google scholar and ScienceDirect) and manual searches of references. Study setting was focused on HCC occurrence among Hep B vaccinee and unvaccinated birth cohort. Final studies result and data were reviewed by two independent authors. Disagreement was resolved through discussion and consensus. The quality of study methodology was graded using qualitative assessment tool for quantitative study by Effective Public Health Practice Project (EPHPP). 11 studies were included in final discussion with more than 15 years of study follow-up. It involves huge number of study population. Majority of the studies have strong to moderate quality of evidence and only 2 (18%) had weak quality research. Based on period effect of the national vaccination program, 7 studies (64%) showed a significant reduction of liver cancer mortality rate {1991-1994 (RR 0.89, 95% CI 0.70-1.13) vs 2002-2006 (RR 0.30, 95% CI 0.21 ~ 0.44)}. The incidence of HCC also declining trend before vaccine: 0.54 per 100,000 children vs after vaccine: 0.20 in 100,000 children with Risk Ratio of 0.36. Hep B vaccination provides strong evidence and has proven to be good at preventing HCC both in children and young adults after three decades of immunization program initiation. Therefore, continuous efforts to ensure the vaccination coverage, sustainability of the program and collaboration are needed.

PP 19

Prevalence of Malaria and Its Determinant in Sabah

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Malaria is one of the common vector-borne disease occurred in the world and the growing incidence especially in Sabah that make urge need to know its determinants. This study aims to determine the prevalence of malaria in Sabah and its association with socio-demographic factors and geographical distribution. Study design: Cross-sectional study. Data was derived from public health clinics in Sabah thru malaria screening program between January and August 2016. This data was collected by interview-guided questionnaire and blood film malaria parasite. SPSS version 21.0 was used to analyze the relationship between socio-demographic and geographical factors with malaria infection. From 1240 patients with fever, 428 of them were confirmed of having malaria infection demonstrating prevalence of 34.5%. *P. Knowlesi* infection was the highest in Sabah [340 (79.5%)] as compared to other species and most of the infections were indigenous [410 (95.8%)]. The bivariate analysis indicated that gender, ethnicity, occupation and geographical distribution were found to be associated with malaria infection. The multiple logistic regression analysis indicates that being male (AOR 47.924, CI: 23.960-95.857) and being people in rural area (AOR 212.638, CI: 105.837-427.211) were significantly important determinants of having malaria infection. The fit of model was tested with Hosmer - Lemeshow test, $p = 0.093$ (>0.05) and the overall correctly classified percentage was 94.2% ($>70%$). This study demonstrated that the prevalence of malaria in Sabah is high and *P. knowlesi* is the commonest type of protozoa with distinct associations with several socio-demographic and geographical factors. Thus, further research on the simian malaria followed with detailed groundwork on the associated factors need to be conducted to bring down the prevalence of malaria in Sabah. Collaboration among multisector agencies is a must.

PP 20

Alcohol Consumption among Adolescents in Malaysia: A Comparison between the National Health and Morbidity Survey 2012 and 2017

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Alcohol is a psychoactive substance which has properties that cause dependence. However, drinking alcohol is largely viewed as a socialised behaviour which makes it attractive to adolescents. Adolescents, who begin drinking alcohol before the age of 15, become addicted to alcohol more rapidly than adults. This study was aimed to compare the prevalence of current alcohol drinkers and drunkenness among adolescents in the year 2012 and 2017. Data was obtained from two national surveys of two different years; the National Health and Morbidity Survey (NHMS) 2012 and 2017 with a total of 25,507 and 27,497 respondents respectively. Both studies employed a cross-sectional study design targeting school-going adolescents in Malaysia aged between 13 to 17 years. A two stage stratified cluster sampling was employed. The study instrument used was a validated self-administered questionnaire for both surveys. Descriptive analysis was used to compare the prevalence of current alcohol drinkers and drunkenness among the adolescents from both years. We found that there was an increase in prevalence of current alcohol drinkers from the year 2012 to 2017 (8.9% (95% CI: 7.81, 10.07) to 10.2% (95% CI: 9.00, 11.60)). A similar trend was found by gender, whereby the prevalence of male alcohol drinkers increased by 1.6% while the prevalence of female alcohol drinkers increased by 1.2% over the 5 year period. The prevalence of drunkenness was almost the same in 2012 and 2017 (6.3% (95% CI: 5.55, 7.24) and 6.1% (95% CI: 5.30, 7.11) respectively). The use of alcohol among adolescents is known to cause many negative outcomes to them. Therefore, stringent regulation restricting the availability of alcoholic beverages to adolescents should be enforced. Parents should also play an important role in preventing the exposure of alcoholic beverages to their young children.

PP 21

The Intervention of Dyslexia Health Education Program for Preschool Teachers: Pre-Intervention

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Teachers need training on special programs regarding dyslexia in order to help them identify students that are at risk of dyslexia. An intervention programme using the Dyslexic Health Education Module (DHEM) was designed using four elements in relation to dyslexia (i.e. general knowledge, treatments, symptoms and mental health) to improve teachers' general knowledge on dyslexia. A total of 40 preschool teachers from KEMAS Hulu Langat had been selected to participate in this program for a duration of five weeks. Before intervention begins, a 'Dyslexia Belief Index' questionnaire, which consisted of 30 items with four Likert scale options was used to determine the teachers' level of knowledge at baseline. The findings revealed that mean score for each construct was below the criterion mean score of point (80% from each construct). Analysed data obtained showed that the mean score for the total of five construct was 17.40 (definition), 20.61 (characteristic), 10.77 (treatment), 21.06 (school environment) and 17.43 (impact of disability) respectively. This indicate that majority of preschool teachers' had a low level of knowledge on dyslexia. In conclusion, teachers' knowledge on dyslexia needs to be improved with intervention programmes such as the DHEM that will further be conducted during this research. Despite providing an extensive knowledge on dyslexia, this module will also help to improve teachers' awareness on dyslexia at preschool level to ensure excellent academic achievements for these students.

PP 22

Antimicrobial Resistance: Global to Local Interagency Dexterity

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Recent antimicrobial resistance (AMR) awakes various key players from different agencies to orchestrate efforts from global to locally. This presentation aims to demonstrate the roadmap of how various global to local interagency coordinate in addressing the issue of AMR thus facilitate the communication. Based on the Malaysian Action Plan on Antimicrobial Resistance (MyAP-AMR) 2017-2021, content analysis was utilized on the working document to develop the Interagency Coordination on Antimicrobial Resistance. Using the One Health System Mapping, the framework was mapped into categories of task, communication, decision and meetings of various agencies. Each category is colour coded and are of different shapes. Movement of data/information shows the bidirectional flow of communication between agencies and the whole framework is documented in an Excel sheet. Dexterity of global to local interagency is displayed in the form of graphical illustration. It was focusing on the flow of communication, actions to be taken and bidirectional sharing of data among various agencies guided by expert network and planning tools. The global to local framework of initiatives to address antimicrobial resistance was simplified visually. This IAC mapping can be a useful tool for the public health specialist to ally with others to combat AMR issues at Malaysian setting.

