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MPP 003P

Bone Resorption Markers, Antioxidant and FGF23 Gene Expression After Acute and Chronic Ethanol Treatment with Abstinence in Male Rat

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Introduction: In 2016, World Health Organization (WHO) reported more than 200 million males and 40 million females suffered from alcohol use disorder (AUD). Alcohol is the main modifiable risk factor for osteoporosis. Studies have shown that alcohol has deleterious effect on bone while others have reported its benefits on bone health.

Objective: This study was conducted to investigate the effect of ethanol intake and abstinence on bone resorption markers (osteopontin, OPN and tartrate resistant acid phosphatase, TRAP), antioxidant (glutathione peroxidase, GPx) and fibroblast growth factor 23 (FGF23) level in male rat.

Method: Thirty male wistar rats were randomized evenly to 5 groups: baseline (Bs), normal control (Nc), acute alcohol (Ac), chronic alcohol (Ch) and alcohol withdrawal (Wd). Treatment period was 28 days. Bolus ethanol 2.5% was given to Ac group on day 28, while Ch and Wd group received modified liquid diet with gradual ethanol concentration increment over 20 days followed by bolus ethanol 2.5% on day 28. Wd group was subsequently abstinence from alcohol for 6 hours before sacrifice. Upon sacrifice, left femur was extracted and prepared for enzyme linked immunosorbent assay (ELISA) test.

Results: GPx, TRAP and FGF23 gene expression were significantly reduced after chronic ethanol intake while there was no significant change observed in OPN gene expression. Ethanol abstinence increased GPx, TRAP and FGF23 gene expression.

Conclusion
Ethanol intake disrupted antioxidant protection and exposed bone to oxidative stress injury and concurrently reduces ability of bone healing (FGF23). However, it also showed inhibitory effect on bone resorption process.

MPP 004K

Bilateral Full-Thickness Macular Hole in Myopic Eyes: A Case Report

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Introduction: Macular hole is the most common cause of central vision loss. It occurs due to retinal break in the macula.

Objective: To report a case of bilateral full-thickness macular hole in high myopia patient.

Method: Case report

Results: A 62-year-old gentleman with underlying high myopia presented with metamorphopsia over his both eyes. He had undergone uneventful both eye cataract surgery 7 years prior to the current presentation. At presentation, his visual acuity was 6/36 ph 6/36 N24 over the right eye and 6/24 ph 6/24 N18 over the left eye. Examinations and investigations showed both eye full-thickness macular hole with posterior staphyloma. Pars plana vitrectomy was performed over his left eye for stage 4 macular hole with anatomical and functional success. Post-operatively, the left eye showed improvement in visual acuity and symptoms. His latest visual acuity was 6/36 ph 6/36 N24 over the right eye and 6/18 ph 6/12 N12 over the left eye. He is planned for right eye macular hole surgery.

Conclusion: High myopia and axial length are known risk factors for idiopathic macular hole. Pars plana vitrectomy is indicated to improve as well as to prevent further worsening of visual acuity.

MPP 005P

Association between Attributes in Multiple Mini Interviews (MMI) and Academic Performance of Medical Students at The Faculty of Medicine, UKM

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Introduction: Student selection is a crucial process in choosing students who can potentially succeed in their medical education and training. Multiple Mini Interview (MMI) had been introduced to counter the problem of interviewer variability and context specificity of the traditional interview. However, previous studies had reported inconclusive results of the ability of MMI to predict academic performance.

Objective: To examine the relationships between five attributes in MMI i.e., critical thinking, lifelong learning, empathy, ethics and professionalism, and resilience with the academic performance during the first semester of the first year.

Methods: A retrospective study was conducted on three cohorts of medical students' analyzing their performance scores in MMI and their academic performance using PLS-SEM analysis.

Results: The assessment of the model revealed that critical thinking and lifelong learning significantly predicted academic performance, compared to empathy, ethics and professionalism, and resilience. The measures of critical thinking and lifelong learning were related to the aspect of cognitive performance which, in agreement with the predictability of past academic performance and aptitude test.

Conclusion: This study justified the importance of non-cognitive dispositions to academic success and provided information regarding the qualities of MMI practiced at the Faculty of Medicine, UKM.

MPP 006P

Metabolic Landscape of Brain at Middle Age

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Introduction: Metabolic drift is a hallmark of aging brain, which reflects functional state of brain. However, little is known about metabolic reprogramming in the brain at midlife. Understanding such changes could provide insights for preventing neurodegenerative lesions in later life.

Objective: This study aimed to determine the metabolic networks in brain of middle-aged rats.

Methods: Metabolome in whole brain tissue of adult male rats (Sprague Dawley, 15 months old) was compared with young counterparts (6 months old). Metabolites were extracted by methanol and detected using liquid chromatography mass spectrometer. Data analysis was performed by MetaboAnalyst 4.0.

Results: Levels of docosahexaenoic acid and arachidonic acid were lower in adult brain, suggesting perturbed membrane fluidity in neurons. In adult brain, elevated pyroglutamic acid level indicates impaired glutathione metabolism, while upraised levels of neuroprotectants (ergothioneine, spermine, and cholecalciferol) imply cellular compensatory mechanism against defective antioxidant defence system. Dopamine level was higher, but its precursor (tyrosine) level was lower in adult brain, indicating active dopamine biosynthesis. Other neurotransmitters include oleamide and N-acetyl-1-aspartylglutamic acid were lower, while acetylcholine was higher in adult brain.

Conclusion: Disrupted polyunsaturated fatty acids metabolism, redox imbalance, and altered neurotransmitter systems were observed in middle-aged brain. Association of these metabolic changes with cognitive performance warrants further investigation.

MPP 007K

Sex Determination from Measurements of The First Lumbar Vertebra by Computed Tomography in the Malaysian Population

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Introduction: Sex determination is one of the main steps in the identification of human skeletal remains. The vertebrae are weight-bearing structures in the human body, that may provide a variety of information from an individual.

Objectives: The aim of this study is to assess the sexual dimorphism of the first lumbar (L1) vertebra using three-dimensional computed tomography (3D CT) imaging to develop population-specific equations for sex identification in the Malaysian population.

Methods: Thirteen linear measurements of the first lumbar (L1) vertebra were taken from 50 males and 50 females patients in the Radiology Department of Universiti Kebangsaan Malaysia Medical Centre, using images of the Computed Tomography (CT) scan. Independent T-test and discriminant function analysis (DFA) were performed for analysis.

Results: By using independent T-test, there were eight measurements showing statistically significant differences between men and women ($p < 0.001$). Using the stepwise method of discriminant analysis, three measurements for sex prediction showed an accuracy of 93%, i.e. lower end-plate width (EPWl), lower end-plate depth (EPDl), and posterior height of the vertebral body (VBHp).

Conclusion: This study provides discriminant equation for forensic identification of sex from the first lumbar vertebra among the Malaysian population with 93% accuracy.

MPP 009P

Digital Learning Usage among Malaysian and Japanese Medical Students: The Current Trend

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Introduction: Digital learning has been integrated into medical education worldwide through the introduction of state-of-the-art technologies such as virtual courses, simulation software and teleconferencing. Nevertheless, the actual trends of usage and level of acceptance among medical students between developed and developing nations are yet to be investigated.

Objective: This study investigates and compares the trend of digital learning usage among medical students in Universiti Kebangsaan Malaysia (UKM), Malaysia and Shiga University of Medical Science (SUMS), Japan.

Method: A validated questionnaire was used to assess the digital learning usage among 150 UKM and 147 SUMS medical students throughout Year 1-5.

Results: The frequency of digital learning usage among UKM medical students was significantly higher as compared to SUMS ($p<0.001$). Electronic books (e-books) was the most preferred source of digital learning among UKM medical students, followed by videos and online research articles. In comparison, SUMS medical students preferred online research articles, e-books, and online courses. Nonetheless, there was still a high proportion of SUMS medical students who preferred traditional learning methods over digital learning.

Conclusion: Malaysia's initiative via the Higher Education Blueprint 2015-2025 has encouraged the transformation of medical education in a 'blended learning' environment. Despite the technological advances of Japan as a developed nation, Japan is found to be lagging in the application of technology into teaching and learning activities. Hence, medical educators should be creative in encouraging the utmost digital learning usage among medical students as a complementary role in medical education to face future challenges.

MPP 010K

Rapid Progression of Endogenous Endophthalmitis to Panophthalmitis in an Immunocompromised Patient

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Introduction: Endogenous fungal endophthalmitis is a rare intraocular infection that has recently increased in incidence. Treatment generally is initiated with both systemic and intravitreal antifungal drug. Specific predisposing factors may make a patient more at risk for rapid disease progression.

Objective: To report a rapid endogenous fulminating panophthalmitis in an immunocompromised patient.

Method: Case report.

Result: A 63-years-old male with underlying poorly controlled diabetes was admitted for community-acquired pneumonia. He presented with a one-week history of gradual painless vision loss over the left eye. The patient denied any history of ocular trauma or intraocular surgery. Examination revealed no perception to light over the left eye with a positive relative afferent pupillary defect (RAPD). The affected eye was erythematous, proptosed with restricted extraocular movements. Anterior segment examination depicted cornea haziness with the presence of cells and raised intraocular pressure. B-scan showed dense vitritis. The patient was treated as left eye endophthalmitis at this stage. Blood culture was negative and bronchopulmonary lavage was done in view of unresolved pneumonia. It was the only positive culture, depicting Candida Tropicalis. Despite the initiation of intravitreal and systemic antifungal and antimicrobial therapy, his ocular condition declined further. The patient subsequently underwent evisceration two weeks later in view of disease progression to panophthalmitis with a poor visual prognosis. Postoperatively, the patient's general condition improved tremendously.

Conclusion: Progression of fungal endophthalmitis to panophthalmitis is not uncommon even with the initiation of treatment. Surgical intervention should be considered in cases of endophthalmitis that progress to panophthalmitis to prevent further systemic spread.

MPP 011P

Differences in Difficulty Index (DIFI) and Discrimination Index (DI) between OBA Items Vetted Only at the Departmental Level Compared to Items Vetted Both at the Departmental and Faculty Level

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Introduction: Constructing quality one-best-answer (OBA) items requires training and experience. In order to ensure validity and reliability, in Faculty of Medicine, Universiti Kebangsaan Malaysia (UKM), constructed items are vetted once at the departmental level for the End of Semester (EOS) examination, and vetted twice at the departmental and faculty levels for Professional examination.

Objective: This study aims to examine the differences in difficulty index (DIFI) and discrimination index (DI) between OBA items vetted only at the departmental level compared to those vetted at both the departmental and faculty levels.

Method: 222 OBA items constructed for Professional examination from 2017 to 2019 and 175 OBA items constructed for EOS examination from 2018 to 2019 were retrospectively analyzed through independent t-test using the Statistical Package for the Social Sciences (SPSS).

Results: There is no significant difference in mean DIFI for OBA items vetted once (DIFI=62.83 ± 24.42) compared to those that are vetted twice (DIFI=63.58 ± 23.57) However, there is a significant difference in mean DI where items vetted once show good discrimination (0.31 ± 0.17), while items vetted twice show poor discrimination (0.19 ± 0.12).

Conclusion: The difficulty of OBA items vetted only at the departmental level is comparable to items vetted at both the departmental and faculty level. The difference in DI can be attributed to cohort differences between the samples from the two examination sessions and is also probably due to the wider content coverage in Professional examination compared to EOS that has narrower content coverage.

MPP 012K

Diabetic Retinopathy versus Central Retinal Vein Occlusion, but why can't be both?

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Introduction: Diabetic retinopathy (DR) and central retinal vein occlusion (CRVO) share some similar risk factors and retinal signs that occasionally leads to diagnosis dilemma. Differentiating them is important because treatment options can be different.

Objective: To describe a case of a concurrent bilateral severe non-proliferative diabetic retinopathy (NPDR) and central retinal vein occlusion (CRVO) with the utilization of fundus fluorescein angiography (FFA).

Methods: Case Report.

Results: A 40-year-old male, with underlying poorly controlled diabetes mellitus and other comorbidities, presented with bilateral painless progressive blurring of vision for three months. His presenting visual acuity was 6/18 bilaterally with evidence of ischaemic retinopathy and maculopathy. Both retinae showed combination signs of severe NPDR and also CRVO, without retinal neovascularization or rubeosis. To determine the diagnosis and treatment option, fundus fluorescein angiography (FFA) was performed. FFA showed evidence of both disease processes (both DR and CRVO) with delayed arteriovenous transit time, patchy areas of capillary fallout, and multiple microaneurysms. Diagnosis was then concluded as bilateral severe NPDR, with central-involving diabetic maculopathy, combined with non-ischaemic CRVO. Scattered laser retinal photocoagulation was done bilaterally for severe NPDR; while the non-ischaemic CRVO was monitored closely for ischaemic conversion; and intravitreal anti-VEGF or steroid were discussed for his maculopathy.

Conclusion: Fundus fluorescein angiography is not only helpful in distinguish between DR and CRVO but also help to confirm the presence of both disease processes. In case of doubt, the utilization of FFA should be considered for proper management plan in cases of ischaemic retinopathy.

MPP 013P

Developing a Paradigm for Learning and Memory Test in Zebrafish

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Introduction: Zebrafish has gained popularity as an animal model in cognitive neuroscience. However, the behavioural tests for learning and memory in the fish are not well-established.

Objective: This study aimed to develop a robust test for learning and memory behaviours in wild-type zebrafish.

Methods: A T-shaped maze was used: one arm labelled as goal arm where the fish were allowed to rest when entered, while the other arm was a punished arm with electric shock applied once entered. Coloured or stripped line patterns were used as visual clues. The fish were guided to either arm once during the trainig session while evaluated 5 times during the test session. Amnestic model was induced by treating the fish with 100, 200 and 400 µM scopolamine for 1 h via aqueous immersion. Reversal model was induced by pre-treating the fish with 5, 10 and 20 µM donepezil for 1 h via aqueous immersion followed by scopolamine.

Results: Untreated control zebrafish had higher entry in the goal arm than the punished arm, demonstrating learning and memory capability in the fish. Scopolamine-treated fish had reduced entry into the goal arm and remained in the start arm, suggesting the fish had memory loss and were indecisive. Donepezil reversed the effect of scopolamine such that the fish performance was similar to the control fish.

Conclusion: This study has developed a validated T-Maze paradigm for assessing learning and memory behaviours in zebrafish, which might be useful for high-throughput screening.

MPP 014K

Confirmation of Cystic Pulmonary Echinococcosis Via Basic Laboratory Diagnosis in Malaysia

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Introduction: Pulmonary echinococcosis is caused by larvae of the tapeworm *Echinococcus*. The main confirmatory method is via serology and imaging. However, the specificity is only 40-70%. Almost all previous publications dismissed basic laboratory tests as a useful diagnostic tool.

Objective: A preliminary study was carried out to determine the role of sputum sample and basic parasitological laboratory techniques in diagnosing echinococcosis in humans.

Methods: Multiple sputum samples were collected from a consenting patient who suspiciously diagnoses of hydatid cyst via highly suggestive history and radiographic evidence of bilateral large cyst in pulmonary. Those sputum samples were subjected to wet mount examination and permanent staining (Giemsa) technique. Microscopy examination done using a light microscope and images were recorded.

Results: Direct smear using saline and Giemsa stain was able to detect the parasites in every specimen. Numerous protoscolices are clearly seen in both direct smear and the permanent stain. The remnants of the cyst wall are also observed in 50% of the specimens.

Conclusion: We establish the diagnosis of echinococcosis via direct detection of the parasites from the sputum specimen. Our findings emphasize the importance of basic parasitological laboratory techniques in the respiratory specimen as a valuable detection tool for ruptured pulmonary echinococcosis (partial or total). In addition, it is also a practical, faster and cheaper technique which recommended for resource limiting facilities.

MPP 015K

Uniquely Regulated Genes in Asymptomatic Hepatocellular Carcinoma (HCC): A Comparison to HBV-associated HCC

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Introduction: Hepatocellular carcinoma (HCC) is a major form of primary liver cancer that contributes to 80-90% of total recorded cases. It is a burden on both men and women where the incidence and mortality rates are almost similar. Most HCC cases are associated with the infection of Hepatitis-B virus (HBV) or Hepatitis-C virus (HCV), as well as cirrhosis, however, this study will focus on an alternative group of HCC which are described clinically as "asymptomatic"

Objective: This study aims to revisit RNAseq data from the TCGA project, focusing on "asymptomatic" cases of HCC whereby no previous symptoms have been recorded.

Methodology: Paired RNAseq data obtained from 14 asymptomatic HCC patients were compared against 7 pairs of HBV-associated HCC cases. Open source "R" statistical software with downloaded "Limma" package was used for differentially expressed genes (DEGs) analysis in both cases. Unique DEGs in asymptomatic cases were selected upon comparison to HBV-associated HCC group.

Results: A total of 2097 genes were significantly and exclusively regulated in the asymptomatic HCC group. However only 392 genes were either upregulated or downregulated with >log2-fold change. Further analysis on the genes reveal unique pathways and protein-protein interaction involved in asymptomatic HCC case. The most upregulated genes include MAGEA6, ZIC2, DCAF4L2, MYH4 and CPLX2. While the most downregulated genes include, ASPG, MUC6, SFRP5, HGFAC and PZP. Based on these unique genes, several related pathways to it has been recognized which include, cytokine-cytokine receptor interaction, PI3K-Akt signaling pathway, transcriptional misregulation in cancer and p53 signaling pathways.

Conclusion: This study suggests few unique genes that are associated and regulated in asymptomatic HCC.

MPP 016P

Engaging Undergraduate Medical Students in Research Skills and Field- and Laboratory-Based Studies: Sharing Experience from the Perspectives of Entomologists

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Introduction: Realising the importance of evidence-based medicine, universities in Malaysia continue to support undergraduate medical students to embark on scientific research. Due to the lack of training in research skills and the poor grasp of concepts before they start a project, students often face challenges in planning and conducting their research.

Objective: With a combined supervision experience of almost 11 years, we aimed to describe the teaching and learning (T&L) approaches that we used as supervisors for undergraduate medical students using Special Study Modules as the platform, and medical and forensic entomology as the subject area.

Methods: We retrospectively examined all T&L records of various formats (handwritten and in electronic forms) and grouped the methods used according to different stages of research.

Results: Training sessions on literature search using reliable databases were given. Skimming technique and plagiarism concepts were highlighted, followed by paraphrasing exercises. One recent study devised a pitching session approach whereby students pitched their research ideas to the judges, aided by a pitch deck. Other methods used were 3-minute talks and 'Adopt a Mosquito Trap' program. Student-centred, hands-on pilot study can boost students' confidence in applying their newly learnt skills. Furthermore, visits to the morgue and forensic sample collection simulations in the field provided students with useful experiences and exposure to real-life situations.

Conclusion: Inputs from the students' reflective writing on their research experience have been favourable. Several awards, press releases and published articles achieved by the students either individually or collectively show the effectiveness of the T&L approaches.

MPP 017K

Metabolomic Profiling Reveals the Common Link between *Toxoplasma gondii* Infection and Schizophrenia Patients Through Purine Catabolism

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Introduction: A growing body of evidence suggests a correlation between schizophrenia and exposure to *Toxoplasma gondii* infection. In chronic toxoplasmosis, the parasite forms tissue cysts in multiple organs, especially the brain, which might be responsible for a vast array of neuropsychiatric symptoms. Metabolic networks could provide more insights into describing the infection mechanism that might be responsible for the neuropathological pathways of this devastating disease.

Objective: This study compared the plasma metabolomes of schizophrenia patients with or without *Toxoplasma* infection.

Methods: Four groups with 15 subjects each were recruited: healthy control without *Toxoplasma* infection and schizophrenia (NN); *Toxoplasma* positive and non-schizophrenia (TN); *Toxoplasma* negative and schizophrenia (NS); *Toxoplasma* positive and schizophrenia (TS). The plasma metabolomes were detected by liquid chromatography-mass spectrometry.

Results: Comparison between TN and NN; NS and NN found a similar set of metabolites. These included a reduction of inosine, hypoxanthine, and xanthine. These metabolites are related to purine catabolism, indicating that purine catabolism was decreased in subjects with *Toxoplasma* infection or schizophrenia. However, there were no significant metabolites identified between TS and TN, suggesting that there is no modification of purine catabolism in subjects with both *Toxoplasma* infection and schizophrenia.

Conclusion: The purine catabolism was altered in *Toxoplasma* infection or schizophrenia alone. Further studies are required to determine the role of *Toxoplasma* infection through this metabolic pathway on the pathogenesis of schizophrenia.

MPP 018P

Overexpression of LRG1 Supresses Autophagy Mechanism Possibly Via TGFß Superfamily in Colorectal Cancer

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Introduction: Leucine-rich-alpha-2-glycoprotein 1 (LRG1) has been implicated in various malignancies, including colorectal cancer (CRC). The expression of LRG1 in CRC is stage-dependent, and it correlates with tumour size. Moreover, the expression of LRG1 diminishes after excision of CRC suggesting that LRG1 is a highly potential protein biomarker in CRC. Although recent studies have revealed the role of LRG1 in driving various cancers, the autophagy mechanism in LRG1-mediated CRC remains largely unknown.

Objective: This study was conducted to elucidate the autophagy signalling pathway in LRG1-mediated colorectal cancer cells.

Methods: Colorectal adenocarcinoma cell, HT29, was chosen for the over-expression of human LRG1 gene. The cells were stably transduced with lentivirus containing LRG1 open reading frames (ORFs) and the selection was carried out with 25 g/ml Blasticidin S. RNA was then extracted from the cells, followed by gene expression assessment via RT-qPCR. Statistical analysis of Independent T-test was performed using GraphPad Prism 8.0.1.

Results: A decreasing trend of *TGFß1* expression was observed in LRG1-over-expressed CRC cells ($p > 0.05$). The TGFß receptors (*TGFßR1* and *TGFßR2*, $p < 0.05$) and the downstream markers of TGFß signalling were also down-regulated (*SMAD1*, $p > 0.05$ and *SMAD2*, $p < 0.05$). In addition, LRG1 over-expression reduces the mRNA levels of autophagy markers including *Beclin-1*, *ATG3*, and *ATG5* ($p < 0.05$).

Conclusion: Our findings suggest that LRG1 may suppress the autophagy mechanism via the TGFß signalling pathway by down-regulating the autophagy genes.

MPP 019K

A Qualitative Study Exploring Challenges Faced by Parents Who Were the Primary Caregiver of Children with Tuberculosis

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Introduction: Parents of children with Tuberculosis (TB) disease faced many challenges from the presence of health symptoms until completing the TB treatment. The challenges can be described as perceived barriers, according to the Health Belief Model (HBM) theory.

Objective: This study aims to explore parents' experiences dealing with the challenges to achieving TB treatment success for their child in two districts of Selangor, Malaysia.

Methods: The study utilized the phenomenology study design. In-depth interviews were conducted among purposely sample primary caregivers of children with TB disease who have completed TB treatment or still under treatment. The participants were selected based on TB registration among children in MyTB version 2.1 for Klang and Petaling districts focusing on the registration between 2017 to 2019. The collected data was considered as achieving its saturation level if no new themes arise from the latest interviews' session. Thematic analysis was conducted using the R-based Qualitative Data Analysis (RQDA) package version 0.2-8.

Results: The total number of participants in this study was fifteen mothers of children with TB disease; 12 (80%) of the children had completed TB treatment. There were six main themes identified from this study, which were health symptoms challenges, TB investigation challenges, personal challenges, healthcare facilities challenges, administration medication challenges, and community challenges.

Conclusion: Parents highlighted many challenges while being the primary caregiver to their child with TB disease. The identified challenges should be taken into consideration by the TB program managers for improving the TB care delivery among children.

Keywords: parents, challenges, children, tuberculosis, qualitative

MPP 020K

Polypoidal Choroidal Vasculopathy Treatment: One-Year Outcome

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Introduction: Polypoidal choroidal vasculopathy (PCV) is an abnormality of the inner choroidal vasculature. Treatments available include photodynamic therapy (PDT), intravitreal anti-vascular endothelial growth factor (VEGF) injection, or combination therapy. There have been reports of successful treatment with a combination of half-dose PDT and anti-VEGF.

Objective: This study was conducted to explore the PCV treatment outcome in Hospital Tengku Ampuan Afzan (HTAA) after one year post-treatment.

Methods: A retrospective medical records review of all patients with a diagnosis of PCV from November 2017 to November 2019 at HTAA. Primary outcome measures were the outcome of the best-corrected visual acuity (BCVA) and central subfield thickness (CST) at one-year post-treatment. Secondary outcome measure was documentation of side effects.

Results: A total of ten patients were diagnosed with PCV in which seven patients (seven eyes) treated with half-dose PDT combined with intravitreal anti-VEGF injection while three patients (four eyes) treated with intravitreal anti-VEGF alone. BCVA changes in logMAR was -0.0,1 and the average CST reduction was 53.8 m after one-year post-treatment. In a subanalysis, the combination group showed BCVA changes of +0.03 and CST reduction of 12.1µm whereas -0.08 and 126.8 µm respectively in the monotherapy group. There was one eye developed retinal atrophy in the monotherapy group.

Conclusion: At one-year post-treatment, PCV patients improved in terms of BCVA and CST reduction with either combination therapy or anti-VEGF therapy alone. However, monotherapy is shown to be superior to the combination group in both anatomical and functional improvement.

MPP 021K

A Retrospective Review of Management of Diabetic Retinopathy in Pregnant Diabetics at Pusat Perubatan Universiti Kebangsaan Malaysia (PPUKM)

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Introduction: Diabetic retinopathy (DR) may progress when diabetic women become pregnant. This clear and present danger is becoming more important with diabetes increasing around the world and developing earlier.

Methods: Retrospective case series

Results: 168 pregnancies were traced from the registry held by Endocrine Antenatal Clinic, Department of Obstetrics and Gynaecology, Pusat Perubatan UKM for patients who attended from 2016 to 2019. Of the 138 pregnancies in pre-existing diabetics, 97 records (70.3%) were found to have only one follow up with incomplete ophthalmology records or defaulters. Only 41 pregnancy records (29.7%) in 41 women were complete with at least two ophthalmology reviews during the pregnancy. Progression of DR was noted in 7 of these pregnancies in 7 women giving a rate of 17.0%. Two of them progressed to a sight-threatening complication of DR and the treatment received was effective. When comparing the group of progressors with non-progressors, there was no statistically significant difference for risk factors (age, gender, ethnicity, type of diabetes, duration of diabetes, HbA1c level, hypertension, presence of maculopathy, risk factors for diabetes and foetal ultrasound findings).

Conclusion: The rate of repeat follow-up for retinopathy during pregnancy in diabetics is about 30%. No risk factors were identified for DR progression.

MPP 023K

Physical Activity among Undergraduate Students in Universiti Kebangsaan Malaysia: Comparison between the Genders

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Introduction: Non-communicable diseases are also seen among the younger population, and its risk factors can be controlled through physical activity. Prevalence of physical activity differs between the genders and is usually found to be higher in males.

Objective: The study was conducted to determine the prevalence of overall and domain-specific physical activities among male and female students and whether gender factor is significantly associated with the prevalence.

Methods: This is a cross-sectional study. A survey using the Global Physical Activity Questionnaire (GPAQ) was conducted online in which 4,002 undergraduate students from three faculties in UKM selected through stratified random sampling were invited to participate. Upon completion of data collection, there were 718 respondents with data valid to be analyzed in which 254 were male students, and 464 were females.

Results: Prevalence of overall active students is significantly higher among males (p=0.004). The higher percentage of male students reported vigorous work, vigorous leisure and moderate leisure activity but is statistically significant only for vigorous leisure activity (p=0.0001). The higher percentage of female students reported moderate work and transport domain activity but is statistically significant only for moderate work activity (p=0.007).

Conclusion: Gender difference plays a role, especially in contributing to the prevalence of certain domain-specific physical activities. Knowledge of such pattern hopefully can be used to plan health intervention accordingly.

MPP 024K

A Catastrophic Complication of Systemic Lupus Erythematosus (SLE) - Acute Cerebral Edema : Treated with Bifrontal Decompressive Craniectomy

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Introduction: Cerebrovascular event in SLE is a rare complication of the disease. In this case, a patient presented with stroke-like symptoms with massive cerebral oedema on CT Brain images.

Objective: This case was reported to highlight the possibility of SLE to cause acute cerebral oedema during its flare.

Methods: Case report.

Results: A 24 years old lady with a known case of SLE and lupus nephritis presented to the Nephrology Department with a flare of SLE and worsening kidney function. She was treated with steroid and haemodialysis. However, after one week of treatment, she developed a rapid drop in GCS (E1V1M1). She was intubated and stabilized. CT Brain done showed features of massive cerebral oedema. She was referred to Neurosurgery, and subsequent decompressive bifrontal craniectomy and tracheostomy carried out and put on cerebral protection protocol. GCS improved to E2VtM3. The patient survived the acute insult and currently on a rehabilitation programme.

Conclusion: Acute cerebral oedema is a life-threatening complication of SLE.

MPP 025K

Prevalance of Psychological Distress among International Students at Universiti Kebangsaan Malaysia

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Introduction: Depression, anxiety, and stress are associated with decreased role functioning, productivity, and quality of life. International students are more prone to psychological distress as they face many stressors while studying abroad.

Objective: This study aimed to determine the prevalence of depression, anxiety, and stress among international students studying at Universiti Kebangsaan Malaysia.

Methods: A cross-sectional study with purposive sampling method was performed on 280 international students at Universiti Kebangsaan Malaysia (UKM) between the age of 18 and 35 years. The Depression Anxiety Stress Scale-21 (DASS-21) questionnaire was used anonymously to assess the mental health of students.

Results: The overall prevalence of depression, anxiety, and stress among international students were 58.9%, 71.8%, and 53.9% respectively.

Conclusion: This study addressed the gap in the literature on the mental health of international students and provided data that could be used in intervention programs to improve mental health of the increasing number of international students in Malaysia.

MPP 026K

Rituximab for Refractory Necrotising Scleritis and Peripheral Ulcerative Keratitis Secondary to Anti-Neutrophil Cytoplasmic Antibody Negative Granulomatosis with Polyangiitis

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Introduction: Granulomatosis with Polyangiitis (GPA) is an autoimmune disease involving multiple organs characterized by necrotizing granulomatous inflammation and paucity of immune vasculitis. Anti-neutrophil cytoplasmic antibody (ANCA) negative GPA makes up 10-20% of cases. There is limited evidence on rituximab therapy in ocular inflammatory disease secondary to ANCA negative GPA.

Objective: To report a case of refractory necrotizing scleritis (NS) and peripheral ulcerative keratitis (PUK) secondary to ANCA negative GPA which was treated with rituximab.

Methods: A retrospective case report.

Results: A 52-year-old woman with underlying cavernoma at middle frontal gyrus was diagnosed as bilateral NS and PUK secondary to ANCA negative GPA as evidenced by increased erythrocyte sedimentation rate, bilateral multiple cavitation lung nodules, and persistent microscopic hematuria. Infective workup and other autoimmune tests were negative, including ANCA test. She had seven admissions to ward from the year 2017 to 2020 due to reactivation and worsening of NS and PUK. She received multiple courses of high dose intravenous methylprednisolone, six cycles of intravenous cyclophosphamide and oral methotrexate. Multiple tectonic patching operations were performed. Despite all the treatment, the disease continued to progress. Eventually, two intravenous infusions of one gram rituximab two weeks apart and a dose of 500mg after 6 month were given. Since rituximab treatment, the disease was stable for at least nine months without any reactivation.

Conclusion: Rituximab appears to be an effective and safe treatment option for inducing remission of refractory non-infectious NS and PUK secondary to ANCA-negative GPA.

MPP 027K

Prognostic Significance of HER2 in Urothelial Carcinoma

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Introduction: Urothelial carcinoma poses a great challenge in disease management due to the high recurrence rate and a greater likelihood of disease progression. HER2 (human epidermal growth factor receptor 2) is one of the proteins variably expressed in urothelial carcinoma, prompting its investigation as a potential predictive marker.

Objective: The aim of this study was to assess the HER2 status in urothelial carcinoma, its correlation with tumour grade, tumour stage, recurrence and progression.

Methods: We retrospectively analysed 69 specimens of transurethral resection or cystectomy in patients with urothelial carcinoma. Immunohistochemistry for HER2 was performed and the expressions were correlated with tumour grade, tumour stage, presence of recurrence and tumour progression. Staining was evaluated according to the same criteria of breast cancer. Scores of 2 + and 3 + were considered positive. The data were analysed using the chi-square test with statistical significance set at $P < .05$.

Results: Positive HER2 expression was found in 13 cases (18.8%). HER2 positivity was significantly associated with high-grade tumours ($P = .005$). However, there is no significant association with tumour stage, recurrence or progression.

Conclusion: HER2 is potentially a good immunohistochemical marker for identifying patients with higher-grade urothelial carcinoma and stratifying patients for future targeted therapy.

MPP 028P

Disseminated Microsporidiosis: Discovery of *Enterocytozoon bieneusi* Circulating Proteins as Potential Diagnostic Markers

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Introduction: *Enterocytozoon bieneusi* is the most common microsporidia species responsible for lethal diarrhoea in immunocompromised patients. In disseminated microsporidiosis cases, the pathogens may not be detected in stool, and currently, there's no available method to directly diagnose the infection in blood or plasma.

Objective: This study aims to detect circulating *E. bieneusi* protein(s) in sera of HIV/AIDS patients.

Methods: Hundred blood samples were collected form HIV patients and screened for *E. bieneusi* using PCR. The positive plasma samples were subjected to shotgun mass spectrometry analysis to identify circulating microsporidia proteins.

Results: A total of seven blood samples were positive for *E. bieneusi* DNA. The mass spectrometry results identified three significant *E. bieneusi* circulating proteins, which uniquely present in the disseminated microsporidiosis samples.

Conclusion: These findings provide baseline information on the potential application of these circulating proteins to aid in the diagnosis of disseminated microsporidiosis. Further study on the antigenic property of these proteins should be addressed prospectively.

MPP 029K

The Efficacy of Non-HDL-c/HDL-c Ratio against Single Non-HDL-c Measurement as Predictive Biomarkers in Non-alcoholic Fatty Liver Disease's Spectrum

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Introduction: Non-alcoholic fatty liver diseases (NAFLD) are mostly asymptomatic, yet able to progress into severe complications if management is adjourned. Liver biopsy remains the gold standard to diagnose and monitor NAFLD with several caveats concerning the sampling and interpretative aspects. With the surge of NAFLD cases, non-HDL-c/HDL-c ratio has emerged as a potential tool in assessing and predicting the severity of the disease before undertaking invasive and costly interventions.

Objective: The study was conducted to determine the efficacy of the non-HDL-c/HDL-c ratio in predicting the severity of NAFLD.

Methods: A total of 145 subjects with NAFLD were retrospectively selected from the Gastroenterology & Hepatobiliary Clinic and were divided into two groups: the presence and absence of lipid-lowering agents (LLA). Lipid profiles were extracted from the laboratory information system. The qualitative grading of liver steatosis was classified based on the hepatic parenchymal echogenicity and visualisation of the surrounding structures. The correlation of non-HDL-c/HDL-c ratio and non-HDL-c with validated ultrasound imaging were analysed using the Spearman's test. The predictive value of non-HDL-c/HDL-c ratio and non-HDL-c in determining the severity of NAFLD was assessed using multivariate binary logistic regression analysis.

Results: No significant correlation with the ultrasound staging were observed in all groups except non-HDL-c/HDL-c ratio in the presence of LLA (p<0.05). Independent non-HDL-c/HDL-c ratio and non-HDL-c only produced AUC of <0.70. Adjusted non-HDL-c/HDL-c ratio and non-HDL-c were able to improve the AUC to >0.70 for both parameters.

Conclusion: Non-HDL-c/HDL-c is a readily available marker that can be used as a supplement in determining the severity of NAFLD.

MPP 030K

Prognostic Value of High-Sensitivity Cardiac Troponin I Levels in Patients with Suspected Acute Myocardial Infarction

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Introduction: High-sensitivity cardiac troponin assays are the preferred cardiac marker for the diagnosis of acute myocardial infarction (AMI). However, there is a lack of data regarding the prognostic value of hs-cTn in patients with symptoms of acute coronary syndrome but do not fulfil the criteria of AMI (non-AMI patients).

Objective: We aimed to investigate the association between high-sensitivity cardiac troponin I (hs-cTnI) levels and subsequent adverse cardiac events (ACE) in non-AMI patients.

Methods: This is a retrospective study of a 12-months follow-up of patients presented to the emergency department with symptoms of ACS but did not fulfil the AMI criteria for subsequent adverse cardiac events (ACE). Based on serum hs-cTnI concentration at index presentation, patients were stratified into three groups: Group A (hs-cTn I < 10pg/ml), Group B (10.0pg/ml < hs-cTn I < gender-specific upper reference interval (URL)) and Group C (hs-cTn I > gender-specific URL). Kaplan-Meier analysis was used to estimate the mean time until subsequent ACE. Cox regression analysis was used to calculate the association between hs-cTnI levels and subsequent ACE.

Results: A total of 732 patients were included in this study. Of these, 10.8% incurred a subsequent ACE, and 9.8% died during the 12 months follow-up. Group C with higher levels of hs-cTnI (median 51.9pg/ml, p<0.001) had reduced estimated mean time until subsequent ACE (10.9 months, 95% CI 10.6-11.4). Higher hs-cTnI level was an independent predictor with a hazard ratio of 5.41 (95% CI 1.951-15.003) for

subsequent ACE.

Conclusion: Increased hs-cTnI level in non-AMI patients is associated with increased risk for subsequent ACE.

MPP 031K

Serum Ferritin and Malondialdehyde (MDA) Levels in Type 2 Diabetes Mellitus Patients, Pre-diabetes and Non-diabetes.

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Introduction: Oxidative stress has been considered to be one of the mechanisms involved in the development of type 2 diabetes mellitus (T2DM). High iron level is associated with oxidative stress. Previous studies have shown that ferritin, an iron ligand, was elevated in T2DM. However, the correlation between ferritin, oxidative stress and hyperglycaemia is unclear.

Objective: To determine the relationship between serum ferritin, malondialdehyde (MDA, oxidative stress marker) and HbA1c in T2DM patients versus pre-diabetes (PDM) and non-diabetes (NDM) subjects.

Methods: This was a prospective cross-sectional study comprising of T2DM, PDM, and NDM subjects. Diagnosis of T2DM, PDM and NDM were based on HbA1c level in accordance with Malaysian CPG guidelines. HbA1c and ferritin were measured by ion-exchange HPLC and immunoassay respectively. MDA was measured by ultra-performance LC. The research protocol was approved by the ethics committee, and all subjects gave informed consent.

Results: A total of 101 subjects (34 T2DM, 32 PDM, 35 NDM) were studied. Ferritin was higher in T2DMcompared to NDM (p=0.01) but not PDM (p=0.331). There was significant difference in the median MDA between TDM (2.5 nmol/ml), PDM (0.70 nmol/ml) and NDM (1.68 nmol/ml), (p=0.000). HbA1c correlated positively with ferritin (r = 0.229, p= 0.021) and MDA (r = 0.378, p= 0.000). However, there was no correlation between ferritin and MDA (r= -0.035, p = 0.728).

Conclusion: Although this study shows a high ferritin level in T2DM, our data did not support MDA as a mediator in the pathogenesis of T2DM.

MPP 032K

Finding Comfort in a Dry Mouth: Efficacy of Oral7 Moisturising Mouthwash

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Introduction: Oral7 mouthwash is marketed as salivary substitutes to treat xerostomia or dry mouth. However, there are no published studies to investigate its efficacy.

Objective: To evaluate the efficacy of Oral7 moisturising mouthwash to treat xerostomia.

Methods: A double-blind, parallel group randomised control clinical trial involving 49 adult participants with xerostomia was carried out. Intervention group received Oral7 moisturising mouthwash, while control group received DifflamC mouthwash. Mouthwashes were repacked, labeled with specific code and was given to participants by third-party. Subjects were instructed to rinse the mouthwash 4 times per day at specific period, for 2 weeks. Symptoms of xerostomia were assessed using Xerostomia Inventory at days 0 and 14 of the 2-week period; together with the assessment of Clinical Oral Dryness Score (CODS), and measurement of resting and stimulated salivary flow rate.

Results: A total of 48 participants completed the clinical follow-up. From 48 participants, 23 received Oral7 while 25 received DifflamC. Intervention group achieved greater reduction in symptoms of xerostomia from the baseline than control group. Intervention group also showed significantly better improvements in the cognitive perception of dry mouth and oromotor function such as chewing, swallowing and speech of the participants as well as reduction in waking up at night to drink water ($p < 0.05$). The CODS and resting salivary flow rate are also significantly improved in intervention group ($p < 0.05$). Oral7 is also rated more pleasant to use than DifflamC.

Conclusion: Use of Oral7 mouthwash improved signs and symptoms of xerostomia and is potentially effective to treat xerostomia.

MPP 034P

Isolation of *Acanthamoeba* spp. from Air Conditioning Outlets in Hospital Canselor Tuanku Muhriz (HCTM), Universiti Kebangsaan Malaysia

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Intoduction: *Acanthamoeba* spp*.* is an opportunistic pathogen that can be isolated either from engineered environment such as air conditioning or from eyes of critically ill patients. Their occurrence in hospital environment may represent a health risk for patients and health care workers as the amoebae may also harbours pathogenic agents.

Objective: This study was conducted to isolate *Acanthamoeba* spp. from air-conditioning system in wards and operating theatres in HCTM, UKM.

Methods: Dust samples were collected from air conditioner vents of selected wards and operating theatres using sterile swab and inoculated onto non-nutrient agar with addition of few drops of heat-killed *Escherichia coli*. Plates were sealed and incubated at 30°C and observed daily using inverted microscope for 14 days for presence of cysts and trophozoites.

Results: A total of 92 samples were collected. Forty were from air conditioning outlets in wards and 54 from operating theatres. Nineteen (47.5%) out of 40 samples from wards were positive while 20 (38.5%) samples were positive for operating theatre. Statistical analysis showed no significant difference in the isolation rate of *Acanthamoeba* spp. from wards and operating theatres (χ^2= 0.756; p=0.384).

Conclusion: The results showed a high isolation rate of *Acanthamoeba* spp. from air conditioning outlets in UKMMC. As this organism is known to be able to cause infection and at the same time plays a role as hosts to other pathogenic microorganisms, subsequent identification of their bacterial endosymbionts from isolated strains was recommended for better management plan on the related infections.

MPP 036K

Orbital Apex Syndrome as Initial Manifestation in a Suspected Case of Systemic Sarcoidosis

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Introduction: Sarcoidosis is a rare chronic systemic inflammatory disorder, characterized by the formation of non-caseating granuloma. It has a highly variable clinical presentation. Majority of patients can be asymptomatic and orbital presentations are rare.

Objective: To report ocular manifestations in a suspected case of systemic sarcoidosis.

Method: Case report

Result: A 44-year-old male presented with a three-day history of sudden onset left eye blurring of vision. It was generalized, constant and painless. His past medical and family history were insignificant. Best corrected visual acuity was 6/6 over right eye and 6/24 over left eye with no relative afferent pupillary defect (RAPD). There was left eye mild ptosis and restriction of extraocular movements in all directions. An urgent Computed Tomography (CT) Brain and Orbit revealed a mass in the left orbital apex. Post CT scan, patient's visual acuity deteriorated to counting fingers with a positive RAPD. Fundus depicted a hyperemic optic disc. We proceeded with a Magnetic Resonance Imaging (MRI) of the orbit, which showed diffuse thickening of left orbital apex, involving cavernous sinus, highly suggestive of progressive inflammatory disease. Blood investigations done revealed a raised erythrocyte sendimentation rate (ESR), with urine and serum calcium suggestive of sarcoidosis. Trial of standard high dose steroids improved his left vision to 6/60 and he was planned for further investigations. However, patient defaulted further follow up.

Conclusion: Orbital apex syndrome as initial manifestation of systemic sarcoidosis is relatively uncommon. This case illustrated the unpredictability of its progression and the difficulty in confirming the diagnosis.

MPP 037K

A Case Report of Hypertensive Uveitis : Old Toxoplasmosis Scar Masking Cytomegalovirus Presentation.

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Introduction: CMV anterior uveitis may present as acute recurrent anterior uveitis in immunocompetent patients. In some cases it can be accompanied by Ocular hypertension.

Objective: To report atypical presentation of Cytomegalo virus (CMV) anterior uveitis

Methods: Case report

Results: Common causes of viral hypertensive uveitis is usually Herpesviridae family which includes Herpes Zoster Virus (HZV), Varicella Zoster Virus (VZV) and Cytomegalovirus (CMV). In recent years viral causes have been increasingly identified as culprits due to availability of anterior chamber aspirate polymerase chain reaction for identification of viral DNA. CMV had been on the rise as one of the emerging causes of persistent anterior uveitis. We report a case of an elderly lady who initially presented with left eye hypertensive uveitis with an old hyperpigmented lesion in the fundus suggestive of old toxoplasmosis scar. Subsequently anterior chamber tap for Polymerase Chain Reaction (PCR) was done and CMV was detected as the culprit of ongoing infection.

Conclusion: Viruses are an important etiology of acute and chronic intraocular inflammation with high intraocular pressure. One should be aware of the key clinical features and appropriate investigations that are needed to support diagnosis. Prompt identification of the infection combined with high index of clinical suspicion requires analysis of intraocular specimen that can limit further unnecessary diagnostic workup and prevent treatment with potentially harmful immunomodulatory agents. Considering the biology of different viruses, their ever evolving resistance to treatment, and persistence in ocular tissues, the treatment needs to be prompt and specific.

MPP 038K

Anaemia and Associated Risk Factors among the Malaysian Cohort Participants

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Introduction: Anaemia poses a significant health burden to the population including increase in morbidity and impaired cognitive performance as well as reducing the quality of life.

Objective: This study was aimed at determining the prevalence of anaemia among the Malaysian Cohort participants and the associated risk factors.

Method: This was a cross-sectional study that involved 102,388 participants from The Malaysian Cohort (TMC) aged between 35 and 70 years old recruited from April 2006 to September 2012. Venous blood was taken for the full blood count.

Results: The prevalence of anaemia was 13.8% with majority having the microcytic-hypochromic type (59.7%). Indians have the highest prevalence of anaemia (19.9%), followed by Malays (13.1%), and Chinese (12.0%). The prevalence of anaemia were substantially higher in females (20.1%) compared to males (4.9%). Among the female participants, the prevalence of anaemia was highest among those who were younger than 49 years old and decreased as the age increased. In contrast, the prevalence of anaemia in males increased with age. Gender, ethnicity, age, marital status, presence of platelet disorders and kidney disease were significant risk factors associated with anaemia and contributed to 14.9% of the risk of developing anaemia in this population.

Conclusion: The prevalence of anaemia among the Malaysian Cohort participants is 13.8% with the majority having the microcytic and hypochromic type implying iron deficiency as the main cause. It is important that those who have anaemia be further investigated and treated

MPP 039K

Prevalence of Anaemia and its Associated Risk Factors among Orang Asli Community in Malaria Risk Areas of Gua Musang, Kelantan

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Introduction: Malaria is a major cause of anaemia in tropical areas. People living in malaria risk areas are vulnerable to anaemia with the greatest impact in young children, and particular infants.

Objective: This study aimed to assess the prevalence and associated factors of anaemia among Orang Asli community in malaria risk areas in Kelantan.

Methods: A cross-sectional study was conducted in five remote villages (i.e. Angkek, Betak, Lambok, Podek and Sri Galas) of Orang Asli in Gua Musang District, Kelantan, between June and July 2019. Finger-prick blood samples were used to determine malaria infection and haemoglobin (Hb) level by microscopy and HemoCue Hb 201 hand-held analyzer, respectively.

Results: In total, 640 individuals from 208 households were sampled. No microscopy positive for malaria was observed in the community. The overall prevalence of anaemia was 25.8% (95% confidence interval [95% CI]: 22.4 – 29.4). Of the 165 anaemic individuals, 4.2% (95% CI: 1.7 – 8.5) had severe anaemia and majority of them were females and children 5 years old. In the multivariate analysis, higher odds of anaemia were observed in age group of 5 (adjusted odd ratio [aOR] 18.9 [95% CI: 7.72 – 46.79]; $P<0.001$) and 6 –15 (aOR 3.3 [95% CI: 1.41 – 7.70]; $P=0.006$). Moreover, living in the community was found to be significantly associated with higher odds (all $P<0.05$) of anaemia.

Conclusion: This study has highlighted the high prevalence of anaemia among the Orang Asli community in Kelantan and revealed that younger children were positively associated with childhood anaemia.

MPP 040K

Location and Patterns of Persistent Pain Following Cardiac Surgery

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Introduction: Post-sternotomy pain is prevalent and contributes to impaired physical function and delayed recovery. Details regarding differential clinical features of muculoskeletal chest pain after surgery are relatively unknown.

Objectives: To (1) investigate the specific clinical features of pain following cardiac surgery and (2) evaluate the information derived from different pain measurement tools used to quantify and describe musculoskeletal pain.

Method: 72 Participants completed the Patient Identified Cardiac Pain Using Numeric and Visual Prompts (PICP), the McGill Pain Questionnaire–Short Form version 2 (MPQ-2), and The Medical Outcome Study 36 item version 2 (SF36) Bodily pain domain (BP), which were administered at baseline (pre-operatively), four weeks and three months post-operatively.

Results: Participants experienced a high incidence of mild (n=45, 63%) to moderate (n=22, 31%) pain at baseline (pre-operatively), which reduced at 4 weeks post-operatively, mild (n=28, 41%) and moderate (n=5, 7%) pain; and at 3 months

participants reported mild (n=14, 20%) and, moderate (n=2, 3%) pain. The most frequent location of pain was the anterior chest wall, consistent with the location of the surgical incision and graft harvest. Most participants equated ''pressure/ weight'' to "aching" or a "heaviness" in the chest region (based on descriptor of pain in PICP) and the pain topography was persistent at 4 weeks and 3 months post-operatively. Each pain measurement tool provided different information on pain location, severity and description with significant change (p<0.005) over time.

Conclusion: Mild to moderate pain is frequent after sternotomy, improves over time and is mostly located over the incision and mammary (internal thoracic) artery harvest site. Persistent musculoskeletal pain at 3 months remains a significant problem in the community within this surgical population.

MPP 041K

Trajectory of Change in Erectile Dysfunction Symptoms Following Coronary Artery Bypass Surgery on Malaysia Population

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Introduction: Despite the advantages of Coronary artery bypass surgery(CABG), this procedure has been reported to have a significant impact on sexual activity.

Objective: To assess the trajectory of change in erectile dysfunction (ED) symptoms in patient following elective CABG.

Methods: 73 adult male participants with mean age of 54.6 ($\pm$6.9) years who underwent elective isolated CABG at two tertiary care hospitals in Malaysia were recruited. Participant primary data was measured using the International Index of Erectile Dysfunction (IIEF-5) at baseline(pre-operatively), 6 weeks and 4 months post-operatively. The level of severity of erectile dysfunction was categorized based on IIEF-5 scoring.

Results: Severe ED was most prevalent during 6 weeks following-operation (86.3%); however, the proportion of severe ED symptoms reduced after 4 months following-operatively (42.5%). There was a statistically significant difference on ED symptoms between pre-operatively and 6 weeks post-operatively (p<0.001). A significant improvement in the ED symptoms was demonstrated at 4 months (p<0.001) compared to 6 weeks post surgery, respectively. At 4 months, there was

a marginally significant improvement in ED symptoms compared to baseline pre-operatively post CABG (p = 0.064). Age significantly increases the change in odds of having abnormal ED symptoms by 22% at 4 months post-operatively (aOR=1.22, 95% CI=1.06, 1.41, p<0.05). Other risk factors for abnormal ED symptoms following CABG, which include normal creatinine clearance, being a smoker, and having moderate to good LV function was not statistically significant.

Conclusion: There was a high prevalence of ED following CABG and the procedure caused negative impact on the ED symptoms.

MPP 042K

A Study Protocol Examining The Efficacy of Early Supervised Incremental Resistance Training (ESPRiT) Following Cardiac Surgery via Median Sternotomy–A Multi-Centre RCT

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Introduction: There is no consistency in current practice pertaining to the prescription and progression of upper limb resistance exercise following cardiac surgery.

Objectives: The aims of this study are to examine whether early-supervised resistance training exercise will improve upper limb function and facilitate recovery following cardiac surgery.

Methods: This study is a double-blinded randomized controlled trial with concealed allocation, blinding of patients and assessors, and intention to treat analysis. Patients following cardiac surgery via median sternotomy will be recruited (n=240). Sample size calculations were based on the unsupported upper limb test. All participants will be randomized to receive either standard or early supervised incremental resistance training. Secondary outcomes are upper limb function, pain, functional capacity, multi-domain recovery (Physical and Psychological), hospital length of stay, incidence of respiratory complications, and QOL.

Analysis: Descriptive statistics will be used to summarize data. The primary hypothesis will be examined by a contrast evaluating change from baseline to the 4 weeks post-operative time point in the intervention arm compared to the usual care arm. For all tests to be conducted, a p value of <0.05 (two-tailed), will be considered statistically significant, and confidence intervals will be reported.

Conclusion: The ESPRiT study is a three centres randomized controlled trial to investigate whether the effects of early supervised incremental resistance training will impact on upper limbs function, pain, functional capacity, multi-domain recovery, psychological recovery, recovery of physical function and QOL following cardiac surgery. The trial is currently recruiting participants.

Trial registration numbers: International Standard Randomised Controlled Trials Number (ISTRN17842822) on 11/3/2020 (prospectively registered).

MPP 043K

Validation of The EUROSCORE II Following Coronary Artery Bypass Graft in a Single Teaching Hospital in Malaysia

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Introduction: The EuroSCORE II has been validated with good results for prediction of early mortality after surgery.

Objective: The aims of this study was to validate the accuracy of the EuroSCORE II with the previous additive (AES) and logistic EuroSCORE (LES) in predicting mortality following coronary artery bypass grafting surgery (CABG) in a Malaysian population.

Methods: Clinical data of 335 patients following isolated coronary artery bypass surgery between January 2014 until December 2019 were retrospectively collected and individual expected risks of death were calculated by all three-risk prediction algorithms. Performance of these risk algorithms were evaluated in terms of discrimination and calibration.

Results: There were 14 (4.2%) deaths recorded. All three risk scores showed good and statistically significant discriminatory power (above 0.8) with logistic EuroSCORE showing the highest area under curve (AUC = 0.881, p<0.001), followed by additive EuroSCORE (AUC = 0.874, p<0.001) and finally EuroSCORE II (AUC = 0.850, p<0.001). EuroSCORE II was found to be a good predictive value for mortality, and it was comparable to logistic EuroSCORE and additive EuroSCORE.

Conclusion: EuroSCORE II was shown to be a potential accurate risk predictor model for patients following cardiac surgery in the Malaysian clinical settings.

MPP 044K

Clinical and Biochemical Profile of Multiple Myeloma Patients: A Retrospective Tertiary Centre Study

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Introduction: Multiple myeloma (MM) is one of the most common hematologic malignancies, morphologically characterised by monoclonal proliferation of plasma cells in the bone marrow. Its incidence is known to vary with ethnicity, and recent reports suggest that the incidence of MM is increasing in some Asian countries.

Objective: This study was conducted retrospectively to collect and analyse the biochemical, clinical and radiological profile of MM patients in a tertiary hospital in Malaysia. Additionally, the correlation of various biomarkers on the survival rate was also explored.

Method: Data of patients diagnosed with multiple myeloma presenting to the hospital from the year 2013 until 2018 were collected. The demographic, clinical, radiological and laboratory data were extracted from the laboratory and hospital information systems and from the patients' files.

Results: A total of 284 patients were included (median age was 58 years old, ranging from 28-89 years old), 158 (55.6%) were male, and 157 (55.3%) are Malays. The most common symptom was bone tenderness (62.3%). Anaemia was noted in 79.6% of patients. Over half of the patients (58.9%) presented at stage III based on the International Staging System (ISS). The most common paraprotein isotype was IgG (68.8%). The osteolytic lesion was the most frequent radiological finding (64.3%). The higher the level of beta-2-microglobulin, lactate dehydrogenase and creatinine levels, the shorter the survival year.

Conclusion: The preponderance of MM is seen among the Malays. There is a positive correlation between the levels of beta-2-microglobulin, lactate dehydrogenase and creatinine levels with the overall survival rate.

MPP 045P

Validation of a Microplate Assay for Citrate Synthase

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Introduction: Citrate synthase is located in mitochondria and its activity has been used as an indicator for mitochondrial mass and membrane intactness. Existing methods measure citrate synthase activity in a cuvette of spectrophotometer which consumed a big amount of sample and chemicals. An assay in a microplate format allows high throughput screening while saves on sample and reagents.

Objective: This study aimed to validate a microplate format assay for citrate synthase.

Methods: The reaction mixture was modified to 100 µL to accommodate the optimal capacity of a 96-well plate. The assay was tested on reduced glutathione (GSH) standard, positive control (purified citrate synthase), and isolated mitochondria sample from rat brain. The validity of the assay was evaluated using an extended Beer-Lambert law equation and a standard curve method. Absorbance was measured by microplate reader.

Results: GSH standard curves show that linearity of the microplate assay fell within 2.5 – 20 nmol of enzyme with $r^2 = 0.9988$, limit of detection = 0.11 nmol and limit of quantification = 0.35 nmol. The extended Beer-Lambert law constant (εl) was found to be 0.0333, i.e. citrate synthase activity (nmol/min) could be derived directly when dividing the slope of kinetic curve (*dA/dt*) by 0.0333. Using real sample, the optimal input was 1 µg of isolated mitochondria with a kinetic range of 10 to 30 min.

Conclusion: A microplate format assay for citrate synthase has been validated and could be upscaled for high throughput screening by preparing a master mixture.

MPP 046K

Two-Month Multimodal Treatments for Two-Milimeter of Hypopyon-A Case of Recalcitrant Post-Traumatic Fusarium Keratomycosis with Therapeutic Challenge

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Introduction: Despite the availability of newer antifungal agents, Fusarium keratomycosis remains a therapeutic challenge due to the combination of highly virulent microorganism with limited antifungal ocular penetration.

Objective: To describe a case of recalcitrant post-traumatic Fusarium keratomycosis and its therapeutic challenge.

Methods: Case report.

Results: A 67-year-old male with culture-positive post-traumatic Fusarium keratomycosis was referred for worsening of corneal ulcer despite three weeks of treatment of topical and systemic antifungals. He had left eye trauma by a piece of shattered brick a week prior to the initial presentation. Ocular examination showed a large dense stromal infiltration accompanied by a large endothelial plaque. Anterior chamber showed intense inflammation and hypopyon. Change of treatment was initiated with topical and systemic voriconazole and topical natamycin. With this severe presentation, multiple times of anterior chamber washout; intracameral, intrastromal, and subconjunctival injections of antifungals were done. However, he had multiple recurrences of infectious hypopyon, and the condition deteriorated, necessitating a therapeutic penetrating keratoplasty. Despite this, the infection did not clear up and subsequently extended posteriorly, causing exogenous endophthalmitis. Lens removal with core vitrectomy and repeat intravitreal antifungals injections were done. The ocular infection was finally controlled, and the patient was discharged after nearly two months of in-patient treatment.

Conclusions: Early diagnosis and organism identification are crucial for the treatment of fungal keratitis. Recalcitrant cases warrant multimodal therapies with newer antifungal agents e.g., voriconazole and natamycin, with different routes of administration for targeted ocular penetration. Early surgical intervention should be considered if the disease failed to response to medical treatment or extended posteriorly.

MPP 047K

On-treatment Isolated Superior Ophthalmic Vein Thrombosis Complicated with Carotid Cavernous Fistula

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Introduction: Superior ophthalmic vein thrombosis (SOVT) is a rare but potentially lethal illness. It is normally presented with orbital congestion syndrome. Late detection can lead to complications such as optic nerve compression or cavernous sinus thrombosis (CST). CST can be further complicated with carotid-cavernous fistula (CCF) and worsening of orbital congestion.

Objective: To describe a case of isolated SOVT complicated with CCF despite prompt treatment given.

Methods: Case report.

Results: A 72-year-old female presented with sudden onset of left eye proptosis and diplopia associated with high intraocular pressure (IOP). MRI of brain and orbit with venogram/angiogram (MRV/MRA) revealed distended left SOV with filling defect in keeping with SOVT. She was treated with intravenous methylprednisolone 1g for three days, followed by a tapering dose of oral prednisolone. Oral anticoagulant Rivaroxaban 15mg twice a day was commenced concurrently. Despite early detection and prompt treatment, the patient's condition deteriorated further. MRV/MRA was repeated and revealed an indirect left CCF and evidence of CST. The endovascular procedure with proximal thrombosis embolization was performed by an interventional radiologist. The procedure successfully decreased her venous pressure and reversed her orbital congestion. She made a good recovery after the treatment.

Conclusions: SOVT associated with CST and CCF is a rare occurrence but possible. Recognition of this condition is crucial when orbital congestion is worsened despite treatment for SOVT. It warrants repeat imaging and endovascular procedure for successful management to prevent blindness.

MPP 048K

A Rare Occurrence of Craniopharyngioma Causing Visual Disturbance in Pregnancy: A Case Report

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Introduction: Craniopharyngioma is benign tumour of the sellar and suprasellar regions. It is a rare tumour and, even more rarely, may manifest during pregnancy.

Objective: To describe a craniopharyngioma presenting with visual disturbance, manifested during pregnancy.

Method: Case report.

Result: A 32-year-old primigravida at 19 weeks of gestation presented with left painless progressive loss of vision for two weeks. The visual loss was more pronounced in the nasal field. In the right eye, the vision was good, but the nasal field appeared dimmer. She also had a headache and vomiting. Her visual acuity was 6/9 OD and counting fingers OS. The relative afferent pupillary defect was present in the left eye. The anterior segment, intraocular pressures, and fundus were normal bilaterally. Confrontation visual field test revealed a binasal field defect. A Humphrey visual field test showed a nasal field defect over her right eye and generalized depression over her left eye. Brain magnetic resonance imaging revealed a suprasellar tumour with chiasmatic compression. She underwent craniotomy and excision of tumour at 20 weeks of gestation. Histopathological examination was consistent with craniopharyngioma. Post-operatively, both mother and foetus were stable. Her vision improved from counting fingers to 6/6 OS, and vision remained at 6/9 OD. Subsequently, her pregnancy carried on normally, and she delivered a healthy baby boy weighing 3.16 kg at term via caesarean section.

Conclusion: We report, to the best of our knowledge, on the diagnosis, management, and outcome of craniopharyngioma in pregnancy. Such rare and difficult cases warrant close multidisciplinary cooperation pre and post-operatively to attain optimal outcomes.

MPP 049P

Comparing the Metabolomic Profiles of Three Different Yeast Crude Extracts using Liquid Chromatography Mass Spectrometry

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Introduction: Yeast extract is the cellular contents prepared by disrupting the cell wall. The extract is an excellent source of metabolites which have beneficial effects such as antioxidant and anti-aging properties. Different extraction methods exist, but the metabolites produced remain uncharacterised.

Objective: This study was conducted to compare the metabolomic profiles of yeast extracts from three different methods.

Methods: Autolysis, hot water, and rapid spin methods were used to extract the cellular content of *Saccharomyces cerevisiae*. Autolysis method was carried out by centrifuging the cells at high speed (3,000 rpm) after 7 days of further culture. For hot water method, the cells were boiled at 100°C for 20 min. For rapid spin method, the cells were centrifuged twice at 400 rcf. All the extracts were collected as supernatant after centrifugation. The metabolomic profile was determined using liquid chromatography mass spectrometry.

Results: Tiglic acid, uracil, 2-butoxyacetic acid, aconitic acid, 2-isopropylmalic acid, and orotidine were found in autolysed extract. 2-Isopropylmalic acid is an intermediate metabolite of yeast origin and has detoxification property against metal poisoning. Only carnitine was identified in the hot water extract. Rapid spin method had the greatest number of compounds identified than other methods. Most of these compounds were amino acids such as proline, aspartic acid, glutamic acid, methionine, histidine, phenylalanine, arginine, and tyrosine.

Conclusion: Autolysis method produced detox metabolite such that the extract has potential to be developed into healthcare products. Rapid spin method produced extract which could be developed into supplementation products with rich source of amino acids.

MPP 050K

Adolescents' Perceptions and Attitudes towards Healthy Eating: A Qualitative Analysis

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Introduction: Poor eating behaviours such as frequent eating of fast food, sweetened beverages intakes, skipping breakfast, and binge eating can lead to diet-related problems.

Objective: This study aims to explore the perspective of healthy eating and to identify the facilitating factors and challenges in healthy eating practices among adolescents.

Methods: A qualitative study based on the Socio-Ecological Model was conducted on a purposive, multi-ethnic sample of 34 adolescents from different localities. The semi-structured and in-depth interviews were fully transcribed and analyzed qualitatively using Atlas.Ti. The transcribed data were analyzed thematically into similar and related themes.

Results: Findings indicate that some respondents had a good understanding of healthy eating behaviours but did not always practice them and are seemingly influenced by various factors. The facilitating factors were knowledge of healthy and unhealthy food, awareness, and concern about their own health and parents' involvement. On the other hand, challenges for healthy eating practices include food preferences, accessibility to low-cost snacks and fried food, advertisement of fast food, the availability and convenience of fast food outlets, and peer influences.

Conclusion: The findings contributed to a better understanding of healthy eating and highlighted the facilitating factors and challenges to practicing healthy eating. Therefore, intervention should be carried out in the way to cope with social and environmental challenges, make a healthy diet tastier, increasing the availability of healthy food options with policy-driven environmental changes. The strategies should be intensified to help navigating healthy dietary behaviours for adolescents.

MPP 051K

The Toxicant Label of Poisoning Case, What We Really Need?

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Introduction: Poisoning is a condition when organism harmed by a toxicant either naturally or manmade. WHO estimated that more than half a million people poisoned yearly. In Malaysia, the case of poisoning was reported between 112- 500 cases in 2011-2015. This study aims to identify the utilization of toxicant label in management of poisoning cases in hospitals.

Methodology: A cross sectional study was conducted between April - Sept 2018 in 127 emergency department (ED) in government hospitals among health care professionals (HCP) via validated online questionnaire in four (4) hospital in Malaysia. Data was analysed using SPSS version 20.

Results: Majority of the HCP are medical officers (53.2%) and houseman (24.6%) with working experience less than 6 month (29.4%) and within 1-3 years (27%). Study showed that majority (93%) of the victim brought the actual container of toxicant to the hospitals with 54% had a picture in mobile phone as the evidence. Most of the information that was referred by HCP during management were active ingredient (96.8%), sign/symptom (65%), emergency treatment (39%), medical treatment (23%). Besides 40.5% HCP agreed that information on the label was helpful in their clinical management.

Conclusion: Information on hazard, handling and management during emergency on the toxicant label of the toxicant container is essential as the key reference for

HCP in managing poisoning cases. The study can be expanded further to more hospitals and the finding can be use for the regulatory planning programme in future.

MPP 052K

Tuberculosis among Contacts in Malaysia (2013-2018)

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Introduction: World Health Organization (WHO) has recommended contact tracing to detect tuberculosis in the early phase, thus reducing the chance of transmitting the disease to others. Contact tracing has been practiced for years in Malaysia to trace the cases actively.

Objective: The objective of the study was to determine the incidence rate of TB disease/infection among TB contacts in Malaysia from the year 2013-2018.

Methods: Retrospective analyses were conducted of data from national tuberculosis registry compiled by the Tuberculosis Sector, Ministry of Health Malaysia consisting of TB contact list for the past 5 years (2013 to 2018) and list of index patients. Both lists were then cross-matched to determine the contacts who developed tuberculosis. Descriptive analysis was performed to examine the distributions and frequencies of the selected variables using SPSS version 25.

Results: There were 4352 (0.62%) of the total TB contacts (707,304) registered from 2013-2018 that developed TB in those mentioned years. The mean age of developing TB among the contacts was 40.10 (SD: 19.33), with most of the cases were among the age group 31-50 (45.9%), male (55.8%), and Malay (46.0%). The median time of developing TB among the contacts was 9.07 months from the recorded exposure time.

Conclusion: Contacts to infectious patients with tuberculosis were mostly diagnosed in less than one year. The current contact investigations need to be improved, such as using real-time data so that a better and prompt prevention programmes could be planned.

MPP 053K

Successful Treatment of Bilateral Onychomycosis Associated Aspergillus Keratitis and Endophthalmitis with Sequential Corneal Perforation: A Case Report

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Introduction: Onychomycosis associated Aspergillus keratitis and endophthalmitis is a devastating sight threatening condition requiring prompt recognition and institution of appropriate therapy.

Objective: We present a case of successfully treated bilateral fungal keratitis complicated with endophthalmitis and corneal perforation with combination of medical and surgical treatment.

Method: Case report

Results: A 78-year-old female with underlying bilateral peripheral ulcerative keratitis presented with a 10-day history of eye pain, floaters and reduced visual acuity. Examination revealed visual acuity of light perception (OD) and hand motion (OS). There was bilateral inferior peripheral corneal thinning with ulceration and exogenous endophthalmitis. Her eyes were complicated with right eye corneal perforation during presentation with left eye corneal perforation few days later. Systemic examination elicited onychomycosis of hand nails, which was later proven to be *Aspergillus niger* infection. Early treatment of systemic, intravitreal and topical antifungal including antibiotic were instituted. Bilateral corneal patch grafts were done for the perforated and infected PUK. Full investigation work-out could not identify other source of infection except for the vitreous gram stain showing yeast and gram-positive cocci. Anti-inflammatory medications were gradually instituted to reduce the inflammation. No vitrectomy was required. Her visual acuity gradually improved to 1/60(OD) and 5/60 (OS) with full resolution of the infection and inflammation.

Conclusion: Patient with onychomycosis and pre-existing diseased cornea presented with keratitis and endophthalmitis require high clinical suspicion of

fungal infection. Early and intensive antifungal demonstrated success of treatment despite no final positive culture result. Keratoplasty is needed when complication of corneal perforation occurs.

MPP 054P

Prediction of Terminal Differentiation Induced Non-Coding RNA (TINCR) Driver Regulator in Triple-Negative Breast Cancer

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Introduction: Previous baseline analysis (GSE58812) displayed dysregulation of TINCR in TNBC metastasis and death patients. High TINCR expression was shown to have shorter disease-free survival in TNBCs (HR: 2.69, p-value: 0.0044). The underlying mechanism of TINCR in driving poor outcome TNBC is unclear.

Objective: The aims are prediction of TINCR transcription factor (TFs) in the upstream of its promoter region (TSS) and to screen endogenous TINCR expression in a cell line panel to determine the right cell line model for this study.

Methods: Ensembl, PROMO, KM plotter and Promoter 2.0 Prediction Server databases was utilized to predict TINCR promoter region and transcription binding sites. TINCR promoter region was predicted by input query FASTA TINCR sequence into Promoter 2.0 Server. The highest score of the predicted site was chosen for PROMO putative TFs. Predicted TFs were analyzed further of their prognostic effects in TNBC on KM plotter. RqPCR was carried out to determine TINCR endogenous expression in 6 breast cell lines and was cross validated with Expression Atlas database.

Results: Three TFs were prognostically relevant in TNBCs such as the CEBPB, ELK1, and NF-1. Higher endogenous TINCR expression was observed in TNBC (MDA-MB-468, MDA-MB-231 and Hs578T) compared to Luminal (T47D) and normal-like breast (184A1 and MCF10A). Expression Atlas database correlated with this observation.

Conclusion: This preliminary analysis narrowed down the potential driver mechanism of TINCR in TNBC. MDA-MB-468 and MDA-MB-231 will be chosen as our cell line model to elucidate the molecular mechanism of TINCR driven by the putative TFs in TNBC.

MPP 055K

The Use of Fly Species to Determine Time of Decapitation: A Case-study from Malaysia

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Introduction: Forensic entomology is often used to determine the minimum time since death. Several body parts that had undergone considerable putrefaction was discovered in an apartment in Kuala Lumpur, Malaysia. A day later, a bolster containing a severed human head was found in the bedroom of the same apartment unit.

Objectives: A case is presented in which fly species were used to determine the time of decapitation.

Methods: Entomological specimens were collected during autopsies and analysed in the laboratory for species identification and obtaining the insect developmental data.

Results: Multiple infestations of up to six fly species (*Chrysomya megacephala, Ch. rufifacies, Ch. nigripes, Hydroteae spinigera, Lucilia cuprina* and sarcophagid) were observed at the cut surface of the neck. However, only a single species of *Ch. megacephala* infested the other body parts. Insect developmental data indicated that the decapitation occurred five days before the discovery of the body. The difference in the number of species presented on the body parts and at the decapitated head was astonishing. We believe that the murderer put aside the decapitated head for quite sometimes before placing it inside the bolster, which allowed various species of flies to oviposit at the cut area.

Conclusion: To the best of our knowledge, this is the first reported case of decapitation related to forensic entomology in Malaysia. This case is compelling since it shows that the entomological evidence could give hindsight on what happened during the event, and this could help investigators to understand the case thoroughly.

MPP 056P

Deciphering Cryptic Intra-tumoral Hallmark of TGFß Isoforms in Triple Negative Breast Cancer (TNBC)

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Introduction: TGFß signalling is associated with TNBC progression and treatment response. Therefore, it is critical to identify genes signatures to understand the underlying mechanisms associated with TNBC.

Objective: This study aimed to identify differentially expressed genes (DEGs) stratified by TGFß high vs low status of each isoform in TNBC via in silico analysis of publicly available datasets and to identify top hit pathways in TNBC.

Methods: Four GEO datasets (GSE58812, GSE76124, GSE83937, and GSE95700) were merged and DEG was carried out using Partek Genomic Suites 6.6. The analysis was based on cut-off threshold <-2 Fold-change > 2, FDR p=0.05. The GO (Gene Ontology) and pathway analyses were established through STRING v11. Survival analysis through Kaplan-Meier plotter was employed to validate the expression levels and prognostic values of significant genes.

Results: Three genelists were generated. Exclusive genes identified in TGFß1 dataset were upregulation of SRGN (HR=2.27), ASPN (HR=1.65) and FN1 (HR=1.76). TGFB2 genelist displayed upregulation of TTC3 (HR=1.87), and upregulation of CDH11 (HR=1.91) and PLXDC1 (HR=1.61) in TGFß3. Pathway analysis indicated high enrichment of the immune response pathway in TGFß1 dataset, and cellular component organisation is common in TGFß2 and TGFß3 datasets. All three datasets exhibited common regulation of metabolic processes.

Conclusion: These results exhibited distinct genes and pathways involved between TGFß isoforms. Interestingly, common pathways across three isoforms were identified. Further elucidation of these marker signatures is warranted to understand the underlying mechanism in the progression and treatment response in TNBC.

MPP 057K

Correlation between Serum Magnesium and the Risk of Preeclampsia: A Systematic Review and Meta-analysis

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Introduction: In Malaysia, hypertensive disorders in pregnancy complicates 10% of all pregnancies, and was the fourth common cause of maternal death from 2001 to 2006, accounting for 86 cases (12.79%) from 672 cases. Magnesium sulphate is the international recommended first line anticonvulsant drug of choice for prevention and treatment of preeclampsia-eclampsia. However, numerous studies had shown different correlation between serum magnesium and risk of preeclampsia (PE).

Objective: We investigate the feasibility of serum magnesium in predicting the risk of preeclampsia-eclampsia and its severity as it is an affordable and widely available laboratory test.

Methods: Two independent reviewers conducted a comprehensive search using four databases, i.e. Ovid Medline, COCHRANE, Google Scholar and Scopus from the years 2000 to 2018 to screen for relevant studies. The major inclusion criteria included healthy or preeclamptic pregnant women aged 18 years old and above, irrespective of number of gestation or parity. Meta-analysis was performed using the Review Manager 5.3 software.

Results: A total of 24 articles were included in this study. The results of the meta-analysis indicated that serum magnesium level in preeclamptic patients is lower than normal pregnant mothers (mean difference = -0.15; 95% CI = -0.07, -0.23, $p<0.00001$). Random effect model was applied for the evidence of Q and I^2 tests (99%, $p<0.05$).

Conclusion: Serum magnesium concentration is lower in pre-eclamptic mothers. Its role as a biomarker predicting risk of preeclampsia is yet to be established given the relatively small mean difference of 0.15 and narrow reference range of 0.7 to 1.1 mmol/L.

MPP 058K

Sociodemographic Factors, Depression and Food Insecurity Status among Older Adults in Malaysia: Findings from Elderly Health 2018

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Introduction: Food insecurity and depressive symptoms are two public health concerns in developing countries. Food insecurity is linked to several chronic diseases, while little is known about the association between food insecurity and depressive symptoms among older adults.

Objective: This study aims to determine the association between food insecurity with depression and sociodemographic factors.

Methods: Data were derived from a cross-sectional survey; National Health and Morbidity Survey 2018. A stratified cluster sampling design involving a total of 3977 older adults aged ≥60 years. Food insecurity was categorised based on the USDA Short Form Food Security Survey Module. Depressive symptoms were assessed using the GDS-14 standard questionnaire. Respondents obtained scores of 6 and above was classified as depression. Data were analysed using descriptive and complex sample logistic regression with SPSS version 23.0.

Results: The overall prevalence of food insecurity and depression was 10.4% and 11.2%. The prevalence was significantly higher among older adults from a rural area, with no formal education, from the lower-income group, living alone and having depression. Multiple logistic regression revealed that older adults from rural area [aOR:1.98 (95% CI: 1.25-3.13), without formal education, achieved primary education level [aOR: 8.05 (95% CI: 2.49-25.95) and secondary education levels [aOR 4.68 (95%CI: 1.59-13.77), earned income below RM 1000 [aOR: 5.78 (95% CI: 2.31-14.42), income RM1000-RM 1,999 [aOR: 2.82, (95%CI: 1.21-6.55) and diagnosed as depression [aOR: 5.30 (95% CI: 2.87-7.27) significantly associated with food insecurity.

Conclusion: In general, lower sociodemographic status and depression were associated with food insecurity issue among older adults.

MPP 059K

Association of Vitamin D Deficiency with BPH in Adult Men: A Systematic Review

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Introduction: Benign prostatic hyperplasia (BPH) is common among elderly men causing lower urinary tract symptoms (LUTS). It is a non-malignant proliferation of prostatic glandular and stromal tissue, causing obstruction of urinary outflow. Several studies had shown correlation between serum vitamin D concentration as a risk developing BPH.

Objective: We investigate the association between serum vitamin D concentration and BPH in men.

Methods: A systematic review was conducted by two independent reviewers following PRISMA guidelines. Ovid Medline and Scopus were the two primary databases used to locate all literatures that were published between 1960 and 2018 pertinent to our research topic using appropriate keywords. The inclusion criteria included studies that focused on the association of vitamin D concentration with BPH in the subjects.

Results: Database search returned a total of 225 studies. Nine articles met the inclusion criteria and were included in the final review. Vitamin D deficiency was found to be prevalent among BPH patients in most studies. The serum Vitamin D concentration was inversely correlated to the prostate volume and the severity of LUTS which were measured by *International Prostate Symptom Score* (*IPSS*). However, out of the nine studies, one reported negative correlation between vitamin D concentration and BPH.

Conclusion: This systematic review highlights the strong association of vitamin D deficiency in BPH in adult men. The utility of vitamin D supplementation as a potential treatment for BPH should be further investigated in future prospective studies.

MPP 060K

The Clinical Significance of Antiphospholipid Antibodies Positivity

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Introduction: The antiphospholipid (APL) antibodies comprise lupus anticoagulant, anticardiolipin and beta2 glycoprotein antibodies. The clinical significance of single, double or triple positivity of these antibodies with regard to disease manifestation remains to be elucidated.

Objective: The purpose of this study was to determine the association between the APL antibody profile and the occurrence of arterial thrombosis, venous thrombosis, and obstetric complications.

Methods: This was a retrospective study from March 2018 to June 2019 which included a total of 66 patients with APLS in Universiti Kebangsaan Malaysia Medical Centre (UKMMC). The medical records of all patients who tested positive for any of the APL antibody were reviewed. Patients who fulfilled the APLS classification criteria were included. The demographics of the patients, clinical manifestation of APLS, APL antibody profile, and titre of each APL antibody were recorded.

Results: A total of 56.0%, 16.7% and 27.3% patients had single, double and triple APL antibody positivity, respectively. We found a significant association between the APL antibody profile and the clinical manifestation of the disease (p=0.022). Single antibody positivity had the highest frequency (31.8%) in obstetric complications. There were no demonstrable associations for double and triple positive APL antibody profiles. The median titre of IgG anticardiolipin was the highest among patients with arterial thrombosis (p<0.05). The median titre of IgG anti-beta2 glycoprotein antibodies was comparable for arterial and venous thrombosis.

Conclusion: The single positive APL antibody profile was related to obstetric APLS. High titres of IgG anticardiolipin antibody was a predictor of arterial thrombosis.

MPP 061K

Risk Factors Associated with General and Abdominal Obesity Among Elderly in Malaysia: Findings from National Health and Morbidity Survey (NHMS) 2019.

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Introduction: Obesity in elderly is a risk factor for non-communicable disease comorbidities and contributes to age-related diseases and mortality.

Objective: The study aims to determine risk factors related to general obesity and abdominal obesity among elderly in Malaysia.

Methods: Data were derived from the 2019 National Health and Morbidity Survey (NHMS), a cross-sectional survey using two-stage stratified sampling involving 4,351 elderly including pre-elderly aged 50 years and above. Data on sociodemographic and risk factors using self-administered questionnaire were collected between July to September 2019. Waist circumference (WC) cut-off values were ≥90 cm for men and ≥80 cm for women. Body mass index (BMI) was classified based on the World Health Organization criteria. Multiple logistic regression was used to identify risk factors associated with general obesity and abdominal obesity in elderly.

Results: The overall prevalence of general obesity and abdominal obesity in elderly was 19.3% and 66.3% respectively. Multiple logistic regression showed that older age, females , Chinese ethnicity and those having 3-5 times sugar-sweetened drinks per week were associated with higher risks of having general obesity and abdominal obesity. Meanwhile the odds of general obesity [aOR: 0.57 (95%CI: 0.42, 0.77)] and abdominal obesity [aOR: 0.67 (95%CI: 0.55,0.82)] were lower in smoking group.

Conclusion: Older age, females, Chinese ethnicity and having 3-5 times sugar-sweetened drinks per week were more likely to have general and abdominal obesity, while smokers were less likely to have general and abdominal obesity. Future interventions for a healthy lifestyle should be targeted towards these vulnerable populations.

Keywords: general obesity, abdominal obesity, risk factors, elderly, Malaysia

MPP 062

Procalcitonin in Sepsis Patients with Acute Kidney Injury

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Introduction: Procalcitonin (PCT), a biomarker of sepsis has been reported to be increased in acute kidney injury (AKI). AKI is a common sequela of sepsis. The role of PCT in sepsis patient with AKI is not well established.

Objective: We evaluated the role of PCT among patients with sepsis in the presence and absence of AKI.

Methods: A retrospective observational study of sepsis subjects with and without AKI admitted to PPUKM over a four-year period (2015-2019). All patients with PCT level > 2 ug/L were identified. Their clinical and laboratory data were extracted for calculation of Sequential Organ Failure Assessment (SOFA) score. Sepsis was diagnosed by a positive bacterial culture and/or neutrophilia and AKI according to KDIGO criteria (creatinine increment from baseline to 72 hours post admission).

Results: A total of 218 patients (145 males, 73 females) with median age of 62 (49 to 72) years were studied and stratified into sepsis and non-sepsis with or without AKI. There were significant differences in the median PCT between sepsis with AKI (17.29 ug/L), sepsis without AKI (11.48 ug/L), non-sepsis with AKI (4.45 ug/L) and non-sepsis non-AKI (3.92 ug/L) (p=<0.001). Increment of PCT correlated with worsening of AKI staging (p = < 0.001) and SOFA score (r = 0.52, p = < 0.001). PCT significantly correlated with 72 hours creatinine (r = 0.285, p = < 0.001).

Conclusion: In septic patient, the presence of AKI is associated with an elevation of PCT. Admission PCT level may be useful to predict AKI and SOFA score.

MPP 063K

Salvadora persica Mouthwash and its Function on Dental Plaque and Gingival Health: A Review

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Introduction: *Salvadora persica* mouthwash is one of the widely used alternatives for oral hygiene care to manage plaque and gingival inflammation. Current studies on this herbal source of mouthwash are limited.

Objective: The review aims to evaluate the effectiveness of *Salvadora persica* focusing on its function as anti-plaque and anti-gingivitis.

Methods: Articles obtained across these electronic databases, namely MEDLINE, CENTRAL, Science Direct, PubMed, and Google Scholars. Additional records retrieved from Clinical Trial Register and Opengrey. No limitations on the language used, with publications from 1970 to 2019. Only randomised clinical trials were selected. The sample's age range was from 7-70 years old.

Results: Twenty (20) articles were found to fit the inclusion and exclusion criteria model, and qualitative synthesis was done. Among these, data from 14 studies of 894 samples were extracted and analysed in the quantitative synthesis. Effect of chlorhexidine mouthwash as control shows a better outcome when compared to *Salvadora persica* mouthwash, as anti-plaque with the reduction of 0.93% and as anti-gingivitis with a decrease of 0.03%. The use of chlorhexidine pre- and post-treatments resulted in a non-significant reduction of 1.33% of plaque score and a significant reduction of 2.49% of bleeding score. However, the usage of *Salvadora persica* mouthwash, when comparing pre- and post-treatments, showed a significant reduction for both the clinical parameters with 2.54% plaque score and 2.30% bleeding score.

Conclusion: Usage of *Salvadora persica* mouthwash is inferior to chlorhexidine as anti-plaque and anti-gingivitis function, and overall periodontal health but suitable and may be used as an alternative for oral hygiene maintenance.

MPP 064K

Clinical Features of Siblings with X-Linked Juvenile Retinoschisis

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Introduction: X-linked juvenile retinoschisis (XLRS) is a rare inherited bilateral vitreoretinal dystrophy which usually affects males early in life. It is caused by the mutation of the RS1 gene.

Objective: To report a case series of three siblings with XLRS.

Methods: Case series

Results: We describe three siblings of XLRS. The first case was a 5-year-old boy, who presented with reduced vision in the right eye when screened by his speech therapist. Visual acuity of the right eye was 3/60 and left eye was 6/12. Alternating exotropia with left eye fixation was seen. Bilateral fundus examination revealed vitreous veil and blunted foveal reflex. Left eye spoke-wheel maculopathy was seen. Optical coherence tomography (OCT) macula revealed cystic spaces in the inner nuclear and outer nuclear layers. The second case was a 7-year-old boy and third case was a 9-year-old boy, both of them were the elder brothers of the first case. Their best corrected visual acuity were 6/18 with ocular examination revealed similar findings of vitreous veils, blunted foveal reflex and spoke-wheel maculopathy. OCT macula showed characteristic of cystoid spaces in both eyes which split the retina neurosensory layers. Three of them were diagnosed with XLRS and were started with topical brinzolamide.

Conclusion: X-linked juvenile retinoschisis is the most common macular degeneration disease in boys. Spoke-wheel maculopathy is the hallmark of XLRS. It is usually expressed symmetrically in both eyes, but patients can have marked asymmetry of visual function. Carbonic anhydrase inhibitors have a role in maintaining vision in these patients.

MPP 065K

Post Traumatic Exogenous Endophthalmitis Caused by *Trichophyton Species*

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Introduction: Trichophyton species is a type of mold fungus commonly found in palm oil. We report a rare case of exogenous endophthalmitis secondary to Trichophyton species.

Objective: To present outcome and management for Trichophyton species related exogenous endophthalmitis.

Method: Case report

Results: We described the case of successfully treated exogenous Trichophyton species in an immunocompetent male presented with a history of penetrating ocular trauma that had evolved to infectious endophthalmitis.

Conclusion: This is the first reported case of exogenous endophthalmitis secondary to Trichophyton species. Early diagnosis and prompt treatment may help improve the management and outcomes.

MPP 067P

Distribution of Mosquitoes in Some Selected Recreational Park in Peninsular Malaysia, Malaysia

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Introduction: Recreational parks are popular among Malaysian for spending weekend doing outdoor activities. Park visitors could be exposed to mosquito-borne diseases such as malaria, dengue, and Zika if the mosquito is present at these parks and nearby forest.

Objective: To comprehend the diversity of mosquito's species and breeding habitats at some selected recreational park in Peninsular Malaysia, Malaysia.

Methods: This study was conducted at four selected recreational parks in Peninsular Malaysia from April 2017 until April 2018. Larvae surveillance were conducted at the breeding sites with the presence of mosquito's larvae and adult mosquitoes were collected using two techniques; Human Landing Catch (HLC) method and CDC Light Trap.

Results: A total of 768 adult mosquitoes were captured including vector for malaria, dengue, Japanese Encephalitis and Brugian filariasis. The vectors were identified as Anopheles cracens, Anopheles latens, Anopheles maculatus, Anopheles introlatus, Anopheles donaldi and Anopheles letifer, Aedes albopictus, Culex gelidus, Culex vishnui, Mansonia uniformis and Armigeres subalbatus. Ten (10) mosquitoes breeding sites were identified namely animal swamp, animal puff, stagnant water, tyre tracks, water pool, slow moving stream, animal path, animal wallow, water pond and water pocket

Conclusion: This study indicates possibility of disease transmission through mosquito bite to take place at these parks and therefore should not be taken lightly. Thus, it is important to provide information to park visitors about the diseases that are transmitted by mosquito and the importance of self-protection measures to avoid mosquito bites while having activities at the park.

MPP 068P

Soil-transmitted Helminths (STH) Infection in Malaysia: A Scoping Review Protocol

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Background: Soil-transmitted helminths (STH) infection is one of the 13 notable Neglected Tropical Diseases (NTDs) by CDC and WHO. In 2010, it is estimated that 1.73 billion people infected with STH globally on which 70% cases occur in Asia. To date, there is no intensive study that specify on the prevalence of STH infection throughout Malaysia.

Objectives: The objectives of this study are to review research activity on STH infection in Malaysia, to estimate prevalence of STH infection among Malaysian and to identify significant risk factors associated with the infection.

Methods: We will conduct a scoping review based on 6-stages structured framework of Arksey and O'Malley (2005) methodology. A comprehensive search strategy focusing on STH infection will be executed using electronic databases (Scopus, PubMed and Web of Science). Systematic approach to searching, screening, reviewing and data extraction will be applied based on Preferred Reporting Items for Systematic Reviews and Meta-Analyses for Scoping Review (PRISMA-ScR). Mendeley software and Microsoft Excel programmes will be used to manage the references and to remove duplications. The significant data from the articles will be extracted using a standardised data extraction form using Google Form application. The characteristics of the outcome will be described based on the types of interventions, study design, settings, tools used and the outcomes of each study.

Ethics and dissemination: No primary data will be collected in this review; hence no formal ethical approval is required. An article reporting the results will be submitted for peer-reviewed publication.

Keywords: STH, Malaysia
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MPP 070P

Accepting, Learning, and Implementing the Support Role Towards Induced Lactation Practice in Malaysia: A Descriptive Qualitative Study

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Introduction: Adoptive mothers are confronted with numerous induced lactation practice challenges both at the individual and societal levels. A comprehensive support system is one of the essential factors in the adoptive breastfeeding process.

Objective: This study aimed to explore the role of a support person on induced lactation practice in Malaysia.

Methods: This qualitative study utilized in-depth interviews of the support person of induced lactation women from five regions, i.e. [South (Johor), Central (Selangor), North (Penang), East (Kelantan) and East Malaysia (Sabah)]. The interviews have consented, audio-recorded then transcribed verbatim, followed by identification of emerging themes.

Results: Data saturation was achieved after interviewing a total of 23 support persons. Data synthesized using thematic analysis revealed that support persons play a significant role in accepting, learning, and implementing induced lactation practice. There is evidence that support persons' perception of their roles as members of the adoptive breastfeeding family are likely important components of that influence.

Conclusion: Support persons' perception of their role as members of the adoptive breastfeeding family is a possible essential component. Family members, especially husbands, do influence mothers' adoptive breastfeeding decisions and experiences. Mothers are more likely to initiate and continue to breastfeed their adopted child when they believe that their support persons have positive attitudes toward breastfeeding. We hope other researchers and practitioners can use our study to better understand the experiences of women during induced lactation from the perspective of support persons.

MPP 071K

Epithelioid Haemangioendothelioma (EHE): An Unusual Case Report of Multifocal Skeletal Lesions with Nodal Metastases

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Introduction: Epithelioid haemangioendothelioma (EHE) is a rare vascular neoplasm with intermediate malignant potential. Affected patients commonly present with enlarging masses in the extremities, head and neck or trunk. Metastases usually occur to the lungs or lymph nodes. While EHE is rare, an even rarer presentation is skeletal involvement with metastases.

Case Report: A previously healthy 17 year old boy presented with a sudden onset, progressively enlarging right neck mass which did not resolve on antibiotics. CT scan showed multiple enlarged cervical lymph nodes involving level II down to the supraclavicular region as well as enlargement of the mesenteric nodes. PET CT scan also revealed multiple skeletal lesions in the axial and appendicular skeleton. A trucut biopsy of the right neck was performed and shows features of vascular neoplasm in favour of EHE, probably representing metastases.

Conclusion: Histopathologic features of EHE can be confused between those of a benign haemangioma and that of an aggressive angiosarcoma. The rarity of this neoplasm along with overlapping histologic features with other vascular neoplasm may lead to diagnostic difficulty. Although the multiple skeletal lesions were not biopsied, the presence of EHE in the neck lymph nodes strongly suggest an osseous primary.

MPP 072K

Breast Inflammation: Lymphomatous or Benign Infiltrates?

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Case Report: We describe case of a 45-year-old woman presented with painless right breast lump. Mammogram examination revealed a solitary opacity in upper quadrant of right breast. There was no lymphadenopathy nor hepatosplenomegaly. An ultrasound of the breast suggests an inflammatory lesion with possibility of granulomatous mastitis. Biopsy of the lump showed atypical cells in a background of dense lymphoplasmacytic infiltrates, suggestive of chronic mastitis. In view of the cellular atypia, a wide local excision (WLE) of the right breast lump was performed. Gross examination of the WLE specimen revealed a 1cm solitary whitish mass with irregular borders. Histological examination and immunohistochemistry studies of the mass confirmed marginal zone lymphoma. Bone marrow and trephine biopsy analysis were negative for lymphomatous infiltration. Further radiological imaging showed stage 1 disease. The patient was then referred to oncology for subsequent treatment.

Conclusion: Differential diagnoses of breast mass are many, among which are invasive carcinoma, chronic breast inflammation and breast lymphoma. Primary breast lymphoma is rare with the most common subtype seen is diffuse large B cell lymphoma while marginal zone lymphoma is less common. We describe the challenges in reaching the diagnosis as the clinical and radiological features of benign and malignant breast disease may overlap. Furthermore, chronic inflammatory background may also be seen in chronic mastitis as well as marginal zone lymphoma. Knowledge and thorough histological evaluation of bigger breast specimen is paramount to avoid missing the diagnosis of malignant lymphoma.

MPP 073K

Third Trimester Serum Uric Acid levels in Prediction of Pre-Eclampsia

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Introduction: Pre-Eclampsia (PE) is one of Adverse Pregnancy Outcomes (APO), continues to be a nuisance to obstetricians with global incidence around 10% of all pregnancies. Hyperuricaemia has been postulated to have an effect on abnormal placental implantation contributing to the development of PE. Third trimester serum uric acid level is affordable and readily offered test at most laboratories.

Objective: We investigated the feasibility of using serum uric acid levels in third trimester of pregnancy as a prediction marker for PE development and its cut-off value.

Methods: This was a retrospective study of women who delivered at our centre (January 2016 to December 2018) and developed APOs, with serum uric acid levels taken during third trimester. A cut-off point off point of 309 mol/L was taken to assess the sensitivity and specificity in predicting PE.

Results: A total of 374 women were recruited for the study. Almost one third (30.2%, 113 women) developed PE. Chi Square revealed association between cut-off value of 309 mol/L and development of PE (p<0.0001). Plotted ROC curves with the cut-off point of 309 mol/L demonstrated moderate predictive value of third trimester serum uric acid levels and development of PE (AUC 0.713, 80.5% sensitivity, 46.4% specificity).

Conclusion: Serum uric acid levels in third trimester of pregnancy with the cut-off value of 309 mol/L and above is a moderate predictor for Pre-Eclampsia.

MPP 074K

A Hapless Manifestation of Condylomata Acuminata

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Introduction: Condyloma acuminata is commonly known as anogenital warts which are a manifestation of HPV infection. The rate of prevalence of HPV infection can be reduced by multiple methods such as vaccination, safe sex practice and circumcision. However, it is uncommon for a genital wart to worsen post circumcision in a fit soldier without any risk factor.

Objective: This paper describes surgical excision is an effective method of treatment for genital wart.

Methods: We report a compelling case of a young 37 years old married man, heterosexual, and non-promiscuous male presented with a history of genital warts past ten years with the size of a watermelon seed. This lesion, however, rapidly grew two years post circumcision. The discomfort experienced, restricted the patient's daily activity and put a strain on his sexual life.

Results: A wide en bloc excision of the lesion was performed under general anaesthesia. Further follow up revealed, an excellent wound healing without complication and no evidence of recurrent growth.

Conclusion: Surgical excision is an effective method of treatment for genital wart where else circumcision is an effective prophylactic method to reduce the incidence of genital wart.

MPP 075K

Cogan-Reese Syndrome and Unilateral Glaucoma

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Introduction: Cogan-Reese syndrome is a variant of iridocorneal endothelial syndrome. It has a unique clinical feature of iris neavus. Glaucoma is one of the causes of visual loss in patient with Cogan-Reese syndrome.

Objective: To report a case of Cogan-Reese syndrome with secondary glaucoma.

Methods: Case report

Results: A 61-year-old woman presented with right eye progressive generalized blurring of vision for the past 3 years. Right eye visual acuity was 6/60 with pinhole of 6/36. Multiple fine bullae on the cornea epithelium and 'beaten bronze' appearance of the cornea endothelium were seen. Multiple pigmented pedunculated iris nodules were seen extending from 12 to 4 o'clock which were obliterating the iridocorneal angle during gonioscopy examination. The intraocular pressure was 22 mmHg. The cup to disc ratio was 0.7 with pink optic disc. Right eye central corneal thickness was 550 μm. Readings for the endothelial cell count was undetectable using the specular microscopy. Optical coherence tomography showed thinning of the right eye superior and inferior retinal nerve fiber layer. She was diagnosed with Cogan-Reese syndrome with secondary glaucoma. She was started on topical Latanaprost 0.005% once daily. The intraocular pressure was reduced to 15mmHg after starting topical anti-glaucoma for 1 month.

Conclusion: Cogan-Reese Syndrome is a rare ocular disease which normally presents with cornea edema, iris nodules and unilateral increase in intraocular pressure. Raised intraocular pressure is the main issue in treating Cogan-Reese Syndrome. Thus early recognition and initiation of lowering intraocular pressure treatment is crucial to prevent sight threatening complications.

MPP 076K

Protect Those Serve: A Retrospective Analysis of Medical Support for Firepower Training 2019

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Introduction: Fire Power Training (FPT) 2019 is a training cum demonstration event that involved multiple Artillery, Armoured, and Infantry regiment across the nation. It involved two thousand army personnel. Medical support for this training was tasked to Military Hospital Syed Sirajuddin Camp, Gemas.

Objective: This study was conducted to determine if medical support for Fire Power Training was a success.

Method: A retrospective record of 116 patients seen throughout the event from 15 September 2019 to 25 September 2019 was reviewed to determine the success rate of the medical support throughout the occasion.

Results: A total of 116 patients with mean s.d age 31.2 ± 6.2 were treated by the medical team throughout the event, 96.5% were successfully treated in hospital/ field, and 3.4% were referred. Trauma cases were predominantly sent to tertiary centres for further management and non-trauma cases were seen in an outpatient setting. Preventive medical measures taken included base health inspection, Aedes larva checks, and fogging of mosquitoes which contributed to the low number of infective disease cases documented throughout the event.

Conclusion: Medical support for Fire Power Training 2019 was a success. However, medical personnel need to be persistent for readiness in clinical knowledge and skills in providing support and care not only in the hospital setting but also in the field.

MPP 077K

A Case Series of Ticks Mimicking Caruncular Mass

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Introduction: Ocular tick infestation are rare occurrences. All parts of the ocular tissue have been reported to be susceptible to tick infestation. Tick infestation can lead to potential fatal tick-borne diseases.

Objective: We aim to describe three cases of tick infestion of the eyelid presenting as a caruncular mass.

Methods: A case series.

Results: In this report we described three patients who presented with a rapidly growing swelling for 3-5 days. All patients were found to have a tick attached to the eyelid. The tick was removed mechanically completely with a blunt forceps. None of the patients developed systemic disease or adverse sequelae after tick extraction.

Conclusion: Ophthalmologists should be aware of possible tick infestation on eyelid with history of mass like lesion over the medial canthus. Mechanical extraction of the whole tick using blunt forceps is a safe and effective treatment option.

MPP 078K

Possible Reactivation of Latent Toxoplasmosis in Schizophrenia Spectrum and Other Psychotic Disorders

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Introduction: Toxoplasmosis is one of the most common parasitic diseases worldwide. Recent studies indicated that the latent form of the infection plays various roles in the aetiology of different mental illness, including schizophrenia spectrum and other psychotic disorders (SSOPD). The reactivation possibility of latent toxoplasmosis in this population remains unknown.

Objective: This study aimed to determine the seroprevalence of latent toxoplasmosis and the presence of circulating *T. gondii* DNA in the infected SSOPD patients.

Methods: A total of 109 SSOPD patients were recruited in a cross-sectional study from the Hospital Canselor Tuanku Muhriz, Kuala Lumpur. The diagnosis of SSOPD was made based on the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-V). The presence of *T. gondii* antibodies (IgG and IgM) and circulating DNA were determined using indirect ELISA and nested-PCR, respectively.

Results: In overall, IgG seroprevalence for *T. gondii* in the SSOPD patients was 23.9% (26/109). No patient tested seropositive for anti-*T. gondii* IgM antibody. Of the IgG seropositive patients, one sample (3.8%) was positive for *T. gondii* dense granular 7 (*GRA7*) gene, suggestive of probable reactivation of toxoplasmosis.

Conclusion: This study demonstrated a low prevalence of *T. gondii* with possible reactivation of latent toxoplasmosis in the SSOPD cases. Thus, the clinician needs to keep a broad differential diagnosis in mind when attending these patients.

MPP 079K

Plasma Cell Variant Castleman Disease of the Head and Neck: Mimicker of Malignancy

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Case Report: We describe case of a 45-year-old man who had presented with anterior neck swelling for six months, progressively increasing in size within the last two months. He was otherwise asymptomatic. CT scan of the neck showed a left supraglottic mass with muscle involvement and thyroid cartilage erosion, suspicious for malignancy and anterior midline neck lesion which may represent metastatic lymph node. Fine needle aspiration of the neck lesion reported as atypical mononucleated cells, suspicious for malignancy. A subsequent needle biopsy showed only reactive plasmacytosis. An excisional biopsy of the neck lesion finally revealed morphological features consistent with plasma cell variant Castleman Disease.

Conclusion: This case illustrates the challenges in making definitive diagnosis on small biopsy. Furthermore, the clinical features and radiological findings of this lymphoproliferative disorders are non-specific. The rarity of this disorders associated with constitutional symptoms, lymphadenopathy and possible organomegaly making CD easily confused with lymphoma and other malignancies. Histological confirmation by excisional biopsy of the affected lymph node is essential to make a correct diagnosis as the overall morphological features are not assessable in small needle biopsy.

MPP 080K

Leiomyosarcoma in Unusual Site – A Case Report

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Case report: This is a case of a 56-year-old man who was presented with 5-year history of left neck swelling which rapidly increased in size within a month prior to admission. He also had hoarseness, dysphagia to solid and weight loss. There were no symptoms of hypo or hyperthyroidism. His underlying medical illness includes diabetes mellitus, hypertension and ischaemic heart disease. A computed tomography (CT) scan of the neck noted a large, 7-cm heterogeneously enhancing mass within the left thyroid gland, associated with retrosternal extension and tracheal narrowing. A fine needle aspiration cytology report of the tumour was suspicious for malignancy. He then underwent a debulking surgery of the tumour and was subsequently diagnosed with leiomyosarcoma.

Conclusion: This case illustrated a rare occurrence of leiomyosarcoma within the thyroid gland. Leiomyosarcoma is a soft tissue malignancy with pure smooth muscle differentiation. The usual sites are retroperitoneum, large blood vessels and the extremities. It rarely occurs in bone, breast, colon and the mediastinum. However, primary origins from the thyroid glands is extremely rare (less than 0.05 % of all thyroid tumours). So far, only about 30 cases have been reported worldwide. The diagnosis of leiomyosarcoma heavily relies upon the histomorphology, coupled with appropriate immunohistochemical stainings to confirm the smooth muscle lineage. It has to be differentiated from the other more common thyroid malignancies with almost similar morphology, such as anaplastic carcinoma and medullary carcinoma. Most patients show poor prognosis with tumour recurrence, despite radical surgery.

MPP 081K

Awareness, Knowledge and Practice of 'Malaysian Healthy Plate Concept' After Three Years of Introduction - Results of Nationwide Study 2019

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Introduction: The Malaysian Healthy Plate was introduced in 2016 as simpler tool to promote a healthy, balanced diet by encouraging half a plate of fruit and vegetables, a quarter of a plate of protein and another quarter of a plate of carbohydrates, preferably wholegrains, at each meal.

Objective: This survey aims to determine the prevalence of unawareness, knowledge and practice of the Malaysian Healthy Plate and also the associated factors to unawareness after three years of implementation.

Methods: This study used the data from National Health and Morbidity Survey (NHMS) 2019. It was a cross-sectional survey with two-stage stratified cluster sampling. Respondents were interviewed using questionnaires pertained awareness, knowledge and practice. Complex sample analysis was applied to fit with the study design.

Results: About 79.6% adults above 18 years old in Malaysia were unaware of the Malaysian Healthy Plate Concept. The unawareness was significantly different by strata, sex, age group, ethnicity, marital status, education level, occupation and household income. Meanwhile, other side, among those who were aware, 80.8% correctly interpreted the concept. However, only 14.0% and 50.1% practised the concept in daily basis and sometimes. Unawareness of this concept was significantly associated with sex (men), ethnicity (other ethnicities), education level (secondary and below), occupation (non-government or not working), non-diabetes, and low fruit and vegetable intake.

Conclusion: Four-fifth adults were unaware of the 'Malaysian Healthy Plate Concept' and among those who were aware, the practiced of the concept is low. Increase in promotion is necessary to educate the public on importance of healthy eating.

MPP 082P

Cultivation of HT-29 Colon Cancer Cells in an Anaerobic Culture System

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Introduction: Gut microbiome profiling in colon cancer studies were mainly performed via next-generation sequencing. Following profiling studies, confirmation of tumorigenic properties of the mostly anaerobic gut microbiota through in vitro co-culture system with colon cells has been a challenge. This is because most colon cancer cells are maintained aerobically, with minimal studies investigating colon cancer cell properties in an anaerobic culture system.

Objective: This study was conducted to establish and investigate the survival and development of HT-29 colon cancer cells in both aerobic and anaerobic conditions.

Methods: HT-29 was purchased from American Type Culture Collection (ATCC) and maintained using the Roswell Park Memorial Institute (RPMI) 1640 media. Anaerobic arm of the experiment was conducted inside a rectangular jar with an AnaeroGen™ sachet to achieve a culture environment of <0.1% oxygen and 7-15% carbon dioxide. For the aerobic arm, plates of cells were cultured in a rectangular jar without the AnaeroGen™ sachet. Both arms of the experiment were incubated at 37°C for 5 days. Cells were observed and counted daily to determine their viability using a Countess™ automated cell counter.

Results: Throughout the experiment, similar epithelial-like morphology was observed for both culture conditions. Interestingly, HT-29 cell viability of both culture conditions remained the same (aerobic, 91.93%; anaerobic, 90.91%), with only a slower growth rate observed in the anaerobic set up.

Conclusions: HT-29 cell line was cultured successfully in an anaerobic culture system. The cells were able to survive and proliferate, though at a slower growth rate, in the anaerobic system.

MPP 083K

Food Safety Knowledge and Behaviour among Preschool Children based on Parents' Perspective

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Background: Pre-school children are one of the susceptible group at risk for foodborne diseases. Therefore, instillation of food safety knowledge and behavior among children should be emphasized on every parent as a prevention from getting foodborne diseases.

Objective: This study aimed to measure the level of food safety knowledge and behaviour among preschool children based on the parents' perspective using a newly developed questionnaire.

Methodology: A new questionnaire "*Tahap Keselamatan Makanan Kanak-kanak Prasekolah* (KMKP)" was developed and tested for its reliability and validity. The questionnaire focused on three food safety domains: personal hygiene (PH), causes of foodborne diseases (CFBD) and food handling practices (FHP). Field study were then conducted among selected respondents in Kuala Lumpur.

Results: The results showed that the KMKP questionnaire has adequately acceptable reliability with 0.65 *Cronbach's* alpha coefficient value. Field study (N=30) revealed that 63.3% of the observed children had high knowledge score for the PH domain and 73.3% had high score in the CFBD domain. However, 63.3% of them only scored moderately for the FHP domain. In regards to their level of behaviour, 50.0% of the children had high scores for the PH domain whereas 43.3% of them scored moderately for the FHP domain. A strong positive correlation between the level of knowledge and the level of behaviour among the preschool children ($p < 0.05$) has also been identified.

Conclusion: The KMKP questionnaire is a reliable tool to determine the level of food safety knowledge and behaviour among preschool children based on their parents perspective.

MPP 084K

Assessment of Skill-based Activities among Children Aged Six to 12 Years Old in Malaysia: The Reliability Testing

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Introduction: Participation in everyday activities considered to be a vital part of children's development, which is related to their quality of life and future life outcomes. An assessment was developed to measure the preference of children's participation in skill-based activities suitable to the cultural and context of Malaysian children.

Objective: This study aims to examine the reliability of the newly developed assessment that measures the preference of children's participation in skill-based activities among children aged six to 12 years old in Malaysia.

Method: This study was a cross-sectional study, which involved 95 children aged six to 12 years old in community. All children were required to administer the assessment twice with two weeks interval from the initial assessment. Intraclass Correlation (ICC), Limits of Agreement (LOA) and Standard Error of Measurement (SEM) and combination of ICC, LOA and SEM were used for data analysis.

Results: Intraclass Correlation (ICC), Limits of Agreement (LOA) and Standard Error of Measurement (SEM) and combination of ICC, LOA and SEM were used for data analysis. The results showed that the ICC value was at 0.903. LOA showed excellent agreement and SEM was at 0.080. A combination of ICC, LOA and SEM showed the assessment had an excellent agreement.

Conclusion: In conclusion, this assessment has high reliability and it can be used as one of the assessment tools in evaluating preference of participation in skill-based activities among children age six to 12 years old.

MPP 085K

Assessment of Self-Improvement Activities among Children Aged Six to 12 Years Old in Malaysia: The Reliability Test

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Introduction: Assessment of Self-improvement Activities (ASIA) was developed to measure the preference of children aged six to 12 toward the self-improvement activities. ASIA is a self-reported assessment which contained six items. The level of preference on each item is self-rated with three Likert scale by children. However, the psychometric properties of reliability of ASIA has not been established.

Objective: This study aims to determine the level of test retest reliability of ASIA by using Intra-class Correlation Coefficient (ICC), Limit of Agreement (LOA) and standard error of measurement (SEM)

Methods: A cross-sectional study was conducted using quantitative approach. Purposive sampling was used to select the samples of 95 children aged from six -12 years from the community. ICC and LOA were analyzed using Statistical Package for Social Sciences 21 (SPSS version 21) while SEM was calculated based on the formula at 95% confidence.

Results: ASIA showed highly reliable in the combination of three analysis. The ICC value was 0.896, LOA graph showed the degree of reliability while SEM showed 0.104-0.892 score band.

Conclusion: ASIA was found reliable in measuring children aged from six – 12 years old on their preferences of self-improvement activities.

MPP 086K

Assessment of Physical Activities among Malaysian Children Aged Six to 12: The Reliability Testing

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Introduction: Participation in physical activities was moderately and positively correlated with well-being, children's happiness and self-concept. Many factors determine activities participation among children. Preference is one factor that may affects the level of children's participation in physical activities.

Objective: This study aimed to assess the test-retest reliability of a newly developed assessment in measuring the children's level of preferences in participation of physical activities among children aged six to twelve in Malaysia.

Method: A total of 95 children aged six to twelve from the community were recruited as participants in this cross-sectional study. The data was collected twice with a seven-day gap between the first and the second test. Data collected was analyzed using Cronbach's alpha for consistency and Cohen's Kappa for agreement. The test-retest reliability was analyzed through the methods of Intraclass Correlation Coefficient (ICC), Standard Error of Measurement (SEM), Limit of Agreement (LOA) and the combination of these three.

Results: The Cronbach's alpha coefficient in both test and retest were alpha=0.566 and alpha=0.661 whereas the Kappa coefficient in the six items of physical activities ranged from 0.357 to 0.558. The ICC was 0.910 with a 95% confidence interval ranging from 0.865 to 0.940 while SEM calculated was 0.075. The LOA graph indicated some degree of reliability based on the four criteria.

Conclusion: This newly developed assessment is reliable as it has high and excellent ICC, SEM and LOA in assessing the level of preferences towards participation in physical activities among children.

MPP 087K

Assessment on Preference of Participation in Social Activities among Children Aged Six to 12 Years Old in Malaysia – The Reliability Testing

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Introduction: Participation in social activities enable the children to form friendships, express creativity, and determine meaning as well as the purpose in life. Therefore, an assessment to measure children's preferences of participation in social activities was developed based on cultural and environmental context in Malaysia.

Objective: The objective of this study is to perform reliability testing on the assessment of preference of participation in social activities among children aged six to 12 years old in Malaysia.

Method: This study is a cross-sectional study involving 95 children (49 males, 46 females) with mean age 9.85 years old selected by purposive sampling. The assessment on preference of participation in social activities was used in this study. Internal consistency, Cohen's kappa coefficient (k), Intra class correlation (ICC), limit of agreement (LOA) and standard error of measurement (SEM) were used to measure reliability in this study.

Results: It was found that Cronbach's alpha for both test and retest were alpha=0.485 and alpha=0.543 respectively which were moderately correlated to each other. Cohen's kappa coefficient scale ranged from 0.331–0.571, indicated as fair to moderate agreement of items between test and retest. Good ICC was obtained reported at 0.878 with 95% confidence interval. LOA graph showed excellent agreement while SEM was at 0.07.

Conclusion: The assessment on preference-participation in social activities among children aged six to 12 years old in Malaysia reported high reliability to be used with children in Malaysia.

Keywords: choice, primary school, social activities, questionnaire

MPP 088K

Reliability Testing of Recreational Activities Assessment Among Six to 12 Years Old Children in Malaysia

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Introduction: Participation in recreational activities is a vital part of children's development, which is related to their quality of life. There are a few standardized assessments to measure preference of children's participation in recreational activities, however all the assessment was developed based on western culture and in English version.

Objective: The objective of study is to perform reliability testing on an assessment on preference of children participation in recreational activities among children aged six to 12 years old in Malaysia.

Method: This study is a cross-sectional recruiting 95 children aged six to 12 years old in community. IBM Statistical Package for the Social Sciences (SPSS) were used to determine the internal consistency, test retest reliability by using Cohen Kappa coefficient, intraclass correlation coefficient (ICC), limit of agreement (LOA) and standard error of measurement (SEM).

Results: The cronbach's alpha coefficient for the 10 items in both test and retest were alpha=0.483 and alpha=0.491 respectively. The cohen's kappa coefficients was showed ranged from 0.290-0.627, the ICC value was 0.848 and the SEM value was recorded as 0.08.

Conclusion: This study shows that the newly developed assessment were highly reliable and has potential to be used to assess preference of recreational activities among children aged six to 12 years old in Malaysia.

MPP 089K

Knowledge and Awareness on Nutrition for Children with Autism Spectrum Disorder (ASD) from Parents and Special Educators: A Comparison

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Introduction: Autism Spectrum Disorder (ASD) is a condition related to brain development that commonly leads to eating behavior as reported by most of the parents. Nutritional perception by parents and special educators of children with ASD may provide insight for dietitian on providing reliable nutritional education.

Objective: This study aimed to qualitatively explore knowledge, perceptions, perceived influences, facilitators and barriers between parents and special educators when providing healthy foods for children with ASD.

Method: Focus group discussion (FGD) conducted by the voluntary participation of parents (n=15) and special educators (n=6) at Pusat Genius Kurnia, Kuala Lumpur. Thematic analysis identified similarities across both groups, including differences on perception and knowledge about the nutrition and strategy to overcome the nutrition issue in children with ASD.

Results: Both parents and educators exhibited superficial knowledge on Malaysia Dietary Guideline and the effects of gluten-free and casein-free food on children with ASD. Other issues highlighted are they experienced the same nutrition problems which are picky eaters, sensory issues and dental problems. Main points of differences included parents assumed sugar does not cause hyperactive, parents rely on special educators to train their children during their mealtime and they also did not familiar with texture modification on improving child's food behavior. Special educators observed that sugar does cause hyperactive, perceived that

parents play the primary role to train their children during mealtime and believe that texture modification helps in improving behavior.

Conclusion: This study is essential to explore options that can be provided to assist the parents and special educators in overcoming the nutrition issue in children with ASD.

MPP 090K

A Forensic Study of Ethnicity Differences in Fingerprint Patterns in a Malaysian Adult Population

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Introduction: Fingerprint is one of the great source for the identification (*i.e.* a known fingerprint compared to the unknown fingerprint). In practice, suspects will often not available when the case is first reported to police. In such scenario, it is still useful if the ethnicity of the unknown fingerprint could be inferred to further narrow the scope of searching.

Objective: Therefore, this study aims to examine differences in fingerprint pattern types among Malaysian adults of the three major ethnic groups, *i.e.* Malays, Chinese and Indians.

Methods: The study sample comprised of 200 young Malaysian with each of the three studied ethnic groups represented by at least 60 subjects. After the subject gave consent, all their ten fingertips were obtained using plain print method and resulting in a total of 2000 fingerprints. Each fingerprint was classified into the nine basic fingerprint patterns. Relationship between the ethnicity and fingerprint patterns was evaluated visually using simple correspondence analysis (CA) and then statistically *via* Chi-squared test.

Results: Based on CA plots, an ethnic group tends to be dominated by a unique fingerprint pattern. However, Chi-squared test indicated a significant association between fingerprint pattern and ethnicity only evident in left middle finger (p-value <0.05). When the same data was recoded to consider only three primary patterns: (1) arch, (2) loop; and (3) whorl; significant p-values obtained with left middle (p-value < 0.01); and left index as well as left ring (p-value < 0.05) fingers.

Conclusion: In conclusion, fingerprint patterns could be used to infer ethnicity of the suspect.

MPP 091P

Potential Anti-MRSA Activity of Dimeric Sesquiterpene Compound Isolated from Basidiomycete Fungus

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Introduction: The increasing global incidence of antimicrobial resistance leads to emergence of methicillin-resistant *S. aureus* (MRSA) infection in healthcare settings. This include emergence of fusidic acid-resistant (FRSA) and vancomycin-intermediate (VISA) *S. aureus*. There is a crucial inevitability for studies towards development of new antimicrobial compounds to curb menace of antibacterial resistance.

Objective: The current study evaluates *in-vitro* antibacterial activity of a dimeric sesquiterpene (DS) compound from Basidiomycete fungus against multi-drug resistant MRSA strains.

Methods: The minimum inhibitory concentration (MIC) and minimum bactericidal concentration (MBC) values against MSSA (ATCC 25923), MRSA (ATCC 43300 and ATCC 33991), VISA (ATCC 706690), and FRSA (BD 16876 and BD 15871) strains were determined using microbroth dilution technique, and the synergy test between DS and different antibiotics was determined using checkerboard method. The effect of plasma protein on anti-MRSA activity of DS was evaluated in the presence of 50% mouse plasma.

Results: The MIC and MBC of DS against all strains were 7.81 µg/mL except VISA which was 3.91 µg/mL. DS compound showed bactericidal action. Combination of the ß-lactam oxacillin with DS demonstrated synergistic activity against all strains except VISA. Vancomycin demonstrated synergistic combination with DS against MSSA, MRSA ATCC 33991 and FRSA BD 16876. The DS-fusidic acid combination was synergistic for MRSA ATCC 33991 and both FRSA strains. No antagonism was observed in this study. Presence of plasma protein showed a higher degree of protein binding with DS, where the DS differed markedly with lower binding drugs

such as vancomycin.

Conclusion: The clinical implications of these potential combinations using DS should be investigated further.

MPP 092P

Testosterone Effects on the Expression of Connexin 26 and Connexin 43 in the Uterus of Rats During Early Pregnancy

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Introduction: The uterine receptivity period is regulated by sex hormones including estrogen and progesterone and is related to the expression of connexin 26 and connexin 43 which are the major components of intercellular gap junctions in humans and rats. Testosterone is a male sex hormone which is required for the embryo implantation process. However, high level of testosterone in women would interfere with the early stages of an embryo implantation; resulting in early pregnancy loss.

Objective: Thus, this study was conducted to investigate the effects of testosterone on the expression and distribution of connexin 26 and connexin 43 in the uterus of rats during the early pregnancy.

Methods: Intact pregnant rats were administered 1 mg/kg/day testosterone alone or in combination with flutamide, finasteride or anastrozole, subcutaneously on day-1 of pregnancy till day 3. The rats were sacrificed at day 4 of pregnancy, which was considered as the uterine receptivity period for determining the expression and distribution of connexin 26 and connexion 43 by immunohistochemistry and quantitative polymerase chain reaction, respectively.

Results: It was showed that the treatment with 1 mg/kg/day testosterone increased connexin 26 and decreased connexin 43 mRNA expression and protein distribution in the uterus of early pregnancy rats.

Conclusion: Changes in the uterine connexin 26 and connexin 43 expression by testosterone could affects the normal physiology of receptive endometrium that may lead to a disruption in embryo implantation process, resulting in early pregnancy loss.

MPP 093K

A Pilot Study on Intracameral Levofloxacin (0.5%) versus Intracameral Cefuroxime (1mg/0.1ml) Effect on Corneal Endothelial Cell Count and Morphology in Uneventful Phacoemulsification.

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Introduction: Endophthalmitis is a dreaded complication of intraocular surgery although rare. The use of prophylactic intracameral antibiotic agents in conclusion of cataract surgery has reduced the risk of post-operative endophthalmitis. Traditionally, Intracameral cefuroxime has been used as prophylaxis but there were many concerns regarding the safety of intracameral cefuroxime as it is not commercially available and it has to be reconstituted prior injection. Levofloxacin 0.5% ophthalmic solution has well established efficacy and tolerability in the treatment of external ocular infections. Intracameral levofloxacin 0.5% was introduced as it is commercially available and it do not require any dilution prior to injection. This study is designed to compare between intracameral levofloxacin and intracameral cefuroxime in terms of corneal endothelial cell count in uncomplicated phacoemulsification surgery.

Objective: To investigate the safety of intracameral levofloxacin (0.5%) ophthalmic solution and intracameral cefuroxime (1 mg/0.1ml) on the cornea endothelial cell in an uneventful phacoemulsification surgery.

Method: Eyes undergoing uneventful phacoemulsification surgery with intracameral antibiotics were administered based on randomization. Endothelial cell count pre and post-operatively at one month were analysed between the 2 groups of antibiotics.

Results: 30 eyes (14 eyes intracameral cefuroxime and 16 eyes with intracameral levofloxacin 0.5%) were compared in terms of cornea endothelial cell count post-operative 1-month. The endothelial cell count at 1 month in both group was not statistically different with cefuroxime group mean was 2331.85 ± 365.44 cells/mm^2 while mean for levofloxacin group was 2159.18 ± 636.61 cells/mm^2 (p= 0.071).

Conclusion: The study shows intracameral levofloxacin in has comparable loss of endothelial cell count compared to intracameral cefuroxime. Other safety parameters intracameral levofloxacin need to be analysed to establish its efficacy.

MPP 094K

Reflecting Practice of Integrated Supportive Cancer Care Education Materials for Radiotherapy Patient: A Pilot Study

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Introduction: Cancer patients need to have a precise education information about cancer. Source of education materials need to come from reliable medical healthcare professionals via varies education material to meet the need of cancer patient education. Knowing about the disease, treatments choices, and management for the disease minimised the anxiety and distress levels.

Objective: Aim of research are to evaluate the patient cancer care education materials that have been implemented in Malaysia. Specifically, to evaluate the information effectiveness, patients' understanding about treatment, side effect management and accuracy of information of cancer care education materials in Malaysia.

Method: A descriptive correlational study was conducted by survey on 20 cancer patients using Patient Cancer Education Needs Assessment questionnaire at Gleneagles Penang Medical Centre. SPSS version 26.0 statistical program was used for data analysis.

Result: Level of understanding about radiotherapy treatment, side effects management for current education module were high among patients. 75.00% patient know about cancer, 78.75% know about side effects management and 74.50% for psychosocial.

Conclusion: Patients do not have any difficulty in understanding the currently available education program. Future study need to be done in order to evaluate the effectiveness and accuracy of patient cancer care education program available in Malaysia regarding on theme of general idea of cancer, side effect management, psychosocial and supportive care.

MPP 095K

Arthritis Impact Measurement Scale 2 – Short Form: Translation, Adaptation, and Content Validation of the Chinese Version

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Introduction: Arthritis Impact Measurement Scale 2 – Short Form (AIMS2-SF) is a 26-item disease-specific outcome measure for rheumatoid arthritis (RA). Only a properly translated, adapted, and psychometrically tested scale allows attainment of accurate and reliable evaluation outcome. Given Malaysia is a multi-racial and multi-cultural country, developing a Chinese Version of AIMS2-SF can facilitate better evaluation of Chinese RA patients in this country.

Objective: (i) To produce the Chinese Version of AIMS2-SF via translation and adaptation of the original English version into Chinese; and (ii) to establish the content validity of this Chinese Version via expert review.

Methods: A recruitment of four translators with a minimum of bachelor's degree in English-related studies, and who speak and understand Chinese well to perform the respective backward and forward translations and adaptation of AIMS2-SF from English into Chinese. This was followed by a recruitment of 10 medical and health science professionals with a minimum of bachelor's degree in the related field with at least 5 years of working experience for content validation of the Chinese Version.

Results: All translators and experts are Chinese. The translators were secondary school (n=2) and higher learning institution (n=2) English teachers and the experts were rheumatologist (n=1), medical officers (n=3), occupational therapists (n=3), and physiotherapists (n=3). The translated Chinese Version of AIMS2-SF has no item deletion. Only a few words were being adapted. The Chinese Version has Item-Content Validity Index=0.8-1.0, Scale-Content Validity Index/Average=0.97-0.99, and Scale-Content Validity Index/Universal Agreement=0.77-0.88.

Conclusion: The Chinese Version of AIMS2-SF requires further psychometric testing to allow clinical usage.

MPP 096K

Concerns about Falling among Older Adults: Investigation of Age, Gender, and Fall History

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Introduction: Investigating concerns about falling among older adults is imperative as excessive concerns can lead to anxiety and self-imposed activity restriction.

Objective: To determine concerns about falling among older adults in terms of their: (i) relationship with age; (ii) difference between men and women; and (iii) difference between those with and without fall history for the past 12 months.

Methods: Participants were older adults (≥60 years of age) that fulfilled criteria: (i) ambulate independently without walking aid; (ii) speak Bahasa Melayu as their first language for Malay; (iii) completed primary education that includes Bahasa Melayu in their educational curriculum for Chinese and Indian. Participants completed the demographic form and the 16-item Malay Version of Falls Efficacy Scale-International (FES-I) [total score: 16 (no concern)–64 (severe concern)]. The Malay Version of FES-I is currently undergoing psychometric testing.

Results: The study involved 63 older adults (age: 66.87 $\pm$ 5.49, FES-I score: 42.97 $\pm$ 13.79) who were predominantly: Malay (n=56, 88.9%); women (n=39, 61.9%); no fall history for the past 12 months (n=49, 77.8%), having medical history (n=51, 81.0%); living with family members (n=61, 96.8%); and living in a flat (n=26, 41.3%). Concerns about falling showed no relationship with age, r=-0.18, p=0.16; no difference between men (40.00 $\pm$ 14.72) and women (44.79 $\pm$ 13.05), p=0.18; and no difference between those with (46.36 $\pm$ 12.55) and without (42.00 $\pm$ 14.10) fall history for the past 12 months, p=0.30.

Conclusion: Regardless of gender and fall history, older adults expressed concerns about falling that are not age-related.

MPP 097P

The Detection Mode of Collagen via the Use of Quercetin

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Introduction: There are a wide range of beauty product which contains collagen, available in the market. Therefore, this development of a new collagen assay, which can be used to detect presence or absent of collagen in beauty product. Hence, this would be able to prove the product's statement to be true or false.

Objective: To detect the presence of collagen in beauty products using Quercetin.

Methods: There are several parameters to be optimised, which are (i) the absorbance wavelength (ii) the preferential interaction of the incubation and (iii) the choice of support material. The further analysis of the results obtained from absorbance reading analysed by SPSS software using One-way ANOVA method.

Results: As a result, the optimised absorbance wavelength to measure the presence of collagen with 450 nm and the best preferential interaction of the compound was started with immobilised Quercetin added with beauty product and lastly added with PMA dye.

Conclusion: Therefore, this Collagen assay was successful to detect the presence of collagen in beauty product. Thus, the results of this research were able to analyse qualitatively and quantitatively.

MPP 098K

Prevalence of Low Bone Mineral Density in Opioid Replacement Therapy Patients: A Systematic Review

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Introduction: Opioid replacement therapy is one of the main treatments for opioid use disorder. The long-term nature of the treatment may increase the risk of low bone mineral density secondary to opioid-induced hypogonadism.

Objective: This study aimed to determine the prevalence of low bone mineral density in patients receiving opioid replacement therapy.

Methods: We defined low bone density based on the T-value of < -1. We retrieved relevant studies published from inception until July 2020 from OVID and SCOPUS. Screening, data extraction, and quality assessment were conducted by two independent investigators.

Results: Two-hundreds and ten articles were retrieved. A total of five articles were included in the final analysis. In view of various methodological differences, we did not proceed with meta-analysis. The prevalence ranges from 34-83%. The lowest prevalence was reported in a study of women aged between 20-40 years without comorbidities, which may influence bone health. The highest prevalence was reported in a study of men and women with no specific exclusion criteria.

Conclusion: The prevalence of low bone density in the opioid replacement therapy population varies depending on the methodology of the studies. More studies should be conducted to validate the effects of opioids on bone mineral density in this population.

MPP 099K

COVID-19 and Indigenous Community (NMRR:54950)

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Introduction: The Indigenous Community (IC) is a minority community and "one of the marginalized sectors of society". The COVID-19 outbreak and the Movement Control Order (MCO) is a new phenomenon for Malaysians especially the IC. The study aims to determine the adherence of the movement control order and practices during COVID 19 pandemic among indigenous community.

Methodology: A cross sectional survey was conducted between April to May 2020 among 224 indigenous communities via telephone interview using a validated questionnaire in Peninsular Malaysia.

Results: Study showed that 58.2% of the community knew the reason for the government enforcing MCO. Majority of the community (75%) took upon themselves to control movement in their villages to prevent the disease transmission. Movements in and out of the village was due to grocery shopping (73.4%) and to acquire forest products (23.8%). Most of the community had moderate awareness (60.9%) about COVID 19 transmission. Only 9.8% patients were taken to clinic for suspected COVID 19. Half of the patients (51.2%) were brought to clinic if they had any symptoms. Upon death, 73.8% were buried by the community during the pandemic.

Conclusion: The good knowledge on how to manage cases at community level shows that the risk comminution strategies implemented by the Ministry of Health reached all levels of community including IC. The aspect of managing death of a patient during the pandemic needs to be further strengthened to prevent COVID 19 transmission.

Keywords: COVID 19, indigenous community, movement control order

MPP 100K

The Eye that Melt: A Case of Rheumatoid Arthritis

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Introduction: Rheumatoid arthritis is a chronic autoimmune disease that with various systemic manifestations such as polyarthritis and extra articular sequelae such as cardiac, pulmonary, renal, nervous, skeletal and ocular system. It has a complex interaction between immunological, genetic and environmental factors. Ocular manifestations secondary to rheumatoid arthritis are severe dry eyes, episcleritis, scleritis, vasculitis and peripheral ulcerative keratitis. Here we present a case of rheumatoid arthritis and how a patient has lost the battle of saving her eye.

Objective: To highlight ocular manifestation of rheumatoid arthritis that could lead to vision loss.

Method: Case report

Results: A 60-year-old woman with underlying seropositive rheumatoid arthritis (on oral leflunomide, hydroxychloroquine and prednisolone), hypertension and atrial fibrillation presented with sudden onset right eye blurring of vision. Examination showed right eye perforated corneal ulcer. She was treated for sepsis secondary to lung infection during this time. She was planned for right tectonic keratoplasty but as she was unstable due to underlying medical condition, her surgery got delayed. In view of sepsis, systemic immunosuppressant was stopped. This worsens the corneal melt and her intraocular pressure went up. Eventually 3-month later, tectonic keratoplasty was performed. Post operatively, topical and systemic immunosuppressant was started, however her vision deteriorated associated with pain. In view of painful blind eye, she underwent right eye evisceration.

Conclusion: Patients with rheumatoid arthritis are deficient in protective mechanism with increased proteolytic enzymes in their tear film. Deposition of immune complex at the peripheral cornea vasculature eventually leads to corneal melt. Early recognition and timely management of this sequelae can prevent devastating loss of eye.

MPP 101P

Comparison of the Ternary Phase Behaviour of Poloxamer188 and Tween80 for the Development of Nanoemulsion Formulation Containing Tocotrienol-Rich Fraction (TRF)

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Introduction: Tocotrienol-rich fraction (TRF), as an oily substance, needs to be solubilized into aqueous formulation for topical ocular application. Nanoemulsion formulation can solubilize oily substance and offers advantage in improving drug bioavailability. Oil, water and surfactant are the main component of nanoemulsion and their composition is determined by constructing ternary phase diagram (TPD).

Objective: To investigate the ternary phase behaviour of TRF in two different surfactant systems; Poloxamer188 and Tween80, with Miglyol oil and water for nanoemulsion formulation.

Methodology: Nanoemulsion was prepared using low energy emulsification method. TPD was constructed by stepwise addition of water to the mixture of oil (Miglyol oil-TRF) and surfactant (Poloxamer188 or Tween80) at different ratios. Next, the mixture was stirred and homogenized at 300 rpm. The phase separation was monitored by naked eyes and appearance of the mixture (transparent to turbid or turbid to transparent) was recorded. TPD was then constructed using Chemix School 7.00 software. With TPD, phase behaviours of each component were categorized into three phases (isotropic, multilayer or turbid). The isotropic phase was known for their transparency and considered to have high probability to form nanoemulsion.

Results: The minimum concentrations (%) of surfactant and water required to create oil-in-water nanoemulsion were 10:0 (Tween80:Water) and 65:34 (Poloxamer188:Water). The oil-TRF/Tween80/water phase diagram displayed larger

region of isotropic phase with smaller regions of the turbid and multilayer phases, compared to oil-TRF/Poloxamer188/water phase diagram.

Conclusion: Tween 80 system is a better surfactant as it produced larger oil-in-water nanoemulsion region in the TPD compared to Poloxamer188.

MPP 102K

Prevalence of Hepatitis C in Malaysia: Findings from the Malaysian Cohort Study

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Introduction: The HCV infection in Malaysia is projected to increase over the coming decades. Thus, it is important to determine the true prevalence of HCV infection in the Malaysian population in order to estimate the burden of infection and to estimate the size of the chronically infected community.

Methods: Data from the Malaysian Cohort involving 1,458 participants aged 35 years old was analyzed. Blood samples from subjects recruited between 2007 and 2012 were tested for the presence of antibody to Hepatitis C (Anti HCV). Descriptive and multiple logistic regression were used for analysis to assess associations factors for positive and non-positive Anti HCV subjects.

Results: The prevalence of Hepatitis C seropositivity (Anti-HCV) was 0.34%. Majority who were positive to anti-HCV were aged between 55-64 years old, males, Malays, single, had primary education, self-employed, from the state of Kelantan, had no history of immunisation, no history of chronic hepatitis, had history of surgery and had history of blood transfusion. However, none of the risk factors were significantly associated with the serology status of anti-HCV. The final multivariable model included marital status and history of blood transfusion which contributed to 13.36% of anti-HCV seropositivity . Being married was significantly protective from anti-HCV seropositivity while those who had history of blood

transfusion had two times higher risk of anti-HCV seropositivity compared to those who had no history.

Conclusion: We have reported here a 0.34% positivity anti-HCV. Promoting screening and testing for hepatitis C could prevent the transmission in the family and community.

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GROUP 1

The Relationship between Post-Traumatic Stress Symptoms with Maladaptive Trauma-Related Cognition and Resilience among Adolescents Post-Earthquake in Lombok, Indonesia

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Background and aims: Natural disasters have physical and psychological impacts on an individual and its surrounding community. This study was conducted to assess the prevalence of post-traumatic stress (PTS) symptoms among adolescents post-earthquake and to determine the predictors of PTS symptoms.

Materials and methods: In this cross-sectional study, the data were collected during an intervention programme post-earthquake organized in Lombok, Indonesia involving students from the age of 14 to 19 in a state high school. Purposive sampling method was used. The questionnaires used were Children's Revised Impact of Event Scale-13 (CRIES-13), Child Post-Traumatic Cognitions Inventory (CPTCI) and Child and Youth Resilience Measure-Revised (CYRM-R) to measure PTS symptoms, maladaptive trauma-related cognition and resilience respectively.

Results: The prevalence of PTS symptoms was 69.9%. Among the respondents, 61.37% were female and 56.48% had mothers with lower educational levels. Using multiple linear regression, the final predictors of PTS symptoms were excessive reactions (e.g. wailing loudly, miserable shrieking) of proxy during earthquake (β=3.283, p=0.005), maladaptive trauma-related cognition (β=0.224, p=0.002) and resilience (β=0.192, p<0.001) with female gender (β=7.350, p<0.001) as controlled variable. Victims who witnessed injury or death during earthquake (p=0.003), had a proxy died during earthquake (p=0.01) and victims who were trapped or had difficult escape (p=0.01) were potential predictors, warranted for further study in future.

Conclusion: The predictors found in this study including excessive reactions of proxy during earthquake, maladaptive trauma-related cognition and resilience are worth targeting and prioritize in future post-disaster interventions. Early identification of vulnerable adolescents who witnessed injury or death, had a proxy died and had difficulty in escaping or being trapped during earthquake are essential to offer preventive measures and provide effective psychological support.

Keywords: natural disasters, post-traumatic stress, cognition, resilience, adolescent

GROUP 2

The Effectiveness of Psychosocial Intervention on Mental Health and Quality of Life among Adolescents Post-Earthquake in Lombok, Indonesia: A Pilot Study

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Background and aims: Natural disaster such as earthquakes can give substantial impacts on the mental health of an individual. This study aims to determine the baseline mental health status and quality of life among adolescent following the earthquakes that have been striking Lombok since August 2018 and evaluate the effectiveness of psychosocial intervention towards them.

Materials and methods: This is a pilot study which was conducted in conjunction with the Humanitarian Mission to Lombok held by the Student Executive Council of Tun Dr Ismail Residential College, UKM. The subject of this study were the residents of Peduli Anak Foundation (aged 10 - 19 years old, n = 50). Two Indonesian-version questionnaires, Depression, Anxiety, and Stress Scale 21 (DASS-21) and WHO Quality of Life Brief Questionnaire (WHOQOL-BREF) were used. Three times assessments were carried out; pre-intervention, short-term (1-month post-intervention) and long-term (6 months post-intervention). The psychosocial intervention involves relaxation therapy for example deep breathing technique and expressive therapy such as drawing that was performed during the humanitarian mission program.

Results: It was found that the prevalence of depression, anxiety and stress were at 42%, 74%, and 30% before the intervention and reduced one month following the intervention (30%, 52% and 22%) but recurred after six months (41.7%, 74.5% and 29.8%). Adolescents with depression symptoms associated with lower quality of life (QOL) domain scores in psychological ($r=-0.393$, $p<0.05$), social relationship ($r=-0.296$, $p<0.05$) and environmental health ($r=-0.281$, $p<0.05$). Whereas those with stress symptoms had lower overall QOL scores ($r=-0.295$, $p<0.05$). Of all QOL

domains, social relationship recorded the lowest score throughout six months after the intervention.

Conclusion: The adolescents at Peduli Anak Foundation that were afflicted by earthquakes do benefit from the psychosocial intervention in the short term. Thus, continuous psychosocial intervention should be done to achieve good mental health status.

Keywords: adolescent, earthquake, depression, anxiety, stress

GROUP 3

Impact of COVID-19 on Digital Learning and Learning Motivation among UKM Medical Students

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Background and aims: The COVID-19 pandemic has initiated transformation from conventional medical education to fully online learning which deserves a reflection on how it affects the learning motivation among medical students. This study explores the difference in digital learning trends before and during the COVID-19 pandemic period and its impact on learning motivation among medical students in Universiti Kebangsaan Malaysia (UKM).

Materials and methods: A modified Students Motivation towards Science Learning (SMTSL) was used to assess the learning motivation of UKM medical students throughout Year 1-5. A total of 302 respondents, consisting of 150 and 152 Year 1 to Year 5 UKM undergraduate medical students involved in this study before and during the COVID-19 pandemic period, respectively. Reflections and feedback on digital learning and learning motivation were collated to justify the current situation.

Results: Medical students that used digital learning during COVID-19 were significantly higher compared to before COVID-19 ($p<0.05$). However, there was no significant difference ($p=0.872$) in learning motivation among medical students before and during COVID-19 crisis. Learning motivation was not affected by higher frequency of digital learning usage. Reflections and feedback on learning motivation during the pandemic period consisted of two main themes, mainly intrinsic and extrinsic motivations.

Conclusion: The platform of digital learning should be made use consistently by medical educators in a more diverse and interesting way to encourage lifelong learning among medical students.

Keywords: digital learning, learning motivation, medical education, COVID-19

GROUP 4

Osteointergration of Titanium Ceramic and Its Immunogenicity

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Background and aims: Titanium is a well-known bone implant due to their strength and bioinertness, with a disadvantage being non-responsive to their dynamic microenvironment. This leads to its poor integration with the host tissue leading to implant loosening. A combination of metal and ceramic seemed to be a perfect hybrid to cater to the mechanical loading and osteoinductive needs. The main aim of this study was to assess the safety and effectiveness of using titanium ceramics as implants via in vivo in order to promote osseointegration and bone growth.

Materials and methods: Five materials were fabricated into cylindrical shapes measuring 2 mm in diameter. The materials used were titanium, hydroxyapatite, wollastonite and two composites: titanium-hydroxyapatite and titanium-wollastonite. These materials were implanted into 6 female New Zealand White rabbits weighing 2.5-3.5 kg with one rabbit acting as a control. All rabbits were sedated using intravenous anaesthetic agent prior to surgery. A small area of the proximal, distal and midshaft section of the bone for both the left and right leg were drilled and implants were fitted into the gap. All rabbits were euthanised post 2 months, and their bones and organs were harvested for histopathological studies.

Results: Blood C-Reactive Protein (CRP) level post material implantation was normal for all rabbits suggesting there were no active inflammation caused directly from the material. Post-operative complication includes bone fracture at site of implant, urine incontinence, lower limb weakness and infection. General gross findings include, loss of weight, present of pressure ulcer and reduced quality of life. X-ray findings are predicted to have the implant fully integrated into the bone, influencing bone synthesised by the body due to the presence of the scaffold.

Conclusion: Titanium ceramic has great potential to be used as implant material future prosthesis as they are safe and promotes osteointergration.

Keywords: titanium-ceramic, osteointergration, immunogenicity, wollastonite, hydroxyapatite

GROUP 5

Epidemiology and Factors Affecting Functional Outcome of Distal Radial Fracture in an Urban Tertiary Medical Centre in Malaysia

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Background and aims: Distal radial fracture is a commonly encountered fracture. This study aimed to study the epidemiology of distal radial fracture and factors affecting the patients' functional outcome 1 to 2 years after the injury.

Materials and methods: A retrospective cross-sectional study have been conducted. All patients presented to Emergency Department in 2018 with distal radial fracture, which fulfil inclusion criteria were included into the study. Epidemiological data and relevant medical history were obtained and tabulated. Malay version of Disability of the Arm, Shoulder and Hand (DASH) questionnaire was used to assess the functional outcome. Higher DASH score indicates worse functionality. Factors associated with functional scores outcome were tested statistically.

Results: Out of 168 patients' data retrieved, only 110 patients' data were completed and used for the data analysis. The mean DASH score was 13.71 ± 7.868 approximately one to two years post injury regardless of treatment method. Increasing age was associated with higher DASH score with $r=0.407$ ($p<0.001$). Several variables had significantly better functional outcome: male gender ($p=0.003$), Type A fracture configuration ($p=0.007$) and conservative treatment ($p<0.001$). With regard to fracture pattern, there was no significant difference between treatment modalities in Type A fracture ($p=0.094$), but Type B ($p=0.043$) and Type C ($p=0.007$) had better outcome without surgery. There was no significant difference between different ethnic groups, open or closed fracture and mechanism of injury.

Conclusion: Better functional outcome after sustaining distal radial fracture is associated with young age, male gender, type A fracture and treated conservatively. Interestingly, more complex fracture pattern has better functionality without surgery.

Keywords: radius fractures, emergency medicine, wrist, conservative treatment

GROUP 6

Knowledge of Chronic Kidney Disease and its Associated Factors among Public University Students

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Background and aims: Chronic kidney disease (CKD) is an important global health problem. Individuals with correct information and good knowledge about CKD are more likely to engage in health-promoting preventive behaviours. Understanding the factors associated with CKD knowledge will enable healthcare providers to plan specific health education programme. This study aimed to determine the level of CKD knowledge and its associated factors.

Materials and methods: A cross-sectional study was conducted among students of Universiti Kebangsaan Malaysia from July-August 2020. The students were invited to complete an online survey using Google Form sent to the students' emails. The online survey consists of questions to measure the sociodemographic, socioeconomic, university programme enrolled, clinical characteristics and knowledge on CKD.

Results: Of the 3074 students who filled up the online form, 67.4% of them had good CKD knowledge. Male students had low odds (AOR 0.79; 95% CI 0.66,0.95, p=0.013), while Chinese students had three times more odds (AOR 3.47; 95% CI 2.53,4.76, p<0.001) for good CKD knowledge. Students enrolled in the undergraduate programme and non-health related faculty/institute had low odds for good knowledge (AOR 0.73; 95% CI 0.61,0.86, p<0.001 and AOR 0.20, 95% CI 0.16,0.25, p<0.001, respectively). Meanwhile, students with high monthly household income (AOR 1.55; 95% CI 1.09, 2.21, p=0.016) and family history of chronic illness (AOR 1.23; 95%CI 1.03, 1.47, p=0.026) had higher odds for good CKD knowledge.

Conclusion: The level of good CKD knowledge is high. This chronic disease could be prevented further by improving the knowledge especially among the male, students enrolled in the undergraduate programme and non-health related faculty/

institute. Future health education programme should be designed focusing on this group of students.

GROUP 8

Prevalence of Intestinal Parasites in Zoo Animals and Knowledge, Attitude and Practice about Parasitic Infection among Zoo Workers at Zoo Negara, Malaysia

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Background and aim: Intestinal parasitic infections are known to infect animal and human. In zoological garden, the risk posed by multi-host parasites to humans and wildlife increases. Thus, the chance of 'spill-over' zoonotic infections become the utmost concern. This study aimed to determine the prevalence of intestinal parasites among zoo animals and to gauge the level of knowledge, attitude and practice (KAP) regarding intestinal parasitic infection among zoo workers in Kuala Lumpur.

Materials and methods: A cross-sectional study was conducted at Zoo Negara, Malaysia in February 2020. A total of 66 faecal samples from 46 animal species were examined in triplicate using direct smear, trichrome staining and Harada-Mori techniques. Microscope with image analyser was used to detect the presence of parasites. KAP data were collected from 39 workers using a structured questionnaire and analysed using descriptive statistics.

Results: 74.2% (95% confidence interval: 61.9 – 84.2) of faecal samples were positive for at least one intestinal parasite. Among the three animal groups, reptiles (90%) had the highest rate of infection compared to mammals (86.1%) and birds (45%). The most common helminth and protozoa detected were hookworm (33.3%) and Entamoeba complex (28.8%). Majority of KAP questionnaires respondents were 21 years old, males, Malaysian, received at least secondary education and worked as non-animal handlers. 35%, 40% and 25% of the respondents had good, medium and poor knowledge respectively regarding various aspects of parasitic infections. 66% of respondents have good attitude and 60% of respondents adopted good prevention practices towards intestinal parasitic infection.

Conclusion: This study highlights intestinal parasitic infections in test subjects are still a serious public health problem while favourable KAP observed among zoo workers. Future molecular studies on the species of these parasites are needed to determine their zoonotic abilities. It is recommended applying the One Health approach to tackle on future improvement of those issues.

Keywords: parasitic zoonoses, epidemiology, KAP

GROUP 9

The Association between Arterial Stiffness and Muscle Indices among Healthy Subjects: An Evidence-Based Review

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Background and aims: Low muscle mass were associated with increased risk of cardiovascular disease (CVD). This may be mediated by increased in arterial stiffness (AS). A systematic review was conducted to determine the association between AS and muscle indices.

Materials and methods: Pubmed, Scopus and World of Science databases were used in search for the literatures. These keywords were used: "arterial stiffness" OR "vascular stiffness" OR "aortic stiffness" OR "pulse wave velocity" OR "carotid femoral pulse wave velocity" OR "pulse wave analysis" AND "muscle" OR "skeletal" AND "flexibility" OR "range of motion" OR "articular" OR "arthrometry" OR "strength" OR "hand strength" OR "pinch strength" OR "mass" OR "lean" OR "body composition". The following criteria were used: (1) only full-length original articles published in English language, (2) articles that reported the association between AS measured as carotid-femoral pulse wave velocity (cfPWV) or brachial-ankle PWV (baPWV) and muscle mass, muscle strength and muscle flexibility, and (3) study involving human subjects.

Results: The search identified 1381 articles published between 1959 and 2020. Only eighteen articles fulfilled the criteria. Five out of nine articles found that there were significant association between handgrip strength and PWV ($p<0.05$). Six papers found that PWV was associated with muscle mass (Pearson r ranged from -0.23 to -0.469) and three out of four papers found that PWV was significantly correlated with sit-and-reach test (Pearson r range from -0.28 to -0.500).

Conclusion: There were significant inverse association between muscle indices and AS. AS may be the mechanism that link poor muscle indices and future CVD.

Keywords: arterial stiffness, muscle strength, muscle mass, muscle flexibility, pulse wave velocity

GROUP 11

Prevalence and Risk Factors for ST-Elevation Myocardial Infarction among Young Patients Presenting to Universiti Kebangsaan Malaysia Medical Centre

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Background and aims: ST elevation myocardial infarction (STEMI) is the leading cause of mortality and morbidity in Malaysia with increasing number of young patients less than 45 years of age inflicted by the condition. This study attempted to investigate the prevalence and risk factors of young STEMI (YS).

Materials and methods: A retrospective cross-sectional study of STEMI patients who presented to the Emergency Department Universiti Kebangsaan Malaysia Medical Centre (UKMMC) from January to December 2018. We evaluated the demographic, clinical features at presentation and risk factors characteristics according to the age group of ≤45 years old (YS) and >45 years old (non-YS) based on the ED STEMI registry and institutional online medical records. Data were analysed and values were presented as mean ±SD or median, and differences analysed with Student's T-test, Pearson Chi-Square, Fisher's exact test and Mann-Whitney U test.

Results: A total of 153 patients predominantly male 87.6% (n=134) and Malay 47.7% (n=73) with mean age of 56.8±11.8 were included in the final analysis. 17.6% (n=27) were less than 45 years old (YS) with mean age of 38.5 years old. Cigarette smoking was the predominant risk factor among the YS, 70.4% (n= 19) (p=0.006) while hypertension was predominantly higher in the non-YS group, 50% (n=63) (p=0.019). Other risk factors, demographic profiles and clinical variables showed no significant difference (p=0.199-0.749).

Conclusion: The prevalence of young STEMI in UKMMC was higher than in the previous reports with smoking being the most significant risk factor.

Keywords: young, STEMI, risk factors, smoking

GROUP 12

The Cleavage Stage Versus Blastocyst Stage "Embryo Transfer" (In Vitro Fertilization): Does It Matter?

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Background and aims: In In-vitro fertilisation, most of the centres transfer cleavage stage (CS) (day 2-3) as standard practice till recently. The trend had changed to blastocyst stage (BS) (day 5-6) to mimic the similar natural cycle embryos moving into uterus anticipating for a better result. Therefore, we aimed to compare the reproductive outcome among women with blastocyst-stage embryo transfer as opposed to cleavage stage.

Materials and methods: Retrospective cohort study was done in Advanced Reproductive Centre (ARC) HCTM UKM for six months (February-September 2020) involving 773 women who underwent in-vitro fertilization (IVF) cycle from January 2015 to December 2019. Both BS (n=413) and CS (n=360) women were reviewed, and their reproductive outcomes were compared.

Results: The mean age was 35.22 (+/-2.4) with male factor as highest subfertility cause. Majorities of these women were nulliparous. There was insignificant difference between CS and BS transfer in overall reproductive outcomes; clinical pregnancy (10.2% vs 10.9%), live birth rate (23.9% vs 29.4%), miscarriage rate (21.5% vs 19.6%) and ectopic pregnancy rate (3.1% and 2.5%) (p>0.05). However, women with both male and female factors associated with higher pregnancy rates in BS (p=0.001) whereas women with main anovulation and unexplained showed a higher pregnancy rate in CS (p=0.003, p=0.017). Furthermore, higher clinical pregnancy rates involve women less than 34 years old in CS (p=0.021). Otherwise, the incidence of ectopic pregnancy was significantly higher in women more than 35 years old in BS (p=0.033)

Conclusion: Although overall findings were still inconclusive, we recommend stages of embryo transfer to be tailored accordingly to women subfertility profile. In women with anovulation and unexplained causes, cleavage stage is recommended

as it has shown a better outcome. Otherwise, blastocyst stages should be offered to couple with both subfertility factors.

GROUP 15

Development of Peripheral Nerve Conduit using Decellularized and Genipin Crosslinked Human Umbilical Cord Artery

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Background and aims: Peripheral nerve injury is defined by damaged nerve tissue resulting in dysfunctional of the nerve, commonly caused by motor vehicle accidents. Peripheral nerve conduit is one of the alternative treatments for critical nerve gap injury. There is various tissue engineering research done to develop new peripheral nerve conduit. Our study aims to develop a peripheral nerve conduit by using decellularized and genipin crosslinked human umbilical cord artery.

Materials and methods: Human umbilical cord arteries (HUCA) were divided into native (nHUCA), decellularized (dHUCA) and genipin-crosslinked (clHUCA) groups. The dHUCA and clHUCA groups were decellularized. Next, clHUCA group was crosslinked with 0.1%, 0.4% and 0.7% (w/v) genipin. The HUCA was then studied for decellularization efficiency, immunohistochemistry (IHC), crosslinking index, biodegradation, ultrastructure analysis, swelling ratio, mechanical strength and flexibility. Meanwhile, mesenchymal stem cells isolated from Wharton's jelly were seeded onto HUCA for biocompatibility studies.

Results: Nuclei staining with DAPI showed all cellular components were removed from dHUCA compared to nHUCA, indicating successful decellularization. Crosslinking index for 0.4% and 0.7% clHUCA are 53.19% + 14.2 and 42.85% + 15.5 respectively. For nHUCA, dHUCA and 0.1%, 0.4%, 0.7% clHUCA, the conduits were still flexible up to 50o even after decellularization and crosslinking process. The swelling test showed only dHUCA increase in the length of about 0.5cm + 0.2 at week 2 while the nHUCA, 0.4% and 0.7% cHUCA remained the same length. Degradation test showed dHUCA started to degrade on day 1 compared to other groups that did not show any degradation even after 1 week. Biocompatibility, IHC,

ultrastructure analysis, mechanical strength testing is still ongoing.

Conclusions: The decellularization and genipin crosslinking of human umbilical cord artery were done successfully. The genipin concentration of 0.4% was sufficient to crosslink the conduit, which increased its degradation time.

Keywords: nerve injury, umbilical cord artery, nerve conduit, decellularization, genipin

GROUP 19

The Influences of A Newly Composed Customized Song Called 'Fit-CPR' on The Performance of High Quality Cardiopulmonary Resuscitation (CPR) among Undergraduate Non-Medical Students: A Randomized Controlled Study

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Background and aims: According to the guidelines by the American Heart Association (AHA), cardiopulmonary resuscitation (CPR) must be up to par by fulfilling the criteria of high quality CPR in order to benefit the patient. This study explores on the use of a newly customized 'Fit-CPR' song to aid the general public in performing high quality CPR.

Materials & methods: Fifty three participants consisting of non-medical undergraduates were randomly divided into 2 groups and assessed on CPR skills prior teaching them compression-only CPR. During teaching, participants in Group 1 were taught CPR by timing the compressions to the beat of the 'Fit-CPR' song consisting of 100 beats per minute while, participants in Group 2 were taught CPR similarly but without music. Both groups were then assessed via the methods they were taught using Little Anne QCPR manikin. Knowledge on CPR was assessed pre and post teaching via a questionnaire.

Results: There was a significant difference in the pre and post overall performance marks between the music assisted group (p=0.000; p<0.05) and non-music assisted group (p=0.000; p<0.05). The total marks of components associated with compression (p=0.008; p<0.05) was significantly different between both groups. There was also a significant association between compression rate and groups (p=0.000; p<0.05) where music assisted group has higher tendency to get adequate compression rate (96.3%) compare to non-music assisted group (53.8%). However, the depth of chest compression (p=1.000; p>0.05) and chest recoil (p=0.498;

p>0.05) shown no significant association with the groups.

Conclusion: Using Fit-CPR may indeed aid general public in performing CPR at the optimum rate, but more research is needed on methods to improve the depth as well as chest recoil.

Keywords: life support, rhythm, little Anne QCPR

GROUP 27

Knee Measurements among Children with Normal Alignment, Physiological and Pathological Bowing Aged 0-3 years old. A Systematic Review

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Background and aims: Differentiating physiological and pathological genu varus/ bowleg is challenging among children below age three. The knee deformity can be assessed by measuring intercondylar distance (ICD), clinical tibiofemoral angle (cTFA) and radiological TFA (rTFA). However, its value in differentiating children with normal alignment, physiological and pathological bowing is not well-defined. This systematic review aims to determine the knee measurement values among these three groups of children.

Materials and methods: Medline (1946-) and EMBase (1947-) were searched until 31st July 2020 using a search strategy. Studies with original data which reported knee measurements among children with normal alignment, physiological and pathological bowing between the age of 0-3 years were included.

Results: A total of 1897 studies were identified through the search strategy. After title and abstract screening, 21 studies were included. These studies involved 1335 patients with normal alignment, 286 patients with physiological bowing and 184 patients with pathological bowing. There were 6 studies which give data on ICD, 7 studies on cTFA and 8 studies on rTFA.

Conclusion: There is still a lack of data to provide clinically useful values which can differentiate physiological and pathological bowing among children below age three. Further studies are needed to aid clinicians in managing children with genu varus in this age group.

Keywords: genu varum, genu varus, bow leg, knee, paediatrics

GROUP 28

Predictors for Causes of Hospitalisation among Systemic Lupus Erythematosus Patients and their Outcomes: A 10-Year Retrospective Study

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Background and aims: Systemic lupus erythematosus (SLE) is a chronic autoimmune disease and has the potential for severe consequences in several organ systems that require hospitalisation. The study aimed to describe the characteristics of admissions and the predictors for causes of hospitalisation and the discharge outcomes.

Materials and methods: This was a 10-year retrospective study involving SLE patients followed up under UKMMC rheumatology and nephrology clinics that admitted to UKMMC wards for various reasons. Data were collected from each clinic database and the discharge summary was obtained from the CHETS system.

Results: A total of 614 SLE patients were identified. A total of 468 (76.2%) of them had been admitted at least once at UKMMC. From the 468 patients, 384 (82.1%) patients were included in the study with 1588 hospitalisation recorded. Infection had the highest number of admissions (N=327, 20.6%) followed by active/flare of disease (N=260, 16.4%). Patients with concurrent infection and flare of SLE and thromboembolism had the longest median length of stay of eight days with IQR 7.5 and IQR 8.5 respectively. There were 10 deaths (2.6% of admissions). Use of an immunosuppressed drug prior to admission was a significant positive predictor for the death outcome (OR=5.02) but not a predictor for infection-related hospitalization. Older age during admission was a protective factor for both the death outcome and for infection-related hospitalization with odds ratio of 0.952 and 0.986 respectively. Meanwhile, renal manifestation was a positive predictor for infection-related hospitalisation with OR 1.389.

Conclusion: Infection remains as the main cause of SLE admissions. Renal manifestation is the major predictor for infection-related hospitalisation. Use of

immunosuppressive medication is the strongest predictor for death. This study provides a better understanding of disease characteristics and outcomes of SLE admission which carries a substantial burden to the healthcare system.

Keywords: predictor, admission, risk factors

GROUP 30

Factors Affecting Quality of Life among Elderly during COVID-19 Pandemic Movement Control Order

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Background and aims: Movement Control Order (MCO) was implemented by Malaysian Government as a protective measure against the COVID-19 pandemic, affecting all populations especially the elderly as they are the highest risk group associated with mortality. This study evaluated the socio-demographic, socio-economic status, comorbidities, coping mechanism and health literacy needs on the quality of life (QOL) among the elderly during MCO.

Materials and methods: A cross-sectional study was conducted among 201 elders, who were randomly selected within family members of fourth-year medical students from Universiti Kebangsaan Malaysia and had voluntarily responded to a guided questionnaire. An online survey containing sets of questionnaires from Coping Mechanisms, Older People's Quality of Life (OPQOL) and Health Literacy Short-Form (HL-SF12) were distributed via WhatsApp Messenger.

Results: Out of 201 elderly respondents, 64.7% were aged 60-69 years and 35.3% aged 70 years and above. Majority of the respondents were women (55.7%) and 60.7% of the were married while 39.3% were single, divorced, or widowed. About 75.6% had a fixed source of income and only 12.9% did not receive a formal education. Approximately 47.3% had multiple comorbidities. Majority had a high quality of life score (mean=53.69, SD 6.29, median 52.00 IQR (50.0,59.00). Total score for health literacy (mean=32.08, SD 6.13, median 32.00 IQR (28.00,36.00) and total coping score (mean=48.110, SD 5.747, median 49.00 IQR (44.00,52.50) were high. Bivariate analysis of age, education level, coping mechanism, health literacy and general perceived QOL versus a total score of QOL were found significant with $p<0.05$. Assessment of multivariate linear regression noted significant for coping mechanism, health literacy and general perceived QOL, co-morbid disease status predicted OPQOL, $F_{(13,187)} = 27.389$ $P<.001$, $R2 =.632$).

Conclusion: Elderly with an absent co-morbid disease, higher coping and health literacy score have higher QOL. These predictors can be used for targeting elderly

who need help on sustaining and enhancing their QOL during the pandemic.

Keywords: elderly, quality of life, COVID-19, MCO, coping

GROUP 31

Retrospective Analysis of Acanthamoeba Keratitis (AK) Cases Referred to Faculty of Medicine, UKM from the Year 2004 to 2019

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Background and Aims: Acanthamoeba Keratitis (AK) is a severe and painful eye infection caused by Acanthamoeba spp., a free-living amoeba found in the environment. It is commonly associated with use of contact lenses however it is recognized nowadays as one of the causes of keratitis in non-contact lens wearers as well. In Malaysia, the infection is often misdiagnosed due to lack of information and limited research. This study was conducted to investigate the trend of Acanthamoeba Keratitis based on archived data from Faculty of Medicine, Universiti Kebangsaan Malaysia.

Materials and methods: A retrospective review of all suspected AK cases referred to the faculty between January 2004 to December 2019 was performed. Data collected included gender, age, race, history of contact lenses and eyes trauma, symptoms and length of presenting illness.

Results: A total of 373 specimens were submitted with 16.9% were positive for Acanthamoeba spp. and diagnosed as AK. Positivity rates were significantly higher (all $p<0.05$) among females, adults 21-40 years old and contact lenses wearers in AK than non-AK cases. Incidence of AK showed a significant fluctuation ($p=0.003$) with the highest recorded in 2013 (46.7%) and lowest in 2004 (6.3%). Redness, photophobia, discharge, blurry and watery eyes were significantly prolonged ($p<0.05$) in AK compared to non-AK cases. Multivariate regression analyses revealed that those in <20 age group (adjusted odd ratios [AOR] 4.05 [1.22 – 13.46], $p=0.023$) and contact lenses wearer (AOR 4.71 [2.02 – 11.01], $p<0.001$) were positively associated with a higher risk of AK infection.

Conclusion: This study highlights that AK is not uncommon in Malaysia and it occurred predominantly among adolescents and in contact lens wearers. Associated

symptoms were also significantly prolonged in AK and this may be useful for the diagnosis and management of AK cases.

Keywords: Acanthamoeba keratitis, Malaysia, retrospective, contact lens

GROUP 32

Parenting Style and its Association with Mental Health Problems among Children and Adolescents Attending Child and Adolescent Psychiatry Clinic in UKMMC

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Background and aims: Styles of parenting have a significant impact on children's mental health. This study aimed to assess the association between parenting style and the mental health problems among children and adolescents.

Materials and methods: This was a cross-sectional study involving 234 randomly selected parents whose children attended the Child and Adolescents Psychiatry Clinic, UKMMC. Sociodemographic profiles, parenting styles, and mental health problems among children and adolescents were assessed using a sociodemographic questionnaire, Alabama Parenting Questionnaire (APQ), and Strength and Difficulty Questionnaire (SDQ), respectively. Questionnaires were completed by parents through a google platform.

Results: The most common parenting style is positive parenting style (62%). Poor monitoring was significantly associated with older parents (r=0.204, p=0.002) while lower income was associated with poor monitoring (M=17.36, SD=6.71 p<0.05) and corporal punishment (M=7.17, SD=2.25, P=0.034) Inconsistent discipline was significantly correlated with emotional problem (r= 0.24, p< 0.05), conduct problem (r=0.17, p<0.05) and hyperactivity (r=0.15, p<0.05) while corporal punishment showed significant positive correlation with conduct problem (r=0.31, p<0.05) and poor monitoring was found to be positively correlated with conduct problem (r=0.21, p<0.05) and peer problem (r=0.16, p<0.05).

Conclusion: Negative parenting styles were significantly associated with mental health problems among children and adolescents. Hence, parents' training is crucial to ensure that parents are equipped with proper parenting styles to nurture their children's mental wellbeing.

Keywords: parenting style, mental health, children, adolescents

GROUP 35

The Dailycalm App: Its Usability and Feasibility in Reducing Stress among Adolescents

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Background and aims: Stress is common among adolescents that impairs their well-being. Various interventions have been developed to reduce stress. Thus, this study aimed to determine the usability and feasibility of a newly developed interactive mobile app, DailyCalm in reducing stress among secondary school students.

Materials and methods: This interventional study involved students from a secondary school in Jitra, Kedah who were recruited via convenience sampling using social media. Access code were provided to download the DailyCalm apps that contained videos teaching on breathing and relaxation techniques. Students were encouraged to use the apps thrice a week. Data collection was done using online form. The students' socio-demographic profile and stress level using Perceived Stress Scale were obtained at baseline. Students' stress level was reassessed and their perception on the usability and feasibility of the apps were obtained four weeks later.

Results: A total of 80 students participated in this study. The age range was 13 to 17 years old with majority were females (76.3%), Malays (95.0%), from middle to high income families (71.3%) and having educated parents (mother: 66.3%; father: 56.3% had tertiary education). The mean (SD) score for usability and feasibility of the apps were 39.91 (6.12) and 41.74 (6.99) respectively [score range: 11-55; midpoint: 33]. There was a non-significant reduction in PSS score after 4 weeks of use (mean (SD) scores: pre-intervention 18.10 (5.15) and post-intervention 17.44 (5.06); p-value: 0.19).

Conclusion: The DailyCalm app was highly viewed as usable and feasible by the adolescents. However, further studies are needed to determine its actual effectiveness and perhaps through a randomised control trial over a longer period of use.

Keywords: stress, adolescent, mobile applications, usability, feasibility study

Reducing The Need of Neutralisation Test by Establishing a Cut-Off Value of Hepatitis B Surface Antigen

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Background and aims: HBsAg is the first serologic marker in acute hepatitis B infection and persistence of HBsAg more than 6 months differentiated acute and chronic infection. The HBsAg screening test employs a method called electrochemiluminescence (ECLIA) and reactive results require a confirmatory test. In UKMMC, every reactive sample requires a second sample and Neutralisation Test (NT) is done as a confirmation test on both samples. This will increase the cost and turn-around-time of the test. Thus, we perform a cross sectional study with aim to determine the cut-off of HBsAg in which confirmatory testing can be excluded.

Materials & methods: Specimens for HBsAg collected from June 2016 to June 2020 were included. HBsAg tests were performed with Roche COBAS e601 analyzer using the Elecsys HBsAg II reagents. Samples with a cut-off index (COI)≥1.0 were interpreted as reactive and confirmed to be positive by NT, were identified. Patients with positive HBsAg and had had HBV DNA PCR performed were further analysed statistically to determine the cut-off.

Results: A total of 25483 samples were tested for HBsAg, and 1328 were reactive and tested positive with NT. Among the positive samples, 444 specimens with COI≥1.0 and HBV DNA PCR test done were identified and analysed. HBV DNA was detected in 381 specimens and not detected in 63. Median of HBsAg COI for the samples was 4038. A receiver operating characteristic (ROC) curve generated the most suitable cut-off at COI of 2583.50 with specificity of 60% and sensitivity of 60%.

Conclusion: Neutralisation test can be omitted for HBsAg samples with COI of

>2600. Application of this finding into current local laboratory algorithms will save the cost and provide faster results. Further studies with larger samples and including low positive COI is warranted to get more accurate cut-off.

Keywords: neutralisation test, HBsAg, cut-off, confirmatory

GROUP 10

Awareness of Hearing Impairment in Relation to Usage of Personal Listening Device (PLD) among Preclinical Medical Students in Universiti Kebangsaan Malaysia

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Background and aims: Concern has grown among society regarding hearing loss from the overuse of personal listening device (PLD). The main objective was to determine the level of awareness of hearing impairment related to the use of PLD among preclinical medical students in Universiti Kebangsaan Malaysia (UKM).

Materials and methods: In this cross-sectional study, 307 questionnaires were distributed and 130 responses were collected using an online self-administered questionnaire. A total of 119 respondents were included in this study.

Results: The total number of respondents was 130 out of 307 students, a response rate of 42.35%. A total of 119 (73.9%) respondents were aware that listening to PLD at a loud listening level potentially causes hearing loss and 87.4% knew that noise-induced hearing loss can be prevented. A majority, 87% of the students used PLD more than two years and 55% of them listen to PLD on a daily basis. Approximately 37% of students used PLD continuously each time for one to two hours. They preferred increasing the volume when listening to favourite music (48%) and when there is background noise (76%). There was a minimal number of students (7 %) experiencing tinnitus, ear fullness or people mumbling after using PLD. The modes of PLD usage preferred by the subjects were during studying (58%) and recreational activities such as jogging (61%) and exercising (51%). Questions regarding the preferred audio volume in PLD users revealed that most of them (73.1%) chose medium loudness. There was no significant difference in preferred audio volume between female and male respondents (p=0.064; p>0.05).

Conclusion: Most students were aware that using high volume of PLD has an impact towards hearing impairment. We hope that this study will provide a

platform which may assist future studies to understand the awareness and pattern of PLD usage in this specific age group.

Keywords: personal listening device, hearing impairment, awareness

GROUP 13

The Effect of *Gynura procumbens* on the Biochemical and Histological Analysis of Liver and Kidney of Myocardial Infarction-Induced Rats

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Background and aims: Myocardial infarction (MI) is a global health disease that affects the heart, the primary organ of the circulatory system. Acute kidney injury and liver injury are complications of MI. Gynura procumbens (GP) is a natural product found abundantly in Southeast Asia. It is known for its cardioprotective and antioxidant properties. We aimed to study the effect of GP by assessing the biochemical markers and histological analysis of the kidney and liver of myocardial infarction-induced rats.

Materials and methods: Twenty-four adult male Sprague Dawley rats were randomly divided into equal numbers and placed in four groups namely, Control, MI (normal saline supplemented+isoprenaline), GP250+MI (GP250mg/kg+isoprenaline) and GP500+MI (GP500mg/kg+isoprenaline). MI was induced with subcutaneous isoprenaline injection on day 27 and day 28. Subsequently, the rats were then sacrificed, blood serums were sent for aminotransferase (AST), alanine transferase (ALT), alkaline phosphatase (ALP), urea and creatinine. The kidney and liver were harvested for hematoxylin and eosin (H&E) and Masson's Trichrome analysis.

Results: Isoprenaline significantly increased the level of serum AST and urea (p<0.05). However, GP supplementation did not show any significant changes in the blood parameters. In liver, isoprenaline caused pericentral and bridging fibrosis between central vein and portal triad and numerous leukocytes infiltration. Whereas in the kidney, isoprenaline caused an increase in bowman capsular space and loss marginal structure of proximal and distal tubules. With GP supplementation, Bowman's space maintained its normal size. The liver supplemented with GP showed reduction in fibrosis around the central vein.

Conclusion: In conclusion, isoprenaline induced changes in ultrastructure of the kidney and liver. It also altered biochemical parameters such as a raise in blood AST and urea. GP showed minimal alteration in the structure of the kidney and liver.

Keywords: isoprenaline, gynura procumbens, myocardial infarction

GROUP 14

Development of Risk Calculator For Pre-Eclampsia

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Background and aims: Hypertension in pregnancy is an important contributor to maternal and perinatal mortality and morbidity worldwide. The aim of the current study was to investigate the prevalence, clinical characteristics and pregnancy outcomes in hypertensive pregnant women and to produce risk calculator for developing pre-eclampsia.

Materials and methods: In this retrospective case-control study, 216 data were collected which consisted of 72 cases and 144 controls (case: control ratio of 1:2). Data was collected from delivery database and medical records and were analysed using multivariate logistic regression analysis in SPSS.

Results: Age above 33 (OR=2.08 ; CI 95% 1.038-4.167), mother's with body mass index indicating underweight and obese (OR=4.606 ; CI 95% 2.173-9.765), and family history of diabetes mellitus (OR=2.731 ; CI 95% 1.297-5.753), history of pre-eclampsia in previous pregnancy (OR=31.538 ; CI 95% 3.789-262.5), mother's with comorbidity of diabetes mellitus or chronic hypertension or both (OR=2.175; CI 95% 1.022-4.628) were found to be significant risk factors for developing pre-eclampsia. Risk calculator was developed, where 'p' is the probability for developing pre-eclampsia:
Log (p/1-p) = -3.101 + (4.606*body mass index indicating underweight and obese) + (31.538*History of pre-eclampsia in previous pregnancy) + (2.731*Family history of diabetes mellitus) + (2.175*Maternal comorbidity of diabetes mellitus or chronic hypertension or both)

Conclusion: The above-mentioned risk factors are used to develop a risk calculator that acts as a screening tool for pre-eclampsia at antenatal booking.

Keywords: pre-eclampsia; risk calculator; retrospective; case-control

GROUP 16

Incidence of Visual Acuity Impairment Related to Gadget Addiction among School-Age Children in Universiti Kebangsaan Malaysia Medical Centre

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Background and aims: In this era of globalization, gadgets have been a necessity to everyone regardless of their age. This study aimed to identify whether gadgets can affect children's visual acuity.

Materials and methods: The descriptive cross-sectional study design was used to conduct a study on 102 school-age children in Paediatric clinic, Universiti Kebangsaan Malaysia Medical Centre (UKMMC). Data was obtained using questionnaires consisting of demographic data, Smartphone Addiction Scale-Short Version (SAS-SV) and followed by visual acuity test using Snellen Chart.

Results: Most of the respondents used smartphone 85 (83.3%) compared to other devices. Results showed that 56 (54.9%) respondents had visual acuity impairment and 31 (30.4%) of respondents were addicted to gadgets. There was no significant difference between gadget addiction and sociodemographic status of school-aged children. There was also no significant relationship between visual acuity and gadget addiction (p=0.283).

Conclusion: Although gadget addiction has no profound effect on a child's visual acuity, parents should still bring their child for an eye check-up yearly due to harmful effects of blue light on the eye. In the future study, it is recommended to choose a larger sample size to get a more accurate data approximate to the children population in Malaysia.

Keywords: gadget, gadget addiction, visual acuity

GROUP 17

Prevalence of Late Corneal Complications after Vitrectomy among Adult Patients in Universiti Kebangsaan Malaysia Medical Centre

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Background and aims: Pars planar vitrectomy (PPV) is an important surgical procedure in Ophthalmology to treat retina and vitreous pathology. However, the cornea, an important window into the eye may be adversely affected by this procedure. This study primarily aimed to determine the prevalence of late corneal complications after PPV and its relationship with predisposing factors. Secondarily, visual acuity change after PPV was also investigated.

Materials and methods: This was a retrospective review of all patients undergoing pars planar vitrectomy from 2016 to 2019 by 2 surgeons with a minimum of 6 months follow up. Records were traced and reviewed for demographics, surgical history, presence of predisposing factors, late corneal complications and its onset. Data were analysed using Statistical Package for the Social Science (SPSS) Version 22.

Results: Of 267 pars planar vitrectomy listed, 218 eyes from 195 patients were traced, and 171 eyes met the inclusion criteria. Late corneal complications after vitrectomy developed in 17 out of 171 (9.9%) eyes. Of the 17 eyes, 6 eyes (35.3%) developed persistent corneal epithelial defect, 3 eyes (17.6%) developed recurrent corneal erosion, 3 eyes (17.6%) developed corneal oedema, 2 eyes (11.8%) developed corneal endothelial decompensation leading to corneal opacification and bullae and 1 (5.9%) eye developed infectious keratitis. The study showed visual acuity improved significantly after pars planar vitrectomy (p<0.001). Intraoperative corneal scraping (p=0.004) was the statistically significant predisposing factor for late corneal complications. However, diabetes mellitus (p=0.628), menopausal status (p=0.613), combined surgery (p=0.702), old age (p=0.732), size of gauge (p=0.603), tamponade agent (p=0.103) and prior ocular surgery (p=0.053) were not significantly associated with late corneal complications.

Conclusion: Persistent corneal epithelial defect is the most common late corneal complication encountered after pars planar vitrectomy. Late corneal complications are associated with intraoperative corneal scraping. Overall visual acuity improved after pars planar vitrectomy.

Keywords: vitrectomy, late corneal complications, prevalence, predisposing factors

GROUP 18

Application of the International Academy of Cytology Yokohama System for Reporting Breast Cytopathology: An 8-Year Retrospective Review

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Background and aims: The International Academy of Cytology (IAC) Yokohama System for Reporting Breast Fine Needle Aspiration Biopsy (FNAB) was established to standardise and refine the reporting of breast cytology. This study investigated the diagnostic performance of this reporting system in breast FNAB.

Materials and methods: This was a retrospective study using breast FNAB cytological smears from the year 2012 to 2019. All cases retrieved were re-stratified into revised cytological categories according to the IAC Yokohama Reporting System by two experienced cytopathologists. Kappa agreement, risk of malignancy and diagnostic value of FNAB breast cytology were determined by comparing the assigned cytological category with their corresponding histopathological diagnosis.

Results: A total of 1103 FNAB breast cytology were retrieved, out of which, 521 cases (47.2%) with corresponding histopathological diagnosis. The cases were recategorised as follows: insufficient 28.8%, benign 58.6%, atypical 2.3%, suspicious of malignancy 1.6%, malignant 8.7%. The risk of malignancy that was categorised as "insufficient" was 13.6%, "benign" 0.4%, "atypical" 0.3%, "suspicious of malignancy" 85.7%, and "malignant" 100.0%. Kappa agreement value between the IAC Yokohama cytological category and the subsequent histopathological diagnosis was 0.757 with receiver operating characteristic (ROC) curve value of 0.885. Considering in situ and malignant histopathological diagnosis as positive results, our data had shown a high specificity and sensitivity of 98.9% (CI: 93.8-100.0%) and 100.0% (CI: 98.7-100.0%) respectively. The positive predictive value was 100% while the negative predictive value was 99.4% (CI: 95.8-99.9%).

Conclusion: The newly proposed IAC Yokohama System has demonstrated a substantial agreement for reporting breast cytopathology proving its reliability in diagnosing breast malignancy.

Keywords: breast cytology, cyto-histologic correlation, cytology reporting system, diagnostic value, fine needle aspiration biopsy.

GROUP 20

The Effects of *Ficus deltoidea* Ethanolic Extract on Bone Metabolism in Postmenopausal Osteoporosis Rat Model: Bone Densitometry and Mechanical Strength Analyses

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Background and aims: Oestrogen deficiency in the post-menopausal period induces oxidative stress and causes an imbalance in bone turnover, with bone resorption exceeding formation. This results in osteoporosis, a condition characterized by low bone mineral density (BMD) and increased bone fragility that is susceptible to fractures. The leaves of *Ficus deltoidea* (FD) was reported to have high antioxidant activity which is beneficial in scavenging free radicals in conditions associated with oxidative stress. This study aims to evaluate the efficacy of FD in preventing bone loss in postmenopausal osteoporosis.

Materials and methods: Fourty female rats were divided into 5 groups; Baseline (BC), Sham (SO), ovariectomised (OVX), ovariectomised treated with estrogen (OVX+PRE) and ovariectomised treated with 800 mg/kg body weight of *Ficus deltoidea* leaves extract (OVX-FD800). Treatment was administered daily via oral gavage for a duration 8 weeks. At necropsy, lumbar vertebrae were removed and analysed for BMD as well as bone mineral content (BMC) using Dual Energy X-ray Absorptiometry (DEXA) scan. Evaluation of bone mechanical strength was also performed using a universal testing machine (Autograph AGS-X 500N).

Results: Densitometry analysis did not reveal any significant difference among all the groups. For mechanical testing, the rats receiving FD had higher values of stiffness and strain as well as elasticity.

Conclusion: Administration of F*icus deltoidea* to ovariectomized rats improved the biomechanical strength of the bone. The leaves extract from *Ficus deltoidea* has the potential to be developed as anti-osteoporotic agent for post-menopausal women.

Keywords: post-menopausal osteoporosis, *Ficus deltoidea*, bone metabolism, estrogen deficiency

GROUP 21

Mental Health Status and Psychological Impact of COVID-19 among UKM Medical Students

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Background and aims: COVID-19 outbreak causes multiple crises to society, mentally and psychologically. This study aimed to assess mental health status and to evaluate the psychological impact of UKM medical students during COVID-19 outbreak.

Materials and methods: A total of 329 medical students from Universiti Kebangsaan Malaysia Medical Centre participated in this cross-sectional study. They were given an online questionnaire through Google form and the link was shared through WhatsApp application. Questionnaire consist of demographic data, Depression, Anxiety and Stress Scale 21(DASS21) and Impact of Event Scale-Revised (IES-R). The association between demographic data and DASS21 and IES-R were studied using univariate, bivariate and multivariate analysis.

Results: The prevalence of depression, stress and anxiety among UKM Medical students were 25.4%, 22.5% and 29% respectively. Male students were significantly more depressed than female students (6.7% vs 1.7%, P=0.023). Crowded family was significantly associated with depression (p=0.04), anxiety (p=0.027) and stress (p=0.048) among these students. Among all the factors considered, current posting was associated with anxiety to the students and significantly affected their psychological status.

Conclusion: Crowded family during the outbreak was significantly associated with depression, anxiety and stress among UKM medical students. However, the incidence of depression, anxiety and stress among UKM medical students was low and minimally affected their psychological status during COVID-19 outbreak.

Keywords: COVID-19, mental health, psychological impact, pandemic, medical student

GROUP 22

Self-Efficacy in Breastfeeding among Mothers in Universiti Kebangsaan Malaysia Medical Centre (UKMMC)

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Background and aims: Exclusive breastfeeding for the first six months of an infant's life is recommended for optimal growth, development and health. Nevertheless, the practice rate in our community remains low. Breastfeeding self-efficacy (BSES) refers to the perceived ability of a mother to breastfeed her newborn. It is a modifiable factor that may affect breastfeeding initiation, duration and exclusivity. This study aimed to determine the association between BSES score and breastfeeding outcome at one month postpartum.

Materials and methods: A cross-sectional study was performed in the obstetrics wards, UKMMC between September to October 2020. All mothers who delivered live birth newborn(s) at gestation of 36 weeks or more were included. A self-administered questionnaire, the Breastfeeding Self-Efficacy Scale Short Form (BSES-SF), was given to the mothers prior to discharge. A score of ≥75% of the total score was considered as high score. They were contacted via telephone interview at one month postpartum to determine the breastfeeding outcome.

Results: Three hundred mothers participated. The majority (78.7%) were of Malay ethnicity. 35.7% were primiparous. The BSES-SF scores ranged between 28 to 70, with a mean score of 57 ± 9.56. 72% of mothers obtained scores ≥75% of the total score. BSES-SF scores were significantly lower among Chinese mothers compared to Malay ($p<0.05$) and Indian ($p=0.02$). The score was significantly lower among primiparous ($p=0.003$). Previous breastfeeding experience was associated with higher BSEF-SF scores ($p<0.05$). There was positive correlation between prior breastfeeding duration and BSES-SF scores ($r=0.403$, $p<0.05$). 190 (95.5%) of 199 mothers were still breastfeeding at 1 month postpartum. Of these, 93 (48.9%) were breastfeeding exclusively. Higher BSEF-SF score was associated with exclusive breastfeeding at one month post-partum ($p<0.05$).

Conclusion: Ethnicity, parity and previous breastfeeding experience influence self-efficacy in breastfeeding. A higher BSES-SF score is associated with exclusive

breastfeeding at one month postpartum.

GROUP 23

A Study on Usage and Satisfaction of Universiti Kebangsaan Malaysia Medical Centre Library Services among Medical Undergraduates

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Background and aims: Faculty of Medicine of Universiti Kebangsaan Malaysia Medical Centre (UKMMC) Library plays an important role in providing information resources to support the learning of undergraduate medical students. The study was conducted to identify the extent of its usage as a learning hub and to evaluate services satisfactory level.

Materials and methods: The study was conducted amongst UKM undergraduate medical students of the 2019/2020 session. A validated questionnaire-based online survey was used for data collection through simple random sampling. Students' sociodemographic, their extent of library usage and the level of satisfaction with library services were evaluated.

Results: A total of 372 participants responded in the study. 53.1% of the students visited the library only when necessary, mainly to read their notes, spending 1-2 hours during each visit. Out of the 10 services available in the library, students are genuinely satisfied with the reading materials, cleanliness, staff, and security provided at the library with the mean of 4.13, 4.36, 4.23, and 4.08 respectively. Another 3 services are at borderline satisfactory and the rest of the services are unsatisfactory.

Conclusion: Medical students utilized the library mainly for their study and are generally satisfied or borderline satisfied with the services provided by the library. It also highlighted the importance of our library as an education hub to the undergraduate medical students.

Keywords: medical students, user satisfaction, library services, library survey

GROUP 24

The Effect of Tocotrienol-Rich Fraction (TRF) in Mice Liver Protein Expression

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Background and aims: Tocotrienol-rich fraction, which is part of the vitamin E family is the most common preparation of tocotrienols that has superior antioxidant and biological effects against chronic diseases. This study aimed to determine the effect of tocotrienol-rich fraction on the differential protein expression in mice liver.

Materials and methods: To determine the effect of tocotrienol-rich fraction on liver protein expression, mice were divided into two groups [control (n=6) and 500 mg/kg tocotrienol-rich fraction-treated (n=6)]. After 14 days of treatment, the mice were sacrificed and their livers isolated. The livers were then homogenized, and the soluble cytosolic fractions were subjected to two-dimensional gel electrophoresis (2-DE). Coomassie blue-stained gels were scanned and the images generated were analysed with 2D gel image analysis software. Digitized 2-DE gel images of livers from the two groups were compared by the matching method.

Results: Altogether, 12 gels were analysed (6 for each group). Approximately 300 spots were recorded for each gel. Differentially expressed spots were visually analysed. In the preliminary analysis of the resulting 2-DE profiles, 12 protein spots were found to be differentially expressed in the livers of mice treated with tocotrienol-rich fraction. Further analysis of the gel spots by mass spectrometry is needed to identify the proteins involved.

Conclusion: By studying the effects of tocotrienol-rich fraction treatment on differential protein expression in the liver, the underlying mechanisms involved in the antioxidant and cytoprotective activity of tocotrienol-rich fraction may be further clarified.

Keywords: proteomics, two-dimensional gel electrophoresis (2-DE), tocotrienol-rich fraction (TRF), mice, liver

GROUP 25

The Association of Mobile Phone Usage on Loneliness among Geriatric Population in Malaysia

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Background and aims: Mobile phone has become an important tool for communication, maintaining social relationships and enhancing networking. On the other hand, loneliness is prevalent in geriatric population. Thus, this study aimed to identify the effects of mobile phone usage on loneliness among geriatric population in Malaysia.

Materials & methods: A cross-sectional study, 131 older people were recruited at the waiting area of the outpatient clinics in Universiti Kebangsaan Malaysia Medical Centre (UKMMC) using convenience sampling. An interview-assisted questionnaire on socio-demographic data, UCLA loneliness scale, questions on purpose and details of mobile phone usage were collected with informed consent. The data were analysed using SPSS version 20.

Results: Statistical analyses showed 49.61% of the respondents were lonely. Average hours spend per day for non-lonely group was 3.24 and for lonely group 3.35. It was found that 96.9% of them were independent of their basic functions. WhatsApp (76.3%), YouTube (65.6%) and camera (58.8%) were the most used applications. Among the applications used, camera usage 33.59% (p=0.040) was significantly associated with loneliness. When looking into different purposes of usage, to relieve boredom by calling people 19.85% (p=0.001) and to relax 12.98% (p=0.001) were significant factors associated with not lonely group. They both fell under social category. Among the sociodemographic data collected, living with spouse 37.40% (p=0.017) and older age (p=0.034) were significantly associated with not lonely geriatric populations.

Conclusion: Almost half of geriatric populations in the community are lonely. Mobile phones are potential factor to reduce loneliness in the geriatric populations

particularly when they are used for social purposes. It is also found that the older the persons are and those living with their spouses are associated with being not lonely. Larger studies on mobile phones and populations including those living in care homes are recommended.

Keywords: mobile phone, loneliness, geriatric, older person

GROUP 26

Incidence and Agreement between Clinical Endoscopic and Histological Features of Barrett Esophagus

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Background and aims: Barrett esophagus is an acquired pre-neoplastic condition characterized by a change in normal stratified squamous epithelium of the distal esophagus to metaplastic columnar epithelium. The prevalence of Barrett esophagus in Asian countries are on rise and it is highly associated with gastroesophageal reflux disease (GERD). The diagnosis of Barrett esophagus requires both endoscopic and histological confirmation. This study aimed to determine the agreement between clinical endoscopic features and histological findings in patients with Barrett esophagus in Universiti Kebangsaan Malaysia Medical Centre.

Materials and methods: A total of 131 cases of upper gastrointestinal endoscopic biopsies of gastroesophageal junction with suspicion of Barrett esophagus and histologically confirmed Barrett esophagus with or without positive findings on endoscopy from the year 2018 to June 2020 were included in this study. The retrospective data of the samples were reviewed from archived histological material and patient's medical records. All biopsies were ensured to have a maximum of 6 sections and suspicious cases subjected to Alcian Blue-Periodic Acid Schiff (ABPAS) stain to determine presence of goblet intestinal metaplasia.

Results: Chi square and t-test analysis showed significant relationship between Barrett esophagus with gender (p=0.039; p<0.05) and age (p=0.00; p<0.05). However, there is no significance with race (p=0.662; p>0.05) or risk factors such as gastroesophageal reflux disease (p=0.291; p>0.05), esophagitis (p=0.184; p>0.05) or presence of hiatal hernia (p=0.395; p>0.05).The statistical kappa correlation was 0.206 which shows a poor agreement between histological and endoscopic findings.

Conclusion: The diagnosis of Barrett esophagus should be based on the combination of careful endoscopic evaluation and histologic review of the biopsy material. Identification of risk factors may improve suspicion and diagnosis of Barrett esophagus.

Keywords: barrett esophagus, endoscopy, histology, gastroesophageal reflux disease, esophagitis

GROUP 29

Knowledge of Plastic Surgery among Medical Interns and Students: A Cross-sectional Study

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Background and aims: Understanding the perceptions of junior doctors and medical students regarding plastic surgery is crucial as healthcare professionals play an important role in making correct referrals and educating the public. The purpose of the study was to assess the level of knowledge of plastic surgery among medical interns and medical students of Universiti Kebangsaan Malaysia Medical Centre.

Materials and methods: Medical interns and students were selected using simple random sampling and a validated online questionnaire was distributed. The questionnaire was composed of three main parts: demographics, multiple-choice questions regarding plastic surgery and a list of extended matching questions regarding clinical conditions and respective specialty. A total of 244 participants participated in this study and the data was analysed using SPSS version 20. The score for level of knowledge was categorized into a) 0-17 as poor knowledge whereas b) 18-34 as good knowledge.

Results: Respondents had good knowledge on plastic surgery with a total mean score of 27.36 (SD3.55) whereby 28.60 (SD2.60) for medical interns and 27.21 (SD3.62) for students ($p=0.064$; $p>0.05$). The mean score was 25.99 (SD3.85) for third year students, 27.75 (SD3.06) for fourth year students and 29.39 (SD2.80) for fifth year students ($p<0.001$; $p<0.05$). However, there was no significant association with educational background ($p=0.817$; $p>0.05$), previous attachment to plastic surgery ($p=0.575$; $p>0.05$) among interns, gender ($p=0.843$; $p>0.05$), or ethnicity ($p=0.123$; $p>0.05$). The clinical condition most related to a plastic surgeon was electrical burns (89.3%), whereas the least related condition was fractures of hand (1.2%).

Conclusion: Knowledge of plastic surgery is well understood by medical interns and students in this study. Although third year medical students have the lowest understanding, it can be improved as they graduate.

Keywords: plastic surgery, knowledge, medical students, medical interns

GROUP 33

Factors Associated with Autism Spectrum Disorder in Universiti Kebangsaan Malaysia Medical Centre

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Background and aims: Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder characterized by impairments in social communication and behaviours. Aetiology is unknown, although various factors are implicated and pathophysiology likely occurs early in life. We compared children with ASD and typically developing (TD) children to determine if certain risk factors are associated with ASD, specifically maternal illnesses and use of medication during pregnancy.

Materials and methods: A case-control study was conducted at the Child Developmental Centre (CDC) and general paediatric clinic in UKMMC on children aged 18 months to 18 years. Questionnaires to screen for ASD and developmental concerns were administered in general paediatric clinic: M-CHAT (<3 years) and ESAT (3-18 years). In those who screened negative, the parents completed a questionnaire of factors associated with ASD. For children with ASD from CDC, medical files of those seen in clinic during 1st January to 31st December 2018 were reviewed and baseline data and questionnaire of factors completed. Baseline data and statistical analysis to assess ASD risk for maternal illness, maternal medications, birth order and family history was performed.

Results: A total of 301 ASD and 68 TD children matched for age were recruited (n=369). Our results showed that ASD is associated with maternal illness (29.6% vs. 16.2%, p=0.025) and maternal medications during pregnancy (13.3% vs. 4.4%, p=0.039). We also found that compared to TD children, ASD children were more likely to be first-borns (p=0.001), and had neurodevelopmental problems in family members (p<0.001).

Conclusion: There is increased risk of ASD in the children of mothers who reported illness and took medication during pregnancy compared to mothers of TD children.

Keywords: autism, risk factors, maternal illness, maternal medications, first-born

GROUP 34

Primary Endovascular Treatment of Central Venous Stenosis

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Background and aims: Central venous stenosis is a common complication of central venous catheter placement and post arteriovenous fistula creation. In this study, we evaluated the mean time from arteriovenous fistula creation to the first central venoplasty, technical success rate of the procedure, and its 6- and 12-month primary patency rate.

Materials and methods: This retrospective study included all patients who underwent central venoplasty after creation of arteriovenous fistula under Interventional Radiology Unit of Department of Radiology Universiti Kebangsaan Malaysia Medical Centre between January 2019 until December 2019. The duration between AV fistula creation and first central venoplasty procedure were assessed. A technical success of central venoplasty was considered when there was no significant residual stenosis or no complications. The primary patency rate of the first central venoplasty was measured at 6- and 12-month duration. All data collected was analysed using Statistical Package for Social Science version 22.0.

Results: Overall 27 procedures involving 26 patients were performed. The mean time from arteriovenous fistula creation to first central venoplasty was 869 days. 25 out of 27 procedures (93%) achieved technical success from the first central venoplasty without complications. No life-threatening complications developed. Primary patency rate was 72% at 6 months, and 89% at 12 months' duration. 11% of procedures failed to achieve patency at 12 months and second central venoplasty was required. The mean duration between first and second central venoplasty was 130 days.

Conclusion: Endovascular treatment of central venous stenosis gave an overall good primary patency rate at 6- and 12-month duration, with good technical success and low complication rate.

Keywords: central venoplasty, haemodialysis, arteriovenous fistula, central venous stenosis

Seroprevalence of Transfusion-Transmitted Infections among Blood Donors: A Private Hospital Experience

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Background and aims: Blood transfusion is vital in healthcare, but unsafe transfusion practice puts millions of people at risk of transfusion-transmitted infections (TTI). Hepatitis B (HBV), hepatitis C (HCV) and human immunodeficiency virus (HIV) infections as well as syphilis are the prevalent TTI worldwide. Monitoring of TTI rates in blood donors and awareness of the changing trends are major safety initiatives, as the blood supply is associated with prevalence of TTI among blood donors. Thus, the objectives of this study are to determine the seroprevalence and the trends of TTI among blood donors.

Materials and methods: This 10-year retrospective study was conducted to determine the seroprevalence and trends of common TTI among blood donors in Normah Medical Specialist Centre (NMSC), Kuching.

Results: A total of 16,085 blood units were collected from 7329 blood donors from 2010 to 2019. There were 353 donors tested reactive for TTI, giving a seroprevalence of 4.81%. Majority of the reactive donors were male (87.3%), Malays (62.6%) and first time (73.9%) donors with blood group O (38.0%). HCV (2.69%) recorded the highest seroprevalence, followed by HBV (1.41%), HIV (0.42%) and syphilis (0.39%). Over 10-year period, HBV and HCV showed decreasing trends of seroprevalence, whereas prevalence of HIV and syphilis appeared to be constantly low. Only 4.0% of reactive donors responded to the notification of their TTI positivity, and seroconversion rate of repeat donors was 36.9%. First time and repeat donors showed no significant difference of seroprevalence and response rate.

Conclusion: Overall prevalence of TTI among blood donors in NMSC was relatively low. Thus, there is a need to increase public awareness regarding voluntary blood donation and its benefits. Use of highly sensitive techniques for TTI detection may help reduce the risk of TTI. Response rate of reactive donors towards notification was very poor. A more meticulous pre-donation counselling may improve the response rate.

MELAKA-MANIPAL MEDICAL COLLEGE (MMMC)

Self-Reported Compliance and Mental Health Concerns Towards COVID-19 Pandemic: Malaysian Undergraduate Student's Perspective

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Background and aims: Amidst the COVID-19 pandemic, the compliance towards the safety measures established are affected by the awareness of provisions, the penalty imposed for breaching MCO rules, the confidence towards government, the support by the government and the severity of influence on economic, and the psychological aspects due to isolation. The mental health of the public is also put under stress due to the numerous propaganda and myths widely spreading in the media. Our study aimed to assess the self-reported compliance and mental health concerns towards the COVID-19 pandemic and find its association with sociodemographic variables among the Malaysian undergraduate students.

Materials and methods: A cross sectional study was conducted from May to June 2020 in our college, MMMC, Malaysia. Data were collected using an online-administered questionnaire, designed in English which consists of close-ended and multiple-choice questions. The survey items were formulated based on a preprint in Italy with 5 parts, namely 1) demographic profile, 2) self-reported past behaviours, 3) beliefs, perceptions and emotions, 4) future behaviours, and 5) personality battery.

Results: Statistical tests (Unpaired t-test and ANOVA) were performed using Epi Info software. Most students are shown to have great compliance towards the safety measures established with a mean score of 87.8. However, there was no significant association between gender, ethnicity, family types, family income and the compliance of MMMC students towards the safety measures of COVID-19. There was a significant association between gender and the mental health concerns where the males had a mean score of 15.2 (SD=3.2), which is slightly lower than females who had a mean score of 16.9 (SD=3.3).

Conclusion: However, our study showed no significant association between ethnicity, family types, family incomes and mental health concerns among MMMC students towards COVID-19. These findings thus provide empirical support that the

students' gender plays a significant role in determining the mental health concerns

Keywords: compliance, mental health, students, COVID-19