

EPOSTER • DISCOVERY SCIENCE

[PPS 1]

INVESTIGATING THE EFFECT OF PERONEAL NERVE STIMULATION ON THE TRANSMISSION OF SENSORY AFFERENTS TO THE CONTRALATERAL LIMB

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Activation of sensory afferents in one leg has been known to elicit motor responses on the opposite side of the body. This is a type of reflex movement defined as crossed reflex, and it has been examined extensively using cat and human models. Interneurons known as commissural interneurons, whose axons cross the midline of the spinal cord to the contralateral side, also have been described using cat models. However, the role of these commissural pathways and the type of sensory signals they transmit during the crossed reflex remain obscure in mice. This research aimed to present a detailed analysis of the mechanisms underlying sensory signal transmission to the contralateral limb in mice using electrophysiological approach. This was done by using *in vivo* stimulations of the left peroneal nerve combined with simultaneous electromyogram recordings from multiple muscles of the right leg. We show that left peroneal nerve stimulation evoked motor responses in all recorded muscles of the right leg. These responses are mediated by a combination of proprioceptive and cutaneous sensory afferents. Furthermore, we also conducted bilateral stimulations of the left peroneal and right sural nerves to look for inhibitory crossed pathway, which was found previously using different nerves (Laflamme and Akay, 2018). We provide evidence for an inhibitory pathway in the crossed reflex controlling the activity of some, but not all recorded muscles. The cutaneous sensory afferents possibly mediate these inhibitory pathways. Overall, this research project provides a detailed analysis for excitatory, as well as inhibitory crossed reflex pathways transduced by sensory signals from peroneal nerve stimulations. The data presented contribute to the understanding of crossed reflexes in wild-type mice, and will pave the way for future studies to use transgenic mice in an effort to map out the spinal circuitries involved in such processes.

EPOSTER • DRUG DISCOVERY AND DEVELOPMENT

[PPD 1]

SMALL-MOLECULE PERK INHIBITORS AS A NOVEL TREATMENT STRATEGY AGAINST PRIMARY OPEN-ANGLE GLAUCOMA*Julia Barczuk, Wioletta Rozpedek-Kamińska, Grzegorz Galita, Natalia Siwecka, Ireneusz Majsterek**Department of Clinical Chemistry and Biochemistry, Medical University of Lodz, Narutowicza 60, Lodz, Poland 90-136*

Endoplasmic-Reticulum (ER) stress and protein-kinase RNA-like endoplasmic reticulum kinase (PERK)-mediated Unfolded Protein Response (UPR) signaling pathway play a crucial role in the primary open-angle glaucoma (POAG) pathogenesis and progression. Therefore, in this study we investigated the cytotoxicity and activity of a small-molecule PERK inhibitor, which could be used in POAG treatment.

PERK enzyme activity was evaluated, using Western Blot technique, by the level of phosphorylated form of eIF2 α -the main substrate of PERK. Primary human trabecular meshwork (HTM) cells were pretreated for 1 h with the investigated PERK inhibitor at a concentration range of 3–50 μ M, 0.1% DMSO, and subsequently treated for 2 h with the thapsigargin (Th) (500 μ M), as an ER stress inducer. Cells incubated for 2 h only with Th (500 nM) constituted a positive control, whereas cells cultured only in complete medium were the negative control. The investigated inhibitor's cytotoxicity was determined using the PierceTM LDH Cytotoxicity Assay Kit. HTM cells were treated with the investigated PERK inhibitory compound in a concentration range 0.75 μ M- 50 mM or 0.1% DMSO and were incubated for 16, 24 and 48 h. Obtained results demonstrated that tested PERK inhibitor significantly reduced ER stress-dependent phosphorylation of the eIF2 α with the highest activity at concentration of 25 μ M. No significant cytotoxicity was observed in HTM cells at any applied concentration of the PERK inhibitor or incubation time via the LDH assay.

According to the gathered data, the studied small-molecule PERK inhibitor did not show any significant cytotoxicity, while it efficiently down-regulated PERK. Therefore, this PERK inhibitor might provide an innovative treatment strategy against POAG.

EPOSTER • DRUG DISCOVERY AND DEVELOPMENT

[PPD 2]

COMBINED ATEZOLIZUMAB AND NAB-PACLITAXEL IN THE TREATMENT OF TRIPLE NEGATIVE BREAST CANCER: A META-ANALYSIS ON THEIR EFFICACY AND SAFETY*Sharmni Vishnu K¹, Thin Thin Wi², Saint Nway Aye², Arun Kumar²*¹*BMed Science, International Medical University, 126, Jalan Jalil Perkasa 19, Bukit Jalil, 57000 Kuala Lumpur, Malaysia*²*Department of Pathology, School of Medicine, International Medical University
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Triple-negative breast cancer (TNBC) is a clinically aggressive breast cancer with a poor prognosis. Approximately 20% of TNBC has been found to express programmed death ligand 1 (PD-L1), making it a potential therapeutic target. As PD-L1 inhibitor, atezolizumab, is a recently approved immunotherapeutic drug for TNBC, this meta-analysis (MA) was aimed to review the randomised controlled trial studies (RCTs) of combined atezolizumab and nab-paclitaxel in the treatment of TNBC and synthesise the evidence-based results on its effectiveness and safety.

We searched PubMed, Embase, EBSCOhost and ClinicalTrials.gov for the eligible RCTs which compared the efficacy and safety of atezolizumab and nab-paclitaxel combined with nab-paclitaxel alone. The outcomes analysed included overall survival (OS), progression-free survival (PFS), objective response rate (ORR) and treatment-related adverse effects (AEs).

A total of six RCTs were included in this MA. For efficacy, although OS was not significantly prolonged with combined atezolizumab and nab-paclitaxel (HR 0.90, 95% CI [0.79, 1.01], $p=0.08$), this combination therapy significantly improved PFS (HR 0.72, 95% CI [0.59, 0.87], $p=0.0006$) and ORR (RR 1.25, 95% CI [0.79, 1.01] $p<0.00001$). For safety, any AEs, haematological, gastrointestinal and liver AEs showed no statistically significant differences between the atezolizumab and nab-paclitaxel combination group and nab-paclitaxel alone group. However, serious AEs, high grade, dermatological, pulmonary, endocrine and neurological AEs were significantly lower with nab-paclitaxel alone compared to atezolizumab and nab-paclitaxel combined (p value range from <0.00001 to 0.02).

Atezolizumab combined with nab-paclitaxel was associated with improved outcomes in the treatment of TNBC; however, this combination resulted in more toxicity compared to nab-paclitaxel alone. While nab-paclitaxel alone produced chemotherapy related AEs, the combination of atezolizumab with nab-paclitaxel produced AEs, especially immune related AEs such as haematological, pulmonary, endocrine and neurological AEs.

EPOSTER • CLINICAL AND TRANSLATIONAL RESEARCH**[PPC1]****‘USER EXPERIENCE AND USABILITY’ IN COMPLETING A MOOC ON EMERGENCY MEDICINE CORE CONTENT COURSE (IEM/LECTURIO): A CASE STUDY**

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Massive open online courses (MOOC) is incorporated in hybrid learning in higher education. The aim of this study is to evaluate a MOOC in Emergency Medicine for clinical students using ‘user experience and usability’ heuristics for suitability of its application in the medical curriculum.

Six junior-clinical MBBS students (researchers) volunteered to complete a four-week course i.e., iEM Education Project and Lecturio in Emergency Medicine, available free to medical students online (<https://iem-course.org/courses/emergency-medicine-cc/>) which has eleven lessons covering 37 topics in Emergency Medicine (EM) to be completed in 4 weeks. After completion of the certified course, subjects evaluated cognitive, affective and functional components of usability of the course using a validated checklist independently. The results were then consolidated using the ‘shout-aloud’ method to assign pooled scores ranging from 1-5, five being the highest score to reflect on user experience and issues that would affect learners completing the course as self-directed learning online.

In cognitive connections, ‘interactivity, content and resources, media use and instructional assessment’ scored more than 4/5. However, for components like learner guidance and support, and instructional feedback, mean was < 3/5, as the course did not provide clear instructions on how learners can get support or feedback from professionals when encountering problems in the course. With regards to affective connection and functional connection, all components obtained a high overall mean score of 4/5.

This study reflects on how user experience and usability of MOOC would assist in improving the quality of MOOC in Emergency Medicine. The subjects feel that this course could be recommended for inclusion in the clinical rotation of EM in Semester 7 MBBS program, after improvements are made to ‘feedback and support’ components in the MOOC.

EPOSTER • CLINICAL AND TRANSLATIONAL RESEARCH

[PPC2]

**SALIVARY MICROBIOME PROFILE IN WATER PIPE USERS:
A CROSS-SECTIONAL STUDY*****Nikitha Lalindri Mareena Senaratne¹, Chong Chun Wie², Divya Gopinath³****¹School of Medicine, International Medical University, 57000 Kuala Lumpur, Malaysia**²School of Pharmacy, Monash University, 47500 Selangor, Malaysia**³Clinical Oral Health Sciences, International Medical University, 57000 Kuala Lumpur, Malaysia*

Smoking is a risk factor for oral disease and systemic health and a cause of oral dysbiosis. Whilst this has been evaluated for major forms of tobacco smoking such as cigarettes, there is limited data on the effect of water pipe smoking on the oral microbiome. This study aims to compare the salivary microbiome between water pipe smokers and non-smokers.

Unstimulated saliva samples were collected from 60 participants, with 30 smokers and 30 non-smokers in the areas of Kuala Lumpur and Klang Valley, Malaysia. DNA extraction was performed using the Qiagen DNA mini kit and the 16s rRNA bacterial gene was amplified using next generation sequencing Illumina Miseq platform. Sequencing reads were processed using DADA2 and phylogenetic placement method was used to perform taxonomical classification.

There was no difference in alpha diversity between water pipe smokers compared to non-smoking controls. However, a significant compositional change (beta diversity) between the two groups was detected ($P < 0.05$). It was observed that the levels of phyla *Firmicutes* and genus *Streptococcus* was relatively increased in smokers whereas genus *Haemophilus* and *Lautropia* was depleted in comparison to non-smokers. In addition, *Proteobacteria* was significantly abundant in non-smokers. At species level *Streptococcus oralis*, *Streptococcus salivarius* and *Streptococcus gingivalis* were enriched in smokers.

A taxonomic profile of the salivary microbiome in water pipe smokers compared to healthy controls exhibited a paradigm shift in microbial composition towards anaerobes thus implying an alteration in the homeostatic balance of the oral cavity.

EPOSTER • CLINICAL AND TRANSLATIONAL RESEARCH

[PPC3]

READINESS TOWARDS ARTIFICIAL INTELLIGENCE AMONG UNDERGRADUATE MEDICAL STUDENTS IN MALAYSIA

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Artificial Intelligence (AI) technology is growing at a fast pace and permeates many aspects of people's daily lives. Medical students' readiness towards AI in medical field increases the probability of successful AI adoption and its value in medical field. This study was conducted to evaluate the medical AI readiness among the undergraduate medical students. Undertaking this study among the undergraduate students would provide useful comprehension on student's readiness on AI and eventually smoothen the path of AI usage in Malaysia in future. A cross-sectional study was conducted from March 2022 till April 2022 in a private medical institution in Malaysia. A non-probability purposive sampling method was used to enrol students and questionnaire was distributed online via Google forms. Medical Artificial Intelligence Readiness for Medical Students (MAIRS-MS) questionnaire was used for the data collection. The analysis included frequency tables, percentages, standard deviation, unpaired t-test, and ANOVA test. Out of 105 participants, 67.62% scored 53-83 marks, followed by 24.76% scored 84-114 marks, and 7.62% scored 22-52 marks in the medical artificial intelligence readiness scale. The mean of the total score of medical AI readiness obtained was 75.04. Majority of the students reported a broad and deep AI topic interest and optimistic towards AI applications in medicine. There were significant associations between age and study year with the ability, vision, and ethics domains of the medical AI readiness. Significant association was observed between previous training with all four domains of the medical AI readiness. The policy makers and educational sector should set up more AI training centre to provide AI training courses to introduce and provide a basic course on AI. More AI courses should be provided to younger populations to engage into the AI digital information earlier, thus having more confidence interacting with AI technology in future.

[PPE1]

COMMUNITY PHARMACISTS AND COMPLEMENTARY MEDICINES: KNOWLEDGE, ATTITUDES, AND PRACTICES TOWARD PROVIDING COUNSELLING SERVICE ON VITAMINS AND DIETARY SUPPLEMENTS IN MALAYSIA

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There has been a surge in the consumption of vitamins and dietary supplements (DS) among consumers in Malaysia. Hence, community pharmacists play a vital role in providing counselling to ensure optimal health outcomes. However, the professional services and advice provided by community pharmacists are inadequate. Thus, the current study aimed to assess and evaluate the knowledge, attitudes, and practices of community pharmacists in providing counselling services on vitamins and DS in Malaysia.

A cross-sectional study was conducted among community pharmacists in Malaysia using a validated survey from February to April 2022. 260 participants were recruited online and SPSS was used for data analysis.

Most of the participants had average knowledge, positive attitude and practice towards providing counselling services on vitamins and DS to patients. Pharmacists reported that vitamin C was the best-selling supplement in their pharmacy (91.9%), while vitamin D was the least (28.8%). Majority of the pharmacists were well known of the effects of overdosing of dietary supplements. However, most of them were unaware that St John wort should be stopped at least two weeks before scheduled surgery to prevent risk of heart complications. Approximately 35% of the pharmacists expressed their belief that it is safer for patients to take vitamins and supplements to prevent and cure illness as compared to taking conventional medication and around 32% of them claimed that vitamins and supplements can replace certain medications such as cholesterol-lowering medications. There was a significant difference between demographic data and the mean score of knowledge and attitude.

The average knowledge score of pharmacists did not reach the patient's expectations. Therefore, it is necessary to improve the pharmacy course curriculum in all universities in Malaysia. Additional structured training about vitamins and DS should be implemented for optimal patient care in the community setting.

[PPE2]

PERCEPTION OF CHIROPRACTORS IN MALAYSIA IN THE MANAGEMENT OF PAIN AMONG PATIENTS WITH CANCER

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Cancer is the second leading cause of death and a major cause of burden to the patients and the country. The advancement in healthcare has led to a shift from pure cancer treatment to treatment that focuses on improving the quality of life of patients with cancer. Many studies have been investigating how allopathic medicine and other Traditional and Complementary Medicine can help patients with cancer, yet limited studies have been done on chiropractic care. Chiropractors being the neuromusculoskeletal (NMSK) experts, are well trained to manage pain in the NMSK system, and this suggests that chiropractors may play a role in managing pain among patients with cancer, hence indicating the need to conduct this study. The study aims to identify the concerns of chiropractors and their treatment approaches when managing pain among patients with cancer in Malaysia.

This is a qualitative study that involves a pre-assessment survey to recruit participants, and an interview to collect the data. The data collected are analysed using thematic analysis.

A total of seven themes are formulated, which include the thoughts of chiropractors on this topic, their concerns, their methods to overcome the concerns, their treatment approach, their thoughts on performing manual manipulation, their opinion on integrating chiropractic into multidisciplinary care, and their recommendations.

In conclusion, the results show that chiropractors do play a role in managing patients with cancer, however, some concerns have to be addressed, and some treatment methods have to be modified before chiropractors can manage patients with cancer safely.

[PPE3]

MATERNAL BEHAVIOURS AND CONSIDERATIONS OF BREASTFEEDING PRACTICES IN MALAYSIA DURING THE COVID-19 PANDEMIC

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Breast milk is an ideal food for infants to ensure their survival and immediate health. Since the COVID-19 outbreak in late 2019, a few studies regarding the impacts of lockdown during the COVID-19 pandemic on breastfeeding have been reported globally. However, none of this study has been done in Malaysia. Therefore, a cross-sectional study was performed in this study among Malaysian mothers with children aged less than two years old ($n=107$) during the COVID-19 pandemic. This was to explore the association of infant feeding practices and changes with the periods of delivery. Additionally, this study was aimed to investigate the association between changes in breastfeeding practices and three aspects which included maternal demographic characteristics, perceived effects of COVID-19 lockdown and perception towards possible reasons of changing breastfeeding practices.

In this study, the actual breastfeeding practices for the first six months of babies had moderately changed (17.8%) from the mothers' initial feeding intention before giving birth, in which the rate of exclusive breastfeeding was slightly decreased (4.6%) while the partial breastfeeding was moderately increased (12.1%) from the initial breastfeeding intention. The Fisher's exact test indicated a significant association between the feeding intention before delivery and periods of delivery ($p=0.002$). Besides, significant associations between changes of breastfeeding practices and four aspects such as maternal educational level ($p=0.007$), total number of children ($p=0.026$), perception of insufficient milk ($p=0.047$) and embarrassment ($p=0.047$) were observed based on Fisher's exact test. However, no association was found between any of the perceived effects of COVID-19 lockdown and changes of breastfeeding practices ($p>0.05$).

Therefore, in summary, future breastfeeding-promoting interventions in Malaysia should be focused more on the aspects that are significantly associated with the changes in breastfeeding practices as observed in this study.

EPOSTER • ENVIRONMENTAL, NUTRITION AND POPULATION HEALTH**[PPE4]****ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD) SYMPTOMS, ACADEMIC OUTCOMES AND MENTAL HEALTH OF MEDICAL STUDENTS**

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Students with attention deficit hyperactivity disorder (ADHD) experience poorer academic and psychosocial outcomes. We aimed to describe ADHD symptoms among medical students and explore its association with their academic performance and mental health.

An online survey was completed by 161 medical students (3rd to 5th year) from International Medical University. Information on student demographics, academic performance, ADHD symptoms, childhood ADHD symptoms and mental health status were collected. Students' ADHD symptoms were measured using Conners' Adult ADHD Rating scales (CAARS). T-score above 55 generated from the raw scores was considered significant for ADHD. We analysed correlations and effect size between ADHD and other independent variables using chi square and odds ratio. Poor academic performance was established based on a history of failing an assessment in medical school.

One fifth (n=33; 20.5%) of students experienced ADHD, with inattention (n=42; 26.1%) and self-concept (n=53; 32.9%) as the predominant symptoms. Medical students with ADHD were more likely to be female (OR 2.59; CI 95% 1.09-6.17), Malay race (OR 0.18; CI 95% 0.06-0.54), and with childhood ADHD symptoms (OR 47.63; CI 95% 5.78-393.43). Significant positive associations were found between ADHD and depression (OR 6.55; CI 95% 2.86-14.96), anxiety (OR 7.61; CI 95% 3.05-18.94) and stress (OR 6.59; CI 95% 2.79-15.58) but not academic performance.

Medical students presenting with mental health issues should be screened for ADHD symptoms, irrespective of their academic performance.

[PPE5]

AWARENESS, ATTITUDE & PRACTICE OF WEARING FACE MASKS DURING THE COVID-19 PANDEMIC AMONG UNDERGRADUATE STUDENTS

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This study assessed the awareness, attitude and practice of wearing face masks among undergraduate students in Manipal University College Malaysia (MUCM). As the COVID-19 pandemic has affected thousands of individuals across so many countries, several preventive measures have been adopted to improve the healthcare standards. These include avoiding close physical contact with those who are tested positive for COVID-19, regular hand washing, and wearing a face mask in public. A cross-sectional study was conducted from August to November of 2020 in MUCM. The study received a total of 151 participants. Data was collected through an online questionnaire answered in English. Unpaired T-test and ANOVA analysis were used as statistical tools. Using $P = <0.05$ as the level of significance, the mean score was calculated.

In terms of awareness, students had good awareness on proper use of face masks. This was seen in most of the students choosing the answer always or often for the awareness component of the questionnaire. There was no significant association seen in this section. As for the attitude component of wearing face masks, the majority of students were found to have a good attitude. There was no significance found too. Finally, with regards to the practice component of wearing face masks, following a series of questions, the results showed there was a good level of practice among undergraduates. There was a marginally significant association seen with gender (Male & Female) with practice. In this study, it was found that females have higher practice compared to males as the results showed that females tend to follow more steps in practice compared to males. Overall, the awareness, attitude and practice of wearing face masks among medical undergraduates was good and this is something that we expected during these extremely unprecedented times.

EPOSTER • ENVIRONMENTAL, NUTRITION AND POPULATION HEALTH**[PPE6]****MEETING THE HEALTHCARE NEEDS OF THE INDIGENOUS COMMUNITY BY OVERCOMING BARRIERS TO ACCESS HEALTHCARE: A QUALITATIVE STUDY EXPLORING HEALTHCARE PROFESSIONAL'S (HCP) PERSPECTIVES**

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Malaysia is a country with multiracial communities. The 'Orang Asli' (OA), who is one of the indigenous communities, have been identified as a minor, vulnerable social group characterised by various socio-cultural and psycho-social-cognitive differences. Despite numerous development programmes undertaken over the past decade, there are ongoing concerns about health equity for the OA. This has sometimes resulted in varying health outcomes and mortality rates for the OA people when compared with others. The aim of the study was to better understand some of the barriers to healthcare access experienced by the Indigenous community and help to identify innovative strategies to improve this.

A cross-sectional qualitative study was conducted to elicit the perspectives of Hospital Orang Asli Gombak (HOAG) healthcare professionals (HCPs) through semi-structured interviews. The recruitment process was through convenience and snowball sampling. Thematic saturation was reached after twenty interviews. Transcripts were made verbatim and translated into English. Data coding was done using NVivo v.12, and thematic analysis was carried out based on previous research models, namely Health Care Access Barriers (HCAB) and Healthcare Access Barriers for Vulnerable Population (HABVP).

The main perceived barriers were as follows: geographical & transportation, cognitive & attitudinal, communication, knowledge, and financial barriers. Transportation issues (75%), societal beliefs in traditional methods (55%) and language differences (50%) were the specific sub-themes highlighted by the HCPs as obstacles to accessing healthcare.

HCPs have proposed resolutions to the cited issues, including the need for external support to motivate and integrate OA communities. This could come in the form of financial, cultural and educational efforts done by multilateral cooperation. Individualised support care plans should also be tailored to meet each of the OA communities' needs.

EPOSTER • ENVIRONMENTAL, NUTRITION AND POPULATION HEALTH**[PPE9]****NUTRIENT ESTIMATION SKILLS OF UNDERGRADUATE NUTRITION AND DIETETICS STUDENTS IN MALAYSIAN UNIVERSITIES USING FOOD IMAGES WITH AND WITHOUT A FIDUCIAL MARKER (DESSERT SPOON)*****Wei Ni Tay¹, Yi Tan¹, Wai Yew Yang¹, Shu Hwa Ong²****¹Division of Nutrition and Dietetics, School of Health Sciences
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The use of image-based dietary assessment methods has increased rapidly; however, research on the nutrient estimation skills of nutrition and dietetics students is limited. Furthermore, the effect of fiducial marker on nutrient estimation skills remains unclear. This study aimed to determine the nutrient estimation skills using food images with and without fiducial marker (dessert spoon) among undergraduate nutrition and dietetics students in Malaysian universities.

In this cross-sectional study, food images were taken at 45° and 90° angles for each food (nasi lemak, banana leaf meal, char kuey tiao, fish and chips, two types of mixed rice, curry laksa noodles, chicken rice, thosai, kuih lapis, curry puff, brownie, guava, watermelon and papaya) and four set meals. Participants were asked to identify 15 foods and estimate the energy and macronutrients amount using food images without and with dessert spoon on two different days via online questionnaires. The accuracy of nutrient estimation with and without dessert spoon were expressed as median percentage (interquartile range), then compared using Wilcoxon Signed Rank Test.

Fifty-five undergraduate nutrition and dietetics students obtained high accuracy in food identification (86.7%±6.7%) but low accuracy in nutrient estimation (21.1%±7.9%). Nutrient estimation results without and with dessert spoon were not significantly different in all food items and set meals (Z-score=-1.289, p=0.197). However, scores were significantly reduced for carbohydrates (Z-score=-2.677, p=0.007), protein (Z-score=-2.299, p=0.022) and fat (Z-score=-4.439, p<0.001) when the dessert spoon was used. This may be due to participants' limited knowledge of distinguishing between tablespoon, dessert spoon and teaspoon.

Using food images, participants had good food identification skills but not for nutrient estimation skills. Moreover, nutrient estimation with dessert spoon did not improve the skill of nutrition and dietetics students. However, the results were inconclusive, therefore more studies should be conducted to validate the results.

[PPE10]

MENTAL HEALTH OF HOUSE OFFICERS DURING COVID-19 PANDEMIC IN MALAYSIA

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The Covid-19 pandemic most certainly impacted the mental health of healthcare professionals in Malaysia. The aim of our research is to assess the mental health of house officers in Malaysia during the COVID-19 pandemic and to compare this with the pre-pandemic times. 122 house officers from 28 hospitals in Malaysia were recruited into the study and completed an online questionnaire of their demographics, including the Depression, Anxiety and Stress Scale 21 items (DASS-21), Satisfaction with Life Scale and Brief Resilience Scale. Results showed that depression (36.1%), anxiety (33.7%) and stress (23.8%) were all prevalent among house officers with depression being the most prevalent among the three. Majority of the house officers were slightly satisfied with life (30.3%) and most of them had normal resilience (71.3%). We compared our study with 5 other studies from 2010 to 2017 and found similar prevalence in depression, anxiety and stress except for the study in 2017 which showed overall prevalence in depression, anxiety and stress. 8.2% of our subjects recorded extremely severe depression, which is almost twice as much as the two studies we have for comparison. Housemanship training in Malaysia is indeed a stressful period for junior doctors especially in times of the COVID-19 pandemic. More support systems should be made.

EPOSTER • ENVIRONMENTAL, NUTRITION AND POPULATION HEALTH**[PPE11]****ASSESSING EFFECTIVENESS OF A TEXT-BASED MENTAL HEALTH COACHING APPLICATION IN IMPROVING MENTAL WELL-BEING IN MALAYSIA**

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Studies have shown that the implementation of several movement control orders with the widespread outbreaks of the COVID-19 virus had a serious negative impact on mental health among the general population. A wide variety of digital mental health interventions have demonstrated efficacy in improving one's mental health status, and digital interventions that involve some forms of human involvement have been shown to be better than self-guided digital interventions. However, studies that demonstrate the efficacy of digital mental health interventions within an Asian context are scarce. The current study aimed to demonstrate the effectiveness of an asynchronous text-based digital mental health application, ThoughtFullChat, in reducing self-reported symptoms of depression, anxiety and stress.

A cross-sectional study was conducted among housemen, students, faculty members and corporate staff in International Medical University (IMU), Malaysia. Convenient sampling was used to recruit participants. Depression, anxiety and stress symptoms were measured using the DASS-21 scale. Measures of life satisfaction and resilience were also included. Randomised controlled trial method was used whilst preintervention and postintervention data (after 3 months of intervention) were collected, compared, and analysed.

Results showed significant reduction in the mean scores of depression, anxiety and stress following usage of the application. In our subpopulation analysis, IMU corporate staff showed significantly greater improvements in depression, anxiety and stress scores. The study also demonstrated that participants had greater improvements in depression, anxiety and stress scores among females as compared to males.

The study demonstrates the effectiveness of an asynchronous text-based mental health coaching application in improving symptoms of depression, anxiety and stress in pre-diagnosed individuals within an Asian context. It also demonstrates an overall positive user experience among participants, suggesting that such applications can be implemented as a new approach in tackling the increasing prevalence of mental health issues especially during this post-pandemic era.

[PPE12]

A SYSTEMATIC REVIEW AND META-ANALYSIS OF THE EFFECT OF ORALLY ADMINISTERED CHINESE HERBAL MEDICINE COMBINED WITH CONVENTIONAL DRUG TREATMENT ON CRP AND ESR IN RHEUMATOID ARTHRITIS

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The focus of this thesis is to compare and evaluate the effectiveness of orally administered Chinese herbal medicine in combination with conventional drug in the treatment of lowering C-reactive protein (CRP) and erythrocyte sedimentation rate (ESR) in rheumatoid arthritis.

The study is based on the PRISMA guidelines. Randomised controlled trials (RCTs) studies were collected through literature search on six English and Chinese databases since the establishment of these databases until 30th June 2021. Data screening and quality assessment were implemented independently by two researchers. Discrepancies were resolved through discussion with a co-researcher. All data were analysed utilising Review Manager 5.4.1.

207 RCTs which involved 18923 RA patients fulfilling the criteria were included in this systematic review and meta-analysis. Most of the studies yielded significant findings and with low risk of bias. According to the results, combination treatment of conventional drug and orally Chinese herbal medicine significantly improved the outcome measure including the serum levels of CRP and ESR of participants in the intervention group. Overall, intervention group had better treatment effect compared to control group.

Comparing with conventional drug treatment alone, combined conventional drug and orally Chinese herbal medicine appeared to be significantly more effective for RA treatment.

[PPE13]

IDENTIFYING THE CHINESE HERBAL MEDICINE USED IN TREATING DIABETIC NEPHROPATHY: A DATA MINING ANALYSIS

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This research is aiming to identify the common effective Chinese medicine (CM) herbs and pattern of herb combinations used in the CM formula to treat diabetic nephropathy (DN) for the past ten years.

Clinical randomised controlled trial studies published from 1st January 2012 to 31st December 2021 were retrieved from CNKI, PubMed, Springer Link and Science Direct databases. The articles were screened strictly according to the inclusion and exclusion criteria designed. By extracting data from the articles included, the common effective CM herbs with respective frequency and herb combinations or association rules were generated using Microsoft Excel and IBM SPSS Modeler respectively.

A total of 650 articles were found using the search strategy. After three consecutive screenings, 185 articles were left and included in the study. A total of 231 CM herbs were extracted and classified into 16 groups according to their medicinal efficacies in CM. The top 10 frequently used herbs are *HuangQi*, *DanShen*, *FuLing*, *ShanYao*, *ShanZhuYu*, *ShengDiHuang*, *DaHuang*, *BaiZhu*, *ZeXie* and *DangGui*. Among them, *HuangQi*, *ShanYao*, and *BaiZhu*, are classified under *Qi* tonic; *DanShen* is classified as blood activating herb; *FuLing* and *ZeXie* are classified as dampness-resolving herbs; *ShanZhuYu* is under Kidney tonic; *ShengDiHuang* is classified as heat-clearing medicine; *DaHuang* is a purgative; and *DangGui* is a blood and *Yin* tonic. Association rules analysis showed the highly associated herb combination used in treating DN as follows: *DanShen*→*HuangQi*, *FuLing*→*HuangQi* *ShanYao*→*FuLing* and *ShanYao*→*HuangQi*, etc.

The study revealed the functions of the frequently used herbs, including herbs that can activate blood, tonifying *Qi* and *Yin*, resolve dampness and so on. These showed a close relationship between the medicinal efficacies of herbs with the main pathogenesis of DN which are *Qi* and *Yin* deficiency, and blood stasis as shown in most of the DN patients.