PP 23

Johor Experience in Handling Zika 2016

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A year ago, on Feb 1, 2016, WHO declared the Zika virus epidemic a public health emergency which has been linked to birth defects and neurological complications. Johor address the seriousness of the outbreak and gives the countries a new tools to fight it. The objective of this study is to illustrate intensive plan of action outlined by Johor State Health office to hinder transportation of Zika virus into the country during the period of 2016. Description and evaluation of tools and activities that implemented conjointly with relevant authorities for intensive vector control and prevention measures. Plan of action focused on two major intensive strategies which is source reduction for breeding and community health education. Source reduction steps are as following Search and Destroy (SnD), SnD with or without Larvaciding at tourist spots, Enforcement on individual premise, Enforcement at construction site, Outdoor Residual Spray, Ultra Low Volume Bti, Larvaciding and Abate distribution. Health education primarily provided to vulnerable group such as pregnant ladies and travellers to Zika affected countries. New prevention tools is essential for managing emerging and remerging diseases like Zika and further interventional strategies to hinder entry of infectious diseases to our country.

HEALTH MANAGEMENT

PP 24

Healthcare Spending: How Much Health Clinics Costs?

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With the rising costs of healthcare over the last three decades, the government is now facing an increasing pressure to restructure its healthcare system. The estimation and evaluation on cost for the services provision is important since the distribution of health care expenditures by type of service is unclear. Therefore, accurate information is necessary for organizational performance in terms of monitoring and performance benchmarking. The analysis is intended to generate cost estimation for two sets of services (cost per maternal and child health visit, and cost per outpatient visit) provided by health clinics in Malaysia. Data were collected in August 2015 and ended in January 2016. A stratified random sampling was used to obtain 41 health clinics. The chosen health clinics were then categorized depending on their geographical area, size, and types of services provided. From 41 health clinics, 6 clinics under 2 PKDs were dropped due to incomplete data. A total of 35 health clinics were included in this study. Expenditure information on OPD and MCH cost per visit were obtained by using a Top-Down method, whereas the total allocation cost is from AG report. Data shows that the share of overall expenditures attributed to outpatient services in health clinic Taiping was significantly higher (RM 14,000,000.00-RM 16,000,000.00) compared to other health clinics. The lowest expenditure for OPD service was recorded in health clinic Jeruas (< RM 2, 000,000.00). This pattern was observed across the number of OPD visits. However, the numbers for MCH expenditures have greater variation in unit costs per visits. These show that the number of MCH visits do not alter the spending pattern as observe in OPD. Information on unit costs obtained from this study can be used as a benchmark to calculate reimbursement rates requested by the Ministry of Health (MOH) from insurance companies whose enrollees use public services. Similarly, in its role as funder of services, the MOH can use costing information to set payment rates for private providers and to tie those payments to performance indicators for health services.

PP 25

Willingness to Pay for Healthcare Services among Hospital Canselor Tuanku Muhriz (HCTM) Patients and Factors Influencing It

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With rapid development in Malaysia health care system, it is expected that health care cost will increased in trend. However, the health care charges in Malaysia remain unchanged for years. The main objective of the study was to identify the willingness to pay (WTP) for health services charges increment among the patients at Hospital Canselor Tuanku Muhriz and the factors influencing it. A cross-sectional study was conducted among 130 respondents using guided survey interviews. Respondents were asked for their WTP towards eight health services charges increment. The results showed 76.9% of respondents WTP for outpatient follow up treatment charges increment, 75.4% WTP for adult's admission charges increment, 78.5% WTP for children admission charges increment, 63.8% WTP for children inpatient treatment charges increment and 64.6% WTP for spontaneous vaginal delivery (SVD) charges increment. Only 46.2% of respondents WTP for specialist outpatient clinics registration fee increment, 39.2% WTP for adult's inpatient treatment charges increment and 47.7% WTP for lower segment caesarean section (LSCS) charges increment. The study also showed that there was significant relationship between sociodemographic factors, socioeconomic factors and medical factors with most of the health care charges increment. As conclusion, every hospital, HCTM in particular should consider these WTP relevant factors in revising the existing health care services charges towards more accessible health care especially for the needs.

PP 26

Barcode Medication Administration System - A Systematic Review on Effectiveness, Safety and Cost-Effectiveness

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There are various technologies which automate the stages of the medication use process to reduce medication errors. Barcode medication administration system (BCMA) typically includes barcode verification of medication for dispensing stage and barcode medication administration for administering stage may be used to reduce such errors. The objective of the systematic review was to determine effectiveness, safety, cost-effectiveness of the barcode medication administration system (BCMA) in reducing medication error. Major electronic databases were searched including Medline, Cochrane Database of Systematic Reviews, PubMed and Embase. Search was also conducted through some official websites such as U.S. Food and Drug Administration (FDA) and INAHTA. The last search was conducted on 20 April 2016. A total of 2720 titles were identified through the Ovid interface, Pubmed and Embase. There were 29 articles included in this review: one HTA report, 15 pre and post intervention studies, 11 cross sectional studies, one cost-benefit analysis and one cost-consequences analysis. There was no randomised controlled trial retrieved. The evidence suggested that the use of barcode for medication dispensing as well as medication administration reduced the risk of medication errors. While some studies demonstrated a statistically significant reduction in medication administration errors after the implementation of BCMA, the results were inconsistent and varied in the level of reduction. In terms of the safety aspect of the BCMA, the incorrect use of BCMA and technology-related errors may in turn, negate the benefits of BCMA systems altogether. The implementation of BCMA in the hospitals was found to be effective, potentially cost-saving for preventing harm and costs associated with medication errors. However, the cost of implementing and operating BCMA were found to be rather high.

