UNIVERSITI KEBANGSAAN MALAYSIA
The National University of Malaysia

NARATIF BAHARU UKM
UNIVERSITI WATAN KITA

FACULTY OF MEDICINE
THE NATIONAL UNIVERSITY OF MALAYSIA

17TH
MUASRM
2025

17TH MUASRM

MEDICAL UNDERGRADUATES' ANNUAL SCIENTIFIC RESEARCH MEETING

The Dawn of New Discoveries

2025

16th October

AUDITORIUM, HCTM, UNIVERSITI KEBANGSAAN MALAYSIA

SSM 1
Oral Community

Prevalence of AI Chatbot Usage & Contributing Factors of AI Chatbot Dependency among UKM Medical Faculty Undergraduate Students

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Background and aims: Artificial intelligence (AI) chatbots have benefited students in many ways, but several issues have arisen with regard to ethical aspects and students' critical thinking skills. This study aims to provide insights into the prevalence and frequency of AI Chatbot usage among undergraduate students of the Faculty of Medicine, Universiti Kebangsaan Malaysia (FPER UKM), and to explore the factors contributing to AI Chatbot use and dependency.

Materials and methods: This study employed a cross-sectional design. An online survey involving A study involving 300 undergraduate students from FPER UKM, comprising students from medical, nursing, and emergency medicine courses, was conducted using questionnaires adapted and screened from the Bergen Facebook Addiction Scale (BFAS) and other relevant literature. Data analysis of the collected responses was then conducted using bivariable correlation and multivariable regression in SPSS version 29.

Results: Our study included 300 students from FPER UKM, primarily consisting of Malaysian students, with only 4 non-Malaysian students. The prevalence of AI chatbot usage among all undergraduate courses is 100%. The factors with the highest impact on the AI dependency score were weekly usage of more than four hours ($p < 0.001$, $\beta = 0.301$) and academic stress ($p = 0.001$, $\beta = 0.188$). The final multiple regression model significantly predicted dependency on AI chatbot ($p < 0.001$) with R^2 of 0.182. Most respondents used AI tools for one to three hours per week, primarily for studying or revision.

Conclusion: All undergraduate students have used an AI chatbot previously, with its main benefit being for studying and revision. The dependency on AI chatbots is significantly associated with the duration of AI chatbot usage and the level of academic stress. Further studies are warranted to classify dependency on AI chatbots and explore other predictive factors that can contribute to over-reliance on AI chatbots.

Keywords: Generative AI; over-reliance; problematic usage; predictors; undergraduate

SSM 2
Oral Systematic Review

Effect of Reversal Agents on Perioperative Neurocognitive Disorders Following General Anaesthesia in the Elderly Population: A Systematic Review and Meta-Analysis

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Background and aim: Perioperative neurocognitive disorders (PND), including postoperative delirium and cognitive dysfunction, represent significant complications in elderly surgical patients undergoing general anaesthesia. The choice of neuromuscular blockade reversal agent may influence PND risk through different mechanisms and side effects. This systematic review and meta-analysis evaluated the comparative effect of neostigmine versus sugammadex on PND incidence in elderly patients.

Materials and methods: A systematic search of PubMed, Web of Science, Scopus, and Google Scholar was conducted from database inception to September 2025, following PRISMA 2020 guidelines with PROSPERO registration (2025 CRD420251058187). Randomised controlled trials involving elderly patients (≥ 60 years) undergoing general anaesthesia with neuromuscular blockade were included, comparing neostigmine and sugammadex for reversal. Primary outcomes included PND incidence assessed using validated cognitive tools, including the Mini-Mental State Examination and Montreal Cognitive Assessment. Meta-analysis was performed using Review Manager 5.4.1, with results expressed as odds ratios (OR) and 95% confidence intervals (CI).

Results: Six randomised controlled trials involving 795 elderly patients published between 2017-2024 met the inclusion criteria. Studies encompassed non-cardiac surgery, robotic-assisted radical cystectomy, and pars plana vitrectomy. Pooled meta-analysis showed neostigmine was associated with a higher risk of PND than sugammadex (OR 1.74, 95% CI 1.00-3.02, p = 0.05), with low heterogeneity (I^2 = 39%). Secondary outcomes, including prevention of PND, management strategies, and related complications, were inconsistently reported and unavailable across all six RCTs. Subgroup analysis stratified by neostigmine dosage demonstrated that administration of a higher dose (≥ 0.04 mg/kg) was associated with reduced PND incidence compared to a lower dose (<0.04 mg/kg) (OR 0.31, 95% CI 0.15-0.63, p=0.001), with negligible heterogeneity (I^2 = 0%).