PP 27

The Implementation of Hospital Information System (HIS) in Serdang Hospital: An Overview

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Since the year of 2000, Ministry of Health (MOH) Malaysia has embarked on the Health Management Information System (HMIS). Serdang Hospital, which commenced its operation in 2005, is a turnkey project with 620 beds and operates on Total Hospital Information System (THIS) which integrates clinical, administrative and financial management that allows seamless data flow between these areas. The objectives of this study are: 1) to describe the implementation of hospital information system (HIS) and its user perspective in Serdang Hospital, 2) to analyse the functionality of the HIS available at Serdang Hospital, 3) to assess the application and impact of HIS on the healthcare provider and user in Serdang Hospital, and 4) to identify possible area of improvement and recommendations that can enhance the user experience on the functionality and the feasibility of the HIS in Serdang Hospital. Based on this study, HMIS in Serdang Hospital is well adapted and accepted by the users (i.e. staff) due to the nature of the system which is user friendly and easy to use. Serdang Hospital IT management team managed to cope with the increasing demand (with limited resources available) and maintain the expected quality of the healthcare services. HMIS seems to be able to provide and to support the vision and mission of the MOH by ensuring the timely and accurate health information not just for the patients but also to the provider, and also to produce relevant information that can be used by health system stakeholders for evidence-based decisions for the continuous improvement of the healthcare system delivery. Further comprehensive study that involves multiple healthcare facilities, however, is essential to be carried to further exhibit various aspects of HMIS that can be used to improve the healthcare system delivery in Malaysia.

PP 28

Provider's Perspective on Issues and Challenges in Managing Resources for Full Paying Patient (FPP) Services

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Full Paying Patient Services (FPP) in Ministry of Health Malaysia (MOH) was established as one of the specialist retention initiatives in 2007. Its implementation is based on Garispanduan Pelaksanaan Perintah Fi (Perubatan) Perkhidmatan Pesakit Bayar Penuh 2007 (Semakan 2015). It is a great challenge for the FPP hospitals to manage their resources while serving the public as their utmost priority and implementing FPP. This study aimed to explore the issues and challenges pertaining to resources management in Full Paying Patient (FPP) Services. This is a cross sectional study involving all health personnel that are directly or indirectly responsible in implementing FPP services at hospital level which include hospital directors, hospital deputy directors, specialists, supporting staff and FPP committee. A purposive sampling approach was chosen to carry out 17 Focus Group Discussions (FGDs) and 12 In-depth Interviews (IDIs) with the relevant stakeholders. The study was carried out between April and July 2017. The FGDs and IDIs were recorded, transcribed and analysed using the thematic framework. There are many issues and challenges pertaining to FPP services. One of them is resource management. We have identified four subthemes namely facility/wards, medical equipment, workforces as well as drugs and consumables. The issues expressed by the respondents may not necessarily portray beneficial. Nevertheless, all the praises and grouses were captured and translated in this study. Resources management plays a crucial role in order to carry out a good and purposeful FPP services in any hospital. FPP services do retain specialists to a certain extent, however addressing and solving all the issues in FPP is important to maintain the sustainability of the services.

PP 29

Health Promotion at Work Place: Does It Help?

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Health is wealth. Being healthy is an asset of all mankind. What is hinder oneself to be healthy is because of few matters such laziness, feeling not important, no health conscious, workaholic and etc. Promoting physical exercise at work place was a great challenge due to the static type of work which mainly involving office and laboratory. The incidence level of obesity in Malaysia is 44 %. Medical surveillance done annually to all office and laboratory IMR staff and the BMI result was unsatisfactory (2017-40.3%, 16% obese, 28% overweight). Workplace health promotion is to help staff in improving their health especially BMI status. The objective of this study is to promote physical activities at work place and create awareness among staff on the balance of health and work in order to improve the BMI status. All staff (730) staffs form Institute for Medical Research (IMR) were targeted regardless the job nature and level. All men and women aged from 25 to 59 years old were included except those who are pregnant or who is physically disable. Implemented activities: Multiple recreational and sport facilities as well as s health promotion posters and wall stickers were also put up to increase the health awareness among staffs. Within office exercise method via email were also initiated. Staff is given 30 minute morning walk, an hour of aerobic during lunch time or after office hour by trained aerobic instructor. Primary Outcomes: To develop consistent and habitual behaviour on being active with the correct methods. Secondary outcomes: Improvement in health status, BMI, abdominal circumference and blood profile. Immediate outcomes: Acquired knowledge and attitudes or any adverse outcome reported, opportunity cost, changes in other risk factor and any injuries.

PP 30

Systematic Review of Factors Influencing the Demand for Medical and Health Insurance in Malaysia

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Medical and health insurance provides financial protection against the consequences of the occurrence of health risks such as critical illness, accident coverage, hospitalization and surgical procedure. National Health Insurance (NHI) is a policy option to reduce the financial burden on the government with the aim to provide Universal Financial Risk Protection that is for Universal Health Coverage (UHC). Different perception leads to resistance to change as well as acceptance level from Malaysians. It is fundamental to study on the reception and acceptance of insurance scheme both for private personal health insurance as well as social health insurance by the Malaysian population and to study the factors influencing the demand for medical and health insurance. A systematic search was done for articles published between year 2013 till 2018 from six major search engines on the factors influencing the demand or willingness to pay of health insurance either private or social health insurance or national health insurance among Malaysian population. There were nine articles included in the final analysis. There were three main theme namely personal factors, social factors and economic factors. Personal factors were the most factors identified which accounted for 52% of all the factors. Higher education level, younger age group and good knowledge were associated with higher demand for health insurance. Higher household monthly income and the cost to pay were among the positive significant economic determinant factors for demand for medical insurance. The least contributing factors influencing the demand of medical insurance was the social factors. In conclusion, financial protection is achieved when direct payments on NHI is made to obtain health services, hence not exposing people to financial hardship and threaten their living standards. Education and promotion are important to understand why such policies were introduced and how it intended to serve the public before implementing major policies. These elements capture the essence of 'health promotion', which is about enabling people to take control over their health and thereby improve their health.

PP 31

Full Paying Patient (FPP) Service in Pilot Hospitals: How Much Difference between Revenue and Estimated Cost?

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The Full Paying Patient Service (FPP) was first introduced in Malaysia Ministry of Health public hospitals in 2007 with Selayang and Putrajaya Hospital was chosen as pilot hospitals. The main objective of FPP Service implementation is as a retention package to help address attrition of senior MOH specialists to private hospitals, by offering them competitive remunerations and also at same time can help in reducing the government financial burden in subsidizing health to those who can afford to pay fully. The objective of this study is to demonstrate the differences between revenue and estimated cost expenditures of FPP Service in pilot hospitals for 144 ICD-10 diagnosis codes from the O&G, Ophthalmology and Orthopaedic departments from 2014 to 2016. This was a cross-sectional study looking at the secondary data from April to June 2017 in the two pilot hospitals. The O&G, Ophthalmology and Orthopaedic departments were selected based on highest FPP Service patients' utilization in both hospitals. Multistage sampling based on highest frequency of ICD-10 diagnosis codes from each three departments for each hospitals done which resulted in 180 ICD-10 diagnosis codes to be selected however only 144 ICD-10 diagnosis codes were selected due to the availability of the estimated costs expenditures for the ICD-10 diagnosis codes which using Casemix costs (MY- DRG CGW 2014 (SOI Class 1)). The revenue generated for 144 ICD-10 diagnosis codes from FPP Service in year 2014 till 2016 in two pilot hospitals were 16-52 % less than estimated costs expenditures. As a conclusion, the revenue generated from FPP Service was still below the cost expenditures borne by the government. The Government still subsidizing about 16-52% those who can afford to pay fully with the current FPP Service Fee.

PP 32

SWOT Analysis: Malaysia Airlines versus Airasia

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Ever since scheduled air service was first established in 1914, the airline industry has evolved tremendously over the past century. Airlines are making avail to various strategies in order to remain relevant in the highly competitive airline industry. Malaysia Airlines and AirAsia are two highly-respected airlines based in Malaysia. Although both companies have considerable achievements in their industry and each claims to be the better ambassador for representing Malaysia in the global arena, their approach to organisational development and management cannot be more contrasting. This difference is expected when considering the background of each company, whereby Malaysia Airlines is the established, conventional, and full-fare government-backed airline, whereas AirAsia is the new player, innovative, and low-fare private airline. Both airlines have their strengths, which are internal characteristics favourable to aid company growth. For instance, Malaysia Airlines is known for the hospitality of its cabin crew, while AirAsia is known for rewarding its staff for productivity, creating a sense of ownership and acknowledging that each staff is important, evidenced by the moniker 'Allstar' conferred to all staff. However, Malaysia Airlines is currently dealing with poor financial performance, while AirAsia's internal weakness includes having staff salary scheme which is lower than the international average. In terms of externalizing factors, Malaysia Airlines, despite being a member the One World Alliance had its reputation crumbling down the drain following the tragedies of MH370 and MH17 in 2014. AirAsia does not fare much better too, with people questioning the authenticity of the company's 'free seats' campaigns and dismissing it as mere advertising scam. In this review, SWOT analysis of both Malaysia Airlines and AirAsia had been carried out, with emphasis on the organisational developmental and management domains.

PP 33

Factors Contributing to Medico Legal Complaints in the State of Negeri Sembilan, Johor and Sabah

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The number of complaints with medico legal elements has been on the rise in the recent years. Although the ultimate aim with such complaint is to achieve conflict resolution, it also presents an opportunity to improve the quality of healthcare services and prevent the reoccurrence of the mishaps. This study aims to identify the factors that contributed to medico legal complaints made against Ministry of Health (MOH) facilities and suggest for remedial action to be taken to enhance the MOH healthcare services. A retrospective and descriptive analysis of 140 medico legal complaints reported to Medical Practice Division, MOH from year 2015 to 2017 involving 3 states of Negeri Sembilan, Johor and Sabah were analysed. The factors contributed to the complaint were identified and categorized. The analysis showed that 72.7% of the contributing factors are personnel related whereas 19.6% are service related and 7.7% are facility related. The personnel related factors identified are the personnel's competency (29.4%), communication skills (31.0%) and documentation issue (26.9%) with ethics and inadequate number of personnel accounting for the remainder. In conclusion, medico legal events are unpredictable. However, the remedial steps can be undertaken to reduce the probability of it happening. This study revealed that the majority of the contributing factors in medico legal complaints are personnel related while only a small fraction are service or facility related. Therefore, development of healthcare personnel in the aspects of knowledge, skill training, communication and awareness is crucial to improve the quality of healthcare services. This in turn will expectantly reduce the number of medico legal complaints in the future.

PP 34

Asthma Pharmaceutical Care Service to Promote Patients Safety: Self-Assessment from the Indonesian Pharmacists

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This research aims to assess service on asthma care delivered by pharmacists through self-assessment questionnaire. This study was part of a bigger project evaluating asthma care service delivered by pharmacists in Yogyakarta Indonesia. An invitation letter requesting for participation was sent to 103 targeted pharmacists who work at hospitals, primary health centre, and pharmacy. Data were gathered using a self-administered questionnaire which contains 27 self-assessment questions evaluating pharmacists' service provided to their asthma patients, which were structured based on the national guideline of asthma from the Indonesia Ministry of Health. Participants were asked to self-reporting their activities on asthma services using scores: 0 for no activity, 2 for seldom, 4 for often, 6 for always. Data were analysed descriptively. Response rate was 92.2% (95 participants of 103 invitations). Five of the 95 participants did not answers the self-assessment questionnaire completely, resulted in 90 data set for analysis. About 42% of all participants were community pharmacists, 18% were hospital pharmacists, 10% were primary health pharmacists, and 30% did not mention. The highest to the lowest of score means of self-reporting pharmacist' activities related to asthma care are as follows: Providing good communication with asthma patients (score mean: 3.4); Conducting prescription assessment (3.3); Delivering asthma medication information (3.0); Attending a continuing education on asthma (2.8); Monitoring asthma therapy (2.3); Delivering information on asthma disease (2.2); Gathering information on asthma patient's history (2.0); Documenting the process (1.7); Providing information on side effects (0.6). Pharmaceutical care intervention should be reformulated to improve patient's safety.

FAMILY HEALTH

PP 35

Irrational Taboos and Irrelevant Traditions Related to Post-Partum, Women's Health and Well-Being

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Variety taboos including food, religious and sexual taboos are being practiced worldwide, including Malaysia. Most of the taboos during post-partum period are related to post-partum physiological changes, emotional changes, and family dynamic change. The aim of this systematic review is to find out the traditions and taboos practised among post-partum mothers in Malaysia, purpose and the health impacts of practising it. A systematic search on journals done in Malaysia has been carried out using eight major databases, namely Scopus, Ovid Medline, Science Direct, SAGE, PubMed, Wiley Online Library, Google Scholar and EBSCOhost. All this journals are published from year 2013 until 2018 and assessed through PRISMA checklist. Seven articles found to meet the inclusion and exclusion criteria, hence were included in this review. Overall, Malaysians practiced certain post-partum traditions including food taboos and behavioural restrictions for the main purpose of maintaining mothers' and baby's well-being. Some of top food taboos like preventing from taking gas-inducing, itch-inducing and cold foods are bad beliefs, as the food in these categories are nutritious and are needed for daily nutrient intake. Meanwhile, some of the practices in Malaysia are found to be irrelevant and some are beneficial in terms of health impacts. Practices like abdominal wraps, traditional massages are good for the physical recovery of post-partum mother. Based on the review, there are pros and cons of practising taboos and traditions during post-partum. Rationalization needed to weigh the practice against maternal safety and health, thus healthcare personnel should be sensible to the role of taboos and traditions in the post-partum care of patients. Traditions and taboos practice should be monitored for safe practice, and there's a need to educate community to avoid any unwanted events due to practising it.