Conclusion: This meta-analysis suggests sugammadex may be associated with reduced early postoperative neurocognitive disorders compared to neostigmine in elderly patients, likely through rapid neuromuscular blockade reversal that minimises residual paralysis and respiratory complications.

Keywords: Elderly patients; neostigmine; neuromuscular blockade; postoperative cognitive dysfunction; sugammadex

SSM 3
Oral Laboratory

Effects of Trehalulose and Dehydrated *Heterotrigona itama* Honey on Adipogenic Differentiation of Human Adipose-Derived Stem Cells (Ft138, Passage 1)

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Background and aims: The prevalence of obesity in Malaysia has increased, causing health complications and economic burden. Stingless bee honey, particularly *Heterotrigona itama*, contains trehalulose, which is reported to have anti-obesity effects. However, its role in adipocyte differentiation remains unclear. This study evaluated the proliferative effects of commercial versus self-prepared media, and the inhibitory potential of trehalulose and dehydrated *H. itama* honey on adipocyte differentiation from human adipose-derived mesenchymal stem cells (hADMSCs).

Materials and methods: hADMSCs were expanded in Dulbecco's Modified Eagle's Medium supplemented with 10% fetal bovine serum and 1% penicillin. The cells were then induced to differentiate into adipocytes for 15 days using either a commercial (PromoCell) or a self-prepared differentiation medium. Lipid vacuole accumulation was assessed via Oil Red O staining. The medium that demonstrated greater vacuole formation was selected for subsequent cell viability analysis using the 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide (MTT) assay. To determine the optimal inhibitory concentrations, ten-fold serial dilutions of trehalulose (0 to 0.5 mg/mL) and *H. itama* honey (0 to 1 mg/mL) were added to the differentiation medium throughout the 15-day period.

Results: On day 15, adipocytes cultured in the self-prepared medium showed more lipid vacuoles compared to the commercial medium. Treatment with trehalulose and dehydrated *H. itama* showed no significant inhibition of adipogenesis. However, a decreasing trend was observed at concentrations of 0.05 and 0.5 mg/ml for trehalulose, and 0.1 and 1.0 mg/ml for *H. itama* honey.

Conclusion: The self-prepared medium showed increased lipid vacuole accumulation in differentiated adipocytes compared to the commercial medium. However, trehalulose and dehydrated *H. itama* honey required higher concentrations of serial dilution to exhibit potential inhibitory effects on adipocyte differentiation from hADMSCs. Therefore, further studies are necessary to validate the inhibitory properties of trehalulose and *H. itama* honey.

Keywords: Lipid accumulation; mesenchymal stem cells; stem cell differentiation; stingless bee honey

SSM 4
E-poster Community

Correlation between AI Usage and Academic Performance among Preclinical Year Medical Students at a Malaysian University

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Background/Aim: Artificial intelligence (AI) has the potential to enhance learning efficiency, but its impact on preclinical student performance remains uncertain. This study aimed to determine the correlation between AI usage and academic performance among preclinical medical students at Universiti Kebangsaan Malaysia (UKM).

Materials and methods: A study was conducted in 2025 involving 296 preclinical students at the Faculty of Medicine, UKM, based on recall of AI usage during their first year. The sample included 149 students from the 2023 cohort and 147 from the 2024 cohort, recruited through convenience sampling. Quantitative data were collected using a validated online questionnaire that underwent content validation and a pilot study. Data were analysed using SPSS with descriptive statistics and Spearman's rho correlation due to non-normal distribution.