PP 36

Living with the Setan: Comprehensive Sexual Health Education in the Prevention of Intra-Familial Child Sexual Abuse

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With the increased rate of intra-familial child sexual abuse and other related social problems nowadays, there were many solutions proposed on how to solve the problems. One of the solutions was the implementation of comprehensive sexual health education (CSHE) in schools. The objective of this study is to systematically address the gap on the role and effectiveness of CSHE in the prevention of intra-familial child sexual abuse. Systematic search was performed for relevant articles from six search engines namely; PubMed, ESCohOST, Science direct, Sage Social Sciences and Humanities, Scopus and Ovid Medline using specific keywords. Hand searching of key journals and secondary reference searching of included articles were also conducted to identify potential studies. Selected articles were reviewed by two persons and it was done in multiple stages. Only those with titles and abstracts that met inclusion criteria were retrieved and included for full text review. A thematic synthesis identified common themes across studies. Eleven relevant publications were identified. The role and effectiveness of CSHE are classified into four main themes: communication, parental involvement, knowledge and attitude, behaviour of adolescents and CSHE programmes. The current syllabus and methods of implementation, the role of CSHE in the prevention of intra-familial child sexual abuse can be assumed to be minimal and ineffective. Parental involvement is crucial in the implementation of CSHE. Further research is required to explore relationships between exposure to sexual health education programmes with healthy sexuality content, sexual violence perpetration, sexual violence victimisation and attitudes toward sexual violence.

PP 37

Towards Good Cyber Parenting - Exploring Stakeholders' Views in Understanding Parental Digital Security Practice in Malaysia

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Empowering parents on cyber parenting is essential in protecting children from online threats. However, not much is known on the current digital security practices Malaysian parents adopt and their knowledge on online threats. As part of collaborative effort between the Department of Social and Preventive Medicine, University of Malaya and CyberSecurity Malaysia, exploration of stakeholders' understanding on parental digital security practice and their online threat concerns were performed. This was conducted as part of a questionnaire development process in producing Parental Digital Security Questionnaire in Malaysian context. The exploration was done qualitatively between December 2017 to March 2018. An online survey was conducted, consisting of open ended questions on parents' digital security practices and their online threat concerns. Online participants were obtained by convenient sampling. Additionally, using purposive sampling, input was obtained, either through one-to-one discussion or email correspondence from five experts related to cyber parenting. The field of expertise of these five experts include cyber security, digital citizenship, public health, and early education. Thematic analysis was performed. A total of 69 parents responded online. Based on the input from the 69 parents and the discussions with five experts, few themes emerged. Types of digital security practices were active, restrictive, supervision, monitoring and co-use. Concerns of online threats identified include excessive use of internet, exposure to adult content, cyberbully, privacy issues, online predators, and exposure to harmful content. The data reflects current understanding parents have on cyber parenting in Malaysian context. Advocacy strategies need to be tailored according to these findings to ensure relevant concerns are addressed, and suitable practices that are relevant to the Malaysian parents are promoted.

PP 38

The Wrong Health Belief: Manifestation of Erroneous Perception “Understanding Myths in Pregnancy and Childbirth and the Potential Adverse Consequences”

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The trend of choosing natural birth at home without proper supervision which is gaining more attention and popularity in Malaysia. This is partly due to wrong beliefs of the modern medical care. It is a must to explore further into the myths and wrong beliefs present in the communities around the world. Therefore, the aim of this study is to identify these myths specifically those that have potential negative effects on maternal and perinatal wellbeing. They were qualitative studies and four cross-sectional studies. From the thematic analysis, the myths can be categorised into beliefs in eating behaviour which may cause miscarriage, gestational diabetes mellitus and low birth weight baby. Beliefs in physical activity which may cause maternal obesity causing deep vein thrombosis, beliefs in birthing process which may lead to unnecessary caesarean section or even stillbirth, beliefs in birth attendants which may cause unsafe delivery prone to multiple complications. Finally, beliefs in placenta and umbilical cord may lead to postpartum haemorrhage or sepsis. Potential harmful cultural beliefs and practices in pregnancy and childbirth are still relevant in the community of today's era, not just in least developed and developing countries but also in developed countries. Women and children are two very vulnerable groups, therefore, debunking these myths and eliminating practices that may have potential adverse health effects should be one of healthcare provider priorities especially those in the primary care settings as they are the closest in contact with the community.

PP 39

Factors Associated with Truancy among Malaysian School-Going Adolescents: Findings from the National Health and Morbidity Survey 2017

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Truancy may act as a precursor or a consequence to many behavioural problems that might have potentially deleterious effects. This study examined the associated factors that link to truancy among Malaysian school-going adolescents. Data was obtained from the National Health and Morbidity Survey 2017, a cross-sectional survey among 27497 Malaysian school-going adolescents aged 13 to 17 years. A two stage stratified cluster random sampling was applied and data collection was done using validated self-administered questionnaire. Logistic analysis was applied using SPSS version 20. Overall prevalence of truancy among school-going adolescents in Malaysia was 29.4% (95% CI: 27.78, 31.06). Based on logistic regression, school-going adolescents from rural areas [AOR=1.20; 95%CI: 1.14,1.27], males [AOR=1.08; 95%CI: 1.02,1.14], in upper forms [AOR=1.34; 95%CI: 1.27,1.47], ever illicit drug users [AOR=2.13; 95%CI: 1.83, 2.47], current alcohol drinkers [AOR=1.40; 95%-CI: 1.27,1.53], current cigarette smokers [AOR=1.99; 95%-CI: 1.84, 2.16] and being bullied [AOR=1.37; 95%-CI: 1.28, 1.48] were more likely to be truant. Truancy has been associated with various social problems that might act as the first step to a lifetime problem among school-going adolescent. Development in improving information that link to the associated factors of truancy can lead to more effective intervention in order to mitigate the problem.

PP 40

Using a Video Intervention to Improve Parent-Child Attachment among Parents of Preschool Children in Selangor

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Parent-child attachment plays a crucial role in establishing later patterns of emotional, cognitive and social functioning in children. This study aims to assess the effectiveness of a video on parenting in improving parent-child attachment among parents in preschool children. A pilot study of quasi-experimental study design was conducted among parents of preschool children aged 4 to 6 years. Respondents were divided into the control and intervention group. The intervention group answered a guided questionnaire before and after a video intervention was conducted. The data were analysed using IBM SPSS Statistic version 24.0. Both the control and intervention group were comparable at baseline. The highest parent-child attachment scores were recorded during post-intervention (mean=62.276, SD=5.038), followed by pre-intervention (mean=61.494, SD=5.421) and for the control (mean=57.885, SD=5.987). Mauchly's test of sphericity showed that the assumption was not met. ($\chi^2 = 8.394$, $p=0.015$). One-way repeated-measures ANOVA showed that there was a significant main effect of parent-child attachment before and after intervention ($F(2, 66) = 12.944$, $p < 0.001$, $\eta^2 = 0.341$). Bonferroni post hoc tests showed that the scores were significantly different between control (mean=57.885, SD=5.987) and pre-intervention (mean=61.494, SD=5.421, $p=0.033$). The scores were also significantly different from control (mean=57.885, SD=5.987) compared to post-intervention (mean=62.276, SD=5.038, $p=0.014$). However, there was no significant difference observed in pre-intervention (mean=61.494, SD=5.421) compared to post-intervention (mean=62.276, SD=5.038). This evidence supports the hypothesis that child-attachment scores improved after the video intervention.

HEALTH PROMOTION

PP 41

Wrong Health Perception of Anti-Vaccine Movement in Malaysia: The Fallacy of Judgement

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Over 300 years has passed by since the first vaccine was discovered. There were multiple efforts done towards immunization program including globally, regionally and at local level. However, in the midst of technology and advancement in vaccine development, we still face major issues in relation to delivery of vaccination towards a segment of the society which refuses vaccine. In Malaysia, the number of parents who refused vaccination for their children has increased to almost three-fold, from 470 cases in 2013 to 1054 cases as of May 2015. This explains why measles cases have been reported to increase from 197 cases in 2015 to 873 cases as of June 2016. In August 2017, one death was reported involving a 9-year-old boy who did not have the complete Diphtheria immunization required for his age. Very few articles were found discussing the local health perception of anti-vaccine movement in Malaysia. This study aimed to identify the associated factors towards wrong health perception of anti-vaccine movement in Malaysia. A systematic review study for past 5-years published in online search engine. A total of 10 articles were reviewed. Altogether, this process resulted in the generation of seven analytical themes as the outcomes of the study. Almost half of the review findings of the wrong health perception concerned on health literacy theme, 9(26.47%) and safety concern regarding the vaccine itself, 8(23.53%). These were followed by time & cost as barrier, 4(11.76%) doubt on vaccine effectiveness, 4(11.76%) and religious / belief, 4(11.76%). Others are influenced by external sources, 3(8.82%) and low confidence on provider, 2(5.88%). Most of the wrong health perception concerned on health literacy and safety concern regarding the vaccine itself. By looking into these issues, more effective and target-specific intervention could be formulated.

PP 42

Refining the Evil Technology in Digital Obesity; A Systematic Review on the Intervention Using Exercise Gaming to Reduce Childhood Obesity

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The worsening trend of childhood obesity is a global public health issue. Digital technology evolution is a contributing factor toward physical inactivity and obesity among children. In order to overcome this growing problem, exercise game had been introduced in early 80's to ameliorate this obesogenic environment. Exercise games utilize innovative technologies that provide an interactive environment requiring gestures and body movements in order to simulate on-screen gameplay. The objective of this study is to assess the effectiveness of exercise gaming intervention in managing childhood obesity. A systematic review was performed .6 articles examining exercise video game impact on weight management among children published between January 2013 and December 2017 in the English language were selected from 54 articles identified through five major search engines. Majority of the researches were conducted in developed countries particularly in the United States whereby some developing countries have started with small-scale researches in this area. The result indicated there is a significant increase in physical activity level, reduction of BMI, reduce adipose tissue composition and have a positive psychological impact after exercise game intervention. However, the impact of exercise game on physiological and metabolic parameters are inconclusive and need further study. The exercise game is effective to improve childhood obesity if combined with other modules of lifestyle. Therefore, the exercise game can be the right tools to combat obesity among children with gadget addiction.

PP 43

Loose Value: The Mindless Life of Child Abuse Perpetrator

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Child abuse is a part of violence and maltreatment towards a child. It has led to many immediate and long-term consequences. The factors pertaining the perpetrator of physical and emotional abuse were least explored in literatures. The aim of this systematic review is to comprehend the factors of vulnerability among the perpetrators of child abuse, and to identify the most reported characteristic of child abuse perpetrators in literature globally. A systematic search of articles published between 2013 and 2018 was conducted in several databases (Scopus, Ovid Medline, EBSCOhost and Google Scholar). A total of 14 studies met the inclusion criteria and were included in the review. The risk factors and characteristics of child abuse perpetrator is classified into three different levels; individual, relationship and community. The most reported characteristics are at individual level. Family background and situation play an important role in determining the risk of being a child abuse perpetrator. Low socioeconomic status of the family is the prominent contributing risk factor for abusing their own children.

PP 44

Systematic Review on Stigma on Mental Health in Malaysia and Asian Countries

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Mental health issues in Malaysia is increasing in numbers which is up to 30% in 2015 based on NHMS. Stigma on mental health is defined as any unjustified and false association between people who have mental illness, their families and people near to them with something shameful. Research has shown that stigma on mental health would hinder patients away from treatments. Stigma would reduce help-seeking behaviour and subsequently be a barrier for treatment. A systematic review is done based on related articles published between January 2013 until December 2017 from four major search engines namely PubMed, Scopus, Ovid and Google Scholar; restricted to past 5 years to have the most recent literature outcomes. Research Ethics Board review is not required as it did not involve living subjects. The articles were then screened based on topics related to mental illness, association with stigma and must be done around Asian countries and Malaysia. The exclusion criteria were stigma related to any chronic and infectious diseases, sexual orientations and articles not related to Asian countries and Malaysia. There were 31 articles retrieved and 6 articles were selected after screening and assessing of inclusion and exclusion criteria. Stigma on mental health is called as hidden danger as patients with mental health issue will become secretive and hidden from other people's knowledge and health professional attention. It later causes danger to themselves and others if late diagnosis and treatment occur. Education level would determine the level of stigma among populations. Having exposure to relatives and some information on mental health would reduce the stigma. Otherwise, people tend to discriminate those mental health patients from society. Different cultural perspectives are also contributing factors towards stigma as Western populations are more open towards people suffering mental health compared to Asians. This would determine the treatment approach as Western are more open and approachable while Asians still regarded them as sinful and isolated from the society. Another approach suggested for Asians is denormalization of suicidal act as part of consequences of life rather to engage and getting them into treatment to reduce the impact of stigma.

PP 45

Ageing Perceptions and Quality of Life among Middle and Older Aged Adults in Malaysia

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Malaysia's older adult population had increased rapidly over the last twenty years. In light with the increasing population, it is imperative that their attitudes towards ageing and their QoL are well managed. The aim of this study was to explore the Ageing Perceptions and Quality of Life (QoL) among middle and older aged adults in Malaysia. A descriptive cross-sectional method was undertaken involving a total of 500 participants aged 40 years and above. APQ and CASP-19 were used to identify ageing perceptions, QoL, relationship between demographic characteristics and ageing perceptions and association between ageing perceptions and QoL. Results revealed that both middle and older age adults have positive perceptions of ageing with good QoL. There were significant relationship between the demographic characteristics and ageing perceptions. Ageing perceptions were also significantly associated with QoL. Findings illustrated that one must be aware of ageing pitfalls during early age to enjoy a good QoL in later years. Implanting positive aspects of ageing should be a responsibility of all. Collaboration of a good team involving the government, family and community is needed to ensure healthy ageing.

PP 46

Non-Intentional Home Injuries among Elderly in Urban Area Selangor: A Community Perception

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Injury among elderly population could result in high morbidity and mortality in view of it would involve longer hospitalization and more extensive medical care; which in turn, will lead to increase health care burden. Non-intentional injury was found to be the fifth leading cause of death in this age group. The aim of this study was to determine the non-intentional injuries involving the elderly and its associated factors among the urban community in Selangor. A cross sectional study was conducted in one small urban community in Selangor using pre-tested structured questionnaire and face to face interview from house-to-house. A total of 246 respondents were recruited with majority were Malays (85%), male (52%) and with median age of 40 years old. 12% of respondents were in the elderly age group. The prevalence of non-intentional injuries among the elderly was 3.6% with majority were due to fall or tripped (73%) and place of occurrence was mostly in the toilet (55%). 9% of these injured elderly suffered permanent disability post-injury. Slippery floor (14%) was claimed to be the contributing factor in majority of injuries with poor housekeeping as the least (2.7%). There was no significant association found as factors for these non-intentional injuries in this study population. Policy makers should emphasis on targeted measures like home safety design programme or safe home model as one of the strategy for injury prevention among elderly in urban community.

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Conceptual Design and Development of Cycling Charger: Promoting a Healthy Lifestyle within the Community

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A powerful smartphone with all the high-end features has become one of the basic necessities in today's modern life. People use the smartphone not only for communication purposes, but for other things such as entertainment and work. As our life has become very much dependent on this kind of technological gadget which makes everything easier and faster to access, it becomes a main reason for our lack of daily physical activities which poses potential health issues. Despite various brands and models of a smartphone, one thing in common is the use of battery to power the device, where it needs to be recharged over time. The movement of wheel with a motor installed is able to generate electricity thus powering the battery. In this research, the enjoyable and healthy activity of cycling is further upgraded to become what is known as a "cycling charger" as a way of promoting a healthy lifestyle within the community. It focuses on the conceptual design and prototype development of a stationary cycling charger which can be located anywhere within the public area for easy access and usability. Firstly the specification and parameters of the cycling charger are determined based on the average potential users, including the electrical capacity and device protection. It is then followed by the modelling and simulation works using a software to determine the feasibility before the final prototyping stage where all predetermined performance indicators are verified. The human powered cycling charger enables a person to force themselves to exercise while having their smartphone being recharged, and the amount of calories burned based on the person weight, cycling speed and time will be recorded. Its size which is basically based on the available stationary cycling exercise platform and together with an independent battery supply for all its operation make it easier and flexible to be installed within the public area.

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Perspective of Skin Whitening Product in Relation to Health

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Skin whitening practice have existed and well accepted over centuries in all races for the purpose of beauty, self-satisfaction, culture and tradition. With current modern technology, the skin whitening has evolved in term of efficacy and a variety of products. However, skin whitening products might serve potential danger towards consumer health. The aim of the study is to determine the awareness of health effect and possible side effect from skin whitening application. Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) was used to facilitate the process of article search. Full articles published between January 2013 and December 2017 were searched using six search engines; Google Scholar, Ovid, Ebscohost, Scopus, Pubmed and Wiley. A total of 19 full academic articles fulfilled the criteria of selection. Majority of the study were conducted in African countries (42 percent). The prevalence of skin lightening practices among respondents ranged between 2.6 to 71.9 percent. The awareness of adverse effects of skin lightening was measured by various definitions. The prevalence of side effects was reported ranging from 17 to 34.9 percent. There were four themes synthesized after extensive review; health belief, health authority, consumer behavior and the need for social-recognition. This review revealed that the use of skin lightening and topical bleaching agents was common among women in Asia and Africa. Numerous women of different age, class and professional status seek lighter complexions and are using the products excessively which also reported significant prevalence of adverse effects. Although the participants were aware of the risks, they continued its usage. This shows that awareness alone is not enough; knowing the health risk is not the only effective way against these practices. It shows that the socio-cultural context of how health is understood remains a crucial issue. The demand for skin whitening will increase in the future in view of perception towards definition of beauty, overwhelming advertisement, the availability of the product, and affordable price. The public health authority should be alerted to look closely into this whitening industry to safe-guard our Malaysian population in relation to health.

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Alleviation of Oxidative Stress by Roselle (*Hibiscus sabdariffa*) in Rats Fed with High Fat and High Fructose (HFHF) Diet

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High fat and high fructose (HFHF) diet consumption can lead to hyperglycemia, resulting in increased free radical production and reduced antioxidant defense mechanism. This oxidative stress phenomenon elevates lipid peroxidation which damages cells and tissues. In this study, the effects of roselle (*Hibiscus sabdariffa*) flower aqueous extract (100 mg/kg) daily oral treatment were examined in Sprague-Dawley rats fed with HFHF diet for 21 days. Weight changes, blood glucose level, malondialdehyde (MDA) concentration (lipid peroxidation biomarker) and catalase (antioxidant) content were measured. Roselle treatment in HFHF-fed rats significantly reduced weight gain changes ($150.3 \pm 65.9\%$) compared to HFHF rats without treatment ($164.5 \pm 59.3\%$) ($p < 0.05$). Blood glucose in both treatment groups (healthy+roselle: 5.22 ± 0.47 mmol/L, HFHF+roselle: 5.65 ± 0.55 mmol/L) were lower compared to HFHF group (6.00 ± 0.63 mmol/L) although insignificant ($p > 0.05$). Renal MDA was lower in healthy+roselle group (0.84 ± 0.33 nmol/mg/protein) than healthy group without treatment (1.20 ± 0.24 nmol/mg/protein) ($p < 0.05$). HFHF group had the highest renal MDA content (1.23 ± 0.40 nmol/mg/protein) while HFHF+roselle had lower content at 1.10 ± 0.05 nmol/mg/protein. Liver MDA was lower (but insignificant) in HFHF+roselle group (0.11 ± 0.07 nmol/mg/protein) compared to HFHF without treatment (0.16 ± 0.02 nmol/mg/protein). High liver catalase content was demonstrated by healthy+roselle (0.48 ± 0.25 μ g/ml) and HFHF+roselle (0.42 ± 0.22 μ g/ml) groups, while a significantly low content was observed in HFHF group (0.12 ± 0.05 μ g/ml). The trend is similar in renal; both groups treated with roselle had significantly higher catalase content (healthy+roselle: 0.43 ± 0.25 μ g/ml, HFHF+roselle: 0.40 ± 0.19 μ g/ml) compared to HFHF group (0.25 ± 0.21 μ g/ml). Our findings demonstrated moderate effects of roselle as antiobesity, antihyperglycemic and antioxidant agent to reduce oxidative stress.

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Internet of Things High Availability Studies in Assuring Reliable Input Resources

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Internet of Things (IoT) offers multiple possibilities in automating smart environment. Most of its sensors are small and limited in resources. In a critical environment, such as health care, a single point of input is not sufficient to ensure the reliability of the feed. Lack of feedback during a critical instance could jeopardize a person's life if it is related to domain such as the ambient assisted living (AAL). Although Malaysian population age is not as bad as developed countries, there is an increase in elderly person requiring special attention. By leveraging the possibilities of having various sensors within IoT environment, AAL helps an elderly person in their daily chores. Therefore, reduce the need for a personal helper. In order to improve feedback reliability, studies on high availability is required. The implementation of various sensors is not enough to ensure the reliability of the input. The combination of heat sensor, gas sensor, or oxygen sensor will not work if one of it fail to provide their data. Hence the interest to increase the number of similar sensors will provide a way forward in providing input redundancy. At the communication end, multiple path for sensors will address the high availability issues in relaying feedbacks to the controllers. We examine the impact of redundancy in sensors related to health in order to assess its necessity in ensuring reliability. This includes the complexity of the system, its response time and cost related issues.

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Finite Difference Time Domain Method to Investigate Electromagnetic Field Effects in Human Body

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Maxwell's equations are implemented using Finite Difference Time Domain (FDTD) method to investigate the radiation effects in human body. Flat Phantom Model for human body is proposed using incident electric fields and Perfect Matched Layers (PML) boundary conditions. The proposed model has been implemented in Matlab Codes. The electric field distribution and Specific Absorption Rate (SAR) are calculated for all possible human organs using the measured electric field intensity at 900MHz, 1800MHz and 2.4GHz at International Islamic University Malaysia (IIUM), Gombak Campus. The values predicted by proposed method are found close to those calculated by the commercial Remcom Inc Software, XFDTD6.4. The effect of SAR has been predicted for different organs using proposed model. It is observed that the effect is higher in higher frequencies and the organ affects worse is brain. The SAR predicted by the proposed model for measured radiated fields at aforementioned frequencies are compared with safety guidelines given by the recognized body such as ANSI/IEEE, ICNIRP and Malaysia Communication and Multimedia Commission (MCMC). The predicted SAR is found 0.083W/Kg at 900MHz, 0.751W/Kg at 1800MHz and 1.434W/Kg at 2.4GHz which are 4.2%, 37.6% and 71.7% respectively of safety limits proposed by ICNIRP. The preliminary results show that the campus is safer for its inhabitants.

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Multispectral Thin Film Copper via Magnetron Sputtering

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A copper nanoparticle exhibit electromagnetic spectrum that is potential in a biosensor development. It is crucial to design a low cost nanoparticle biosensor that is easily fabricated at precise size and available in various spectral wavelength. This paper provides a convenient method for copper nanoparticle deposition on a glass substrate with a magnetron sputtering process. The research objective are to determine a spectral intensity and reliable prediction recipe for various nanometer copper film thicknesses. In this experiment, six glass slides were coated with copper at different sputtering time. The time was varied from 280 sec to 980 sec while Argon gas and DC power were maintained respectively at 80 sccm and 130 watt. Later, the optics and photonics based measurement were employed for assessing the copper film thickness and spectral intensity. Quantitatively, an experiment result indicates that the thicknesses of the copper thin film were changed respectively to sputtering time from 35 nm ~ 150 nm within 200 sec ~ 3600 sec. Qualitatively, different spectral intensity were obtained that responds to the anisotropy of the six copper nanoparticle thin films. The result is beneficial for evaluating the anisotropy of the copper coating in a nanoscale microbial detection at different spectral wavelength.

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Mobile Crowd Sensing to Monitor Noise Pollution for Public Wellbeing

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The Mobile Crowd Sensing (MCS) application enables mobile device equipped with sensory components to acquire critical information from proximity areas and individual. The provision of MCS applications in medical healthcare allows the system to collect random data over a particularly without the need to establish fixed infrastructure. The research is focused on both quantitative and qualitative approaches. Both methods are required particularly to gather large amount of data using different human resources from a specific area. The accuracy of the raw data obtained using smartphone's microphone is mitigated by two methods. Firstly, to investigate the hardware differences between various smartphones and subsequently validate the output from the smartphones against the output obtained from commercial digital sound meter. Second, to ensure each microphone used in the smartphone possesses similar specification to each other. The geographical representation of the collected data is shown in the city areas i.e. Kuala Lumpur. The range of noise data gathered in 24 hours each day is between 25 to 90 dBA. Based on the results collected, during public holiday it is observed that many areas in KL is quite safe and the number of green spots dominates the reds. One of the reasons could be due to less traffic activity on roads. The noise level for 24 hours on a typical working day shows critical level of noise scattered throughout all major towns in Kuala Lumpur. The result is expected because many people spend much of their time outdoor and commute to workplace. On a weekend day, the spots of high noise level are less as compared to public holiday and normal working day. The results show that most of the areas in city of Kuala Lumpur are not safe to live during certain period time of the day. It is because the level of noise pollution is high and many people may be frequently exposed to long term high pitching noise.