Results: Daily AI use (hours per day) was negatively correlated with Cumulative Grade Point Average (CGPA) in the 2023 cohort ($r = -0.191$, $p = 0.020$) and combined sample ($r = -0.139$, $p = 0.017$). Higher daily usage also showed a negative correlation with Cellular Biomolecule module grades in the 2023 cohort ($r = -0.265$, $p = 0.001$) and combined sample ($r = -0.145$, $p = 0.013$), and with Membrane and Receptor (MNR) module grades in the 2024 cohort ($r = -0.164$, $p = 0.047$). Conversely, AI usage duration (years) was positively correlated with Metabolism module grades in the 2023 cohort ($r = 0.220$, $p = 0.007$) and MNR grades in the combined sample ($r = 0.129$, $p = 0.026$).

Conclusion: AI tools are widely adopted among preclinical medical students, with notable differences in usage patterns and mixed associations with academic performance. These findings highlight the influence of AI on study behaviours and underscore the importance of thoughtfully integrating AI literacy into medical education curricula.

Keywords: Academic performance; artificial intelligence; medical education; preclinical students

SSM 5
E-poster Clinical

Diagnosis of Extrapulmonary Head and Neck Tuberculosis: A Retrospective Cohort from a Malaysian Tertiary Hospital

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Background: Otorhinolaryngology head and neck tuberculosis (ORLHNTB) remains a diagnostic challenge due to varied presentations and limited local data. Conventional tuberculosis (TB) workups, such as sputum acid-fast bacilli (AFB), provide little diagnostic value in ORLHNTB. This study aimed to evaluate the clinical presentation and the diagnostic accuracy of TB investigations and associated comorbidities.

Materials and methods: A retrospective study was conducted on adult patients diagnosed with ORLHNTB at Hospital Canselor Tuanku Mukhriz between March 2020 and February 2025. Patients with histopathological confirmation and complete clinical records were included, while those with concomitant pulmonary tuberculosis were excluded.

Results: Fifty-three patients were included, predominantly female (66.0%), with a median age of 36 years (range, 28-59). The majority presented with a neck mass (86.8%), followed by weight loss (37.7%). Cervical lymphadenitis was the predominant diagnosis (81.1%), primarily involving level V nodes (54.5%). The erythrocyte sedimentation rate and Mantoux tests were positive in 89.5% and 60.6% of the patients, respectively. Abnormal chest radiographs were seen in 11.5% of cases. FNAC samples yielded positive results in 25.8% for AFB smear and 47.6% for culture. Sputum culture was positive in 4.0% of patients, whereas sputum AFB smears yielded no positive results. GeneXpert and histopathological examination detected TB in 100.0% of cases, while PCR showed a 66.7% positivity rate. Most patients (60.4%) had at least one comorbidity, with hypertension (20.8%) being the most common.

Conclusion: Routine TB workups, such as sputum-based AFB and culture, have a low diagnostic yield in ORLHNTB. Diagnosis relies primarily on tissue sampling and histopathological confirmation. Based on our study, we advocate for the implementation of targeted diagnostic approaches, prioritising histopathology and GeneXpert, with less emphasis on sputum-based investigations in ORLHNTB. However, further research in larger, multicentric cohorts is needed to enable broader application.

Keywords: Acid-fast bacilli smear; cervical lymphadenitis; FNAC; GeneXpert; sputum

SSM 6
E-poster Community

Investigating the Awareness of Pro-Inflammatory Foods and their Contribution to Dietary Inflammatory Index among the UKM Community

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Background and aims: There is a limited understanding of how well the Universiti Kebangsaan Malaysia (UKM) community recognises inflammatory foods. This study investigates the impact of individual characteristics on awareness of inflammatory foods and whether their dietary habits align, as measured by the Dietary Inflammatory Index (DII).

Materials and methods: One hundred participants from various faculties of UKM were recruited via voluntary response sampling. An online survey was adapted from the National Health Morbidity Survey 2014 and multiple research articles and validated by our supervisors. It was then piloted. The survey comprised 35 parameters, including awareness of pro- versus anti-inflammatory foods, assessed via a binary questionnaire, and a food frequency questionnaire (FFQ) that evaluated food intake over the past week. The parameters were grouped into categories, namely, basic demographics, economic status and educational background, occupational characteristics, physical activity, diet and nutrition, medical history and comorbidities, lifestyle and behaviour, and social media and internet use. Participants were then categorised based on awareness score: "lower than average" (< 25 marks), "average" (25 marks) and "higher than average" (> 25 marks). The association between parameters and their awareness category was analysed with Chi-square and Fisher's exact tests. The DII calculated from the FFQ was also correlated with their awareness.

Results: All parameters showed no significant association with awareness, except for age, with a p-value of 0.003. Participants in the 18-25 age group were more aware than those in older age groups, likely due to their status as university students. However, Spearman's test, analysing the correlation between DII and awareness scores, yielded no significant correlation with p = 0.956, thus indicating that their awareness of inflammatory foods did not translate into their dietary habits.

Conclusion: Given this, future public health initiatives should prioritise educating implementation of anti-inflammatory dietary practices, rather than solely increasing awareness.

Keywords: Academic community; dietary habits; inflammation; nutrition literacy

SSM 7
Oral Community

Health-related Quality of Life in Stroke Survivors at Hospital Canselor Tuanku Muhriz: A Cross-Sectional Study

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Background and aims: Stroke survivors often experience long-term physical, psychological and social challenges that significantly impact their health-related quality of life (HRQoL). This study aims to determine the HRQoL among stroke survivors at Hospital Canselor Tuanku Muhriz (HCTM) and the association between sociodemographic and clinical factors.

Materials and methods: A cross-sectional study was conducted at HCTM among stroke survivors diagnosed between 2015 and 2025 via convenience sampling. A total of 72 eligible participants aged ≥18 years with mild to moderate stroke who were functionally independent before stroke were recruited. Patients with transient ischaemic attack, significant cognitive or language disorders or inadequate records were excluded. Clinical and sociodemographic data were collected, and HRQoL was evaluated using the validated Stroke Impact Scale (SIS) 3.0, comprising 59 items across 8 domains. Data were analysed using Statistical Package for the Social Sciences (SPSS), with a significance level set at $p < 0.05$.

Results: Among 72 stroke survivors, the median age was 63.0 years (IQR = 16.5), with 56.9% male and 43.1% female. The median HRQoL score was 76.0 (IQR = 26.7) on SIS 3.0. Among sociodemographic factors, employment status and household income were significantly associated with HRQoL. Employed participants ($p = 0.001$) and those in the T20 group ($p = 0.049$) reported higher scores than unemployed, retired and lower-income groups. Stroke severity was the only clinical factor significantly correlated with HRQoL, with minor stroke patients reporting higher scores than those with moderate strokes ($p < 0.001$). No significant associations were observed for ethnicity, comorbidities or treatment.

Conclusion: The overall HRQoL among stroke survivors at HCTM was good. Factors associated with HRQoL included employment status, household income and stroke severity. Addressing these factors through targeted interventions should be prioritised to improve HRQoL among stroke survivors at HCTM.

Keywords: Functional outcome; haemorrhagic stroke; ischaemic stroke; post-stroke; quality of life

SSM 8
E-poster Laboratory

Identification of Liver Proteins in Mice Treated with Tocotrienol

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Background and aims: Tocotrienol–rich fraction derived from palm oil (TRF) is the most common preparation of tocotrienols with superior antioxidant and biological effects. However, the effect of TRF on global protein expression remains unstudied. This study examined liver membrane protein expression in mice treated with 500 mg/kg TRF using label-free quantitative proteomics.

Materials and methods: Twelve male ICR mice (10-12 weeks, 25–30 g) were assigned to a vehicle control group (corn oil, n = 6) or a TRF group (500 mg/kg TRF, n = 6). Treatments were given via oral gavage for 14 days. On day 15, mice were sacrificed and harvested for membrane protein extraction. Membrane fractions were analysed using label-free quantitative proteomics to identify differentially expressed proteins. Bioinformatics tools were utilised for the functional annotation of differentially expressed proteins, protein–protein interactions, and the identification of hub proteins.

Results: In total, eighty differentially expressed proteins were identified in the TRF group ($p < 0.05$), with 46 upregulated (fold-change > 1.50) and 34 downregulated (fold-change < 0.60). The three highest-ranked hub proteins identified were albumin (Alb), cytochrome P450 2C70 (Cyp2c70), and methionine adenosyltransferase 1A (Mat1a). Alb was downregulated (0.54-fold), suggesting a metabolic shift from protein synthesis toward stress adaptation, potentially linked to endoplasmic reticulum pathways. Cyp2c70 was downregulated (0.52-fold), which may limit bile acid turnover and xenobiotic metabolism, thereby lowering oxidative stress. Conversely, Mat1a was upregulated (2.08-fold), leading to increased production of S-adenosylmethionine (SAMe) and supporting antioxidant defence, methylation, and one-carbon metabolism. Collectively, TRF500 downregulated synthetic and bile acid pathways while reinforcing protective mechanisms, thereby highlighting hepatoprotective, antioxidant, anti-inflammatory, and antifibrotic effects of tocotrienols.

Conclusion: TRF at 500 mg/kg modulated key liver membrane proteins, suppressing Alb and Cyp2c70 while enhancing Mat1a. Findings suggest that hepatic metabolism is reprogrammed towards antioxidant and methylation processes, highlighting TRF's hepatoprotective potential. Further studies should define dose–response relationships and therapeutic applications.

Keywords: Liver; mice; proteomics; tocotrienol-rich fraction; vitamin E

SSM 9
E-poster Clinical

Machine Learning Model of Factors Associated with Systemic Lupus Erythematosus Relapse

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Background and aims: Systemic lupus erythematosus (SLE) follows a relapsing–remitting course, with flares contributing to organ damage. Its diverse clinical manifestations make early prediction of flares challenging. This study aimed to apply a machine learning model to identify factors associated with SLE relapse.

Materials and methods: This retrospective study analysed 120 medical records of SLE patients who attended the Rheumatology and Nephrology Clinic, Hospital Canselor Tuanku Muhriz. Convenience sampling was employed. Demographic and laboratory data were extracted either 12 months prior to relapse or at the last recorded clinic visit for patients without relapse. Statistical comparisons were conducted using Chi-squared tests for categorical variables and t-tests or Mann–Whitney U tests for continuous variables, with $p < 0.05$ considered statistically significant. CatBoost-based machine learning, logistic regression, and SHAP analyses were applied to identify predictors of relapse.

Results: Among the cohort, 41 patients (34.2%) experienced relapse. Relapse was significantly associated with anti-dsDNA positivity (61.5% vs. 38.5%, $p = 0.001$), lower haemoglobin (median 11.6 vs. 12.3 g/dL, $p = 0.002$), lower serum albumin (median 37 vs. 38 g/L, $p = 0.012$), shorter remission duration (median 12 vs. 48 months, $p < 0.001$), prednisolone dosage > 5 mg (57.1% vs. 29.7%, $p = 0.017$), and presence of infection (73.3% vs. 28.6%, $p = 0.001$). The optimised CatBoost model achieved 75% accuracy, with SHAP analysis identifying shorter remission duration, lower haemoglobin levels, immunosuppressant use, and longer disease duration as the strongest predictors of relapse. Logistic regression confirmed anti-dsDNA positivity (OR 3.30) and remission duration (OR 0.97) as independent predictors of relapse.

Conclusion: The CatBoost machine learning model demonstrated moderate accuracy, with anti-dsDNA, remission interval, haemoglobin, immunosuppressant use, and disease duration identified as key predictors of relapse. Larger studies are warranted to validate these findings.

Keywords: Artificial intelligence; autoimmune diseases; disease flares

SSM 10
Oral Community

Beyond Hunger: Exploring Food Addiction and Contributing Factors among Obese & Overweight Patients in a Tertiary Centre

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Background and aims: Obesity is a growing health problem in Malaysia, with food addiction (FA) increasingly recognised as a contributing factor. However, limited research has explored its prevalence and associations in the Malaysian context. This study aims to determine the prevalence of FA and its related sociodemographic, cultural, and clinical factors among overweight and obese individuals at Hospital Canselor Tuanku Muhriz (HCTM).

Materials and methods: A cross-sectional study was conducted among 185 overweight and obese patients [Body Mass Index (BMI) ≥ 25 kg/m²] recruited through convenience sampling. Participants completed a structured questionnaire comprising four sections: sociodemographic data, the validated Malay version of the Yale Food Addiction Scale (YFAS 2.0; ≥ 2 symptoms plus distress/impairment classified as FA), cultural values and eating behaviour, and clinical parameters (weight, height, BMI). Data analysis involved descriptive statistics, chi-square tests and independent t-tests to identify independent predictors of FA.

Results: The prevalence of FA was 10.3%, with most affected individuals classified as having severe FA (7.0%). FA was significantly associated with marital status, with widowed participants showing a markedly higher prevalence (50%) compared to single (10.8%) and married (7.9%) individuals (p = 0.004). No significant associations were observed with age, gender, ethnicity, education, occupation, income, or BMI. Cultural values such as family eating traditions, emotional eating, and peer influence were commonly endorsed but did not show a significant association with FA.

Conclusion: Prevalence of FA and its related sociodemographic, cultural, and clinical factors among overweight and obese individuals is low. FA affected approximately one in ten overweight and obese individuals at HCTM, with widowhood identified as a significant risk factor. These findings highlight the importance of considering psychosocial factors in screening and management strategies.

Keywords: Body mass index; cultural influences; eating behaviour; sociodemographic factors; Yale Food Addiction Scale

SSM 11
E-poster Clinical

Pregnancy-associated Breast Cancer: Comprehensive Analysis of Risk Factors and Prognosis

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Background and aims: Pregnancy-associated breast cancer (PABC) is characterised by distinct clinical, pathological, and molecular features that may complicate timely diagnosis and potentially influence survival. This study aimed to evaluate these factors in relation to overall and disease-free survival among patients affected by the condition.

Materials and methods: Twenty-one patients were identified through Casemix using relevant International Classification of Diseases codes. Casemix provided demographics, diagnosis dates, surgical procedures, treatment codes, and mortality outcomes. Additional information on adjuvant therapies and pathology reports was obtained from surgical and multidisciplinary team records. Overall and disease-free survival were calculated from the diagnosis to the last documented follow-up or event. Associations between categorical variables and molecular subtypes were assessed using Fisher's exact tests, while relationships between continuous variables and tumour stage were analysed using the Kruskal–Wallis test.

Results: Among 21 patients with PABC, invasive carcinoma of no special type (NST) was the predominant histopathological type (81%). The luminal subtype was the most common molecular subtype (55.0%). Advanced disease was common (T3: 38.1%, T4: 28.6%), with nodal involvement (85.7%) and distant metastases at diagnosis (19.0%). The overall survival rate was 85.7%, while the disease-free survival rate was 71.4%. No statistically significant associations between family history and molecular subtypes (luminal: p = 1.000; triple-negative: p = 1.000). Tumour stage was not significantly associated with molecular subtypes (triple-negative: p = 0.484; luminal: p = 0.783), age at diagnosis (p = 0.921), or parity (p = 0.567).

Conclusion: PABC in this cohort largely presented as invasive carcinoma NST at advanced stages, with the luminal subtype most frequent. Despite favourable survival outcomes, no significant clinicopathological or molecular predictors were identified, likely due to limited sample size and statistical power. Larger multi-centre studies are needed to clarify prognostic factors and improve management strategies.

Keywords: Histopathology; invasive breast carcinoma; molecular subtype; pregnant; prognostic marker

The Effects of Standardised *Marantodes pumilum* var. Alata Leaf Water Extract on Bone Cellular Histomorphometry and Bone Biomarkers in Ovariectomised Rat Models

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Background and aims: *Marantodes pumilum* var. *alata* (MPA), commonly known as Kacip Fatimah, a Malaysian medicinal plant, has been reported to exhibit phytoestrogenic and antioxidative effects. This study evaluated the effects of standardised MPA leaf water extract on bone cellular histomorphometry and serum bone biomarkers in ovariectomised (OVX) rat models. Previous studies on wild MPA showed beneficial effects, but due to limited wild sources, we tested cultivated MPA to evaluate its potential. Therefore, this study aims to determine the effects of cultivated MPA on bone cellular histomorphometry and biomarkers

Materials and methods: Fifteen female Sprague-Dawley rats were randomly assigned into baseline, sham-operated, OVX, OVX treated with 64.5 µg/kg of Premarin® (EST), and OVX treated with 50 mg/kg MPA leaf water extract for eight weeks (n = 3 each). After an eight-week treatment period, they were sacrificed and their left femur were extracted. Bone histomorphometric parameters were measured in the femur, including eroded surface/bone surface (ES/BS), osteoid surface/bone surface (OS/BS), and osteoid volume/bone volume (OV/BV). Serum bone biomarkers, including osteocalcin (OC), receptor activator of nuclear factor-κB ligand (RANKL), and osteoprotegerin (OPG), were quantified by enzyme-linked-immunosorbent assay.

Results: Serum analysis showed that OC levels were significantly higher ($p < 0.05$) in the baseline (0.77 ± 0.05 ng/dL) compared to the sham (0.52 ± 0.07 ng/dL) and OVX (0.49 ± 0.02 ng/dL) groups. Meanwhile, EST (0.64 ± 0.04 ng/dL) differed significantly ($p<0.05$) from OVX (0.49 ± 0.02 ng/dL). Apart from that, OC levels were also significantly higher ($p < 0.05$) in MPA (0.62 ± 0.03 ng/dL) compared to baseline and OVX. No significant differences were observed in OPG and OPG/RANKL ratio for serum parameters and all other bone parameters.

Conclusion: MPA leaf extract significantly modulated serum bone turnover markers in OVX rats, specifically OC levels, suggesting biochemical effects on bone metabolism. However, no corresponding changes were observed in bone histomorphometry, indicating that structural bone alterations may require longer treatment duration or higher doses to become evident.

Keywords: Bone metabolism; *Marantodes pumilum*; osteoporosis; ovariectomy; phytoestrogen

SSM 13
Oral Laboratory

The Association between Soluble Lectin-Like Oxidised Low-Density Lipoprotein Receptor-1, Matrix Metalloproteinases and the Severity of the Atherosclerotic Plaque and Cardiac Functions among Male Smokers with Acute Coronary Syndrome

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Background and aims: Elevated levels of soluble lectin-like oxidised low-density lipoprotein receptor-1 (sLOX-1) and matrix metalloproteinase-9 (MMP-9) are implicated in plaque rupture, suggesting their potential as biomarkers for vulnerable plaques. This study aimed to determine the association between serum sLOX-1, MMP-2, and MMP-9 levels in male smokers with acute coronary syndrome (ACS) and non-ACS controls, and to determine their associations with atherosclerotic plaque severity and cardiac function.

Materials and methods: This cross-sectional study recruited male ACS smokers from the Cardiology Unit, Hospital Canselor Tuanku Muhriz. Venous blood was collected for serum quantification of sLOX-1, MMP-2, and MMP-9 using enzyme-linked immunosorbent assay. Coronary angiography was used to assess plaque severity via the Gensini score, and echocardiography was performed to evaluate cardiac function.

Results: Correlation analysis revealed that sLOX-1 was positively associated with E-wave deceleration time (EDT) ($r = 0.291$, $p < 0.01$) but negatively associated with early to late diastolic mitral inflow velocity ratio (E/A) ($r = -0.229$, $p < 0.05$) and Gensini score ($r = -0.348$, $p < 0.01$). In contrast, MMP-2 showed no significant associations with any of the echocardiographic parameters or the Gensini score. Meanwhile, MMP-9 demonstrated significant negative correlation with left ventricular ejection fraction (LVEF) ($r = -0.271$, $p < 0.05$), while showing positive correlations with average mitral inflow early diastolic velocity to mitral annular early diastolic tissue velocity ratio (Av E/e') ($r = 0.365$, $p < 0.01$), mitral inflow early diastolic velocity (E) ($r = 0.398$, $p < 0.01$), and Gensini score ($r = 0.473$, $p < 0.01$).

Conclusion: sLOX-1 and MMP-9 showed a significant association with the Gensini score. sLOX-1 and MMP-9 showed significant associations with cardiac functional indices, suggesting their potential utility as adjunctive biomarkers in evaluating cardiac impairment among ACS patients.

Keywords: Cardiovascular biomarkers; myocardial function; plaque instability

SSM 14
E-poster Clinical

The Accuracy of ChatGPT 4.0 in Triage Assessment of Paediatric Patients Presenting to the Emergency Department

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Background and aims: The absence of a universally standardised paediatric triage system raises concerns about decision accuracy. Artificial intelligence (AI) tools such as ChatGPT may enhance risk stratification for paediatric patients presenting to the Emergency Department (ED). This study evaluated the accuracy of ChatGPT-4.0 for triage compared with expert panels.

Materials and methods: A retrospective cross-sectional study was conducted in a single ED, analysing 385 paediatric presentations from January to December 2024. Using structured prompts derived from triage data, ChatGPT-4.0 and physicians assigned Emergency Severity Index (ESI) categories. The agreement was assessed using weighted Cohen's kappa (κ), and the diagnostic performance was evaluated for high-risk categories (ESI 1–3), critical care admissions, and resource utilisation (≥2 resources) using sensitivity, specificity, and predictive values.

Results: Compared with conventional triage, both ChatGPT and expert panels showed fair agreement (κ = 0.219; 95% CI, 0.167-0.270) and (κ = 0.391; 95% CI, 0.315-0.466), respectively, with both p-values < 0.001. Against expert panel decisions, ChatGPT demonstrated a sensitivity of 86.5% and a specificity of 67.1% for identifying high-risk categories, with a positive predictive value of 46.6%, a negative predictive value of 93.7%, and an overall accuracy of 71.9%. For predicting resource utilisation, ChatGPT demonstrated a sensitivity of 56.1% and a specificity of 66.1%, while expert panels showed a lower sensitivity (33.2%) but a higher specificity (85.4%). For critical care admissions, ChatGPT achieved higher sensitivity (94.1%) but lower specificity (55.9%) compared to the expert panel (sensitivity, 88.2%; specificity, 77.9%).

Conclusion: ChatGPT-4.0 demonstrated high sensitivity in detecting high-risk paediatric patients and predicting critical care admissions but tended to over-triage, reducing specificity. Its performance in predicting resource use was moderate. These findings highlight the potential role of ChatGPT as a decision-support tool, but prospective validation and real-time feasibility studies are required before its clinical application.

Keywords: Artificial intelligence; clinical decision-making; Emergency Severity Index; healthcare innovation; stratification

SSM 15
Oral Clinical

Evolving Surgical Strategies in Glaucoma Care:
Ten-Year Trends and Outcomes from a Teaching Hospital

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Background and aims: Trabeculectomy and glaucoma drainage device (GDD) implantation remain standard surgical options for managing glaucoma. The emergence of minimally invasive glaucoma surgery (MIGS) has shifted global trends toward safer, less invasive alternatives, but local data remains limited. This study aimed to evaluate surgical trends, glaucoma stage at intervention, and outcomes of each glaucoma procedure over the past decade in a tertiary teaching hospital.

Materials and methods: A retrospective review of all patients who underwent glaucoma surgery at Hospital Canselor Tuanku Muhriz (HCTM) between 2015 and 2024 was conducted. Included procedures were trabeculectomy, GDD implantation, trabecular meshwork-based MIGS, conjunctival-based MIGS, and ciliary body-targeting procedures. Data were extracted from physical records and electronic medical records and analysed.

Results: A total of 1153 glaucoma procedures were performed between 2015 and 2024. Trabeculectomy showed a steady decline from 46 cases in 2015 to fewer than 10 in 2019 and 2023, subsequently stabilising at around 20 cases annually in the later years. GDD demonstrated modest but consistent use. MIGS rose sharply from 2017 onwards, with trabecular meshwork-based MIGS peaking at 45 cases in 2022 and conjunctival-based MIGS achieving the highest number (32 cases) for both 2019 and 2024. In contrast, ciliary body-targeting procedures were the most frequently performed throughout the decade, reaching a peak of 85 cases in 2018. Survival analysis of each procedure is in progress.

Conclusion: The results depicted a gradual shift in surgical practice over the past decade, with traditional procedures such as trabeculectomy and GDD remaining central, alongside an increasing adoption of MIGS. This trend reflects global patterns, and further detailed analysis will clarify outcomes and guide future surgical decision-making in our local setting.

Keyword: Filtering glaucoma surgery; glaucoma surgery; minimally invasive glaucoma surgery; trabeculectomy; trend

Knowledge, Attitude and Health-Related Practice Related to Modifiable Risk Factors in Polycystic Ovarian Syndrome Management

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Background and aims: Polycystic Ovary Syndrome (PCOS) is a common endocrine disorder in which the management depends largely on lifestyle modification and addressing modifiable risk factors. While previous studies explored knowledge, attitude, and practices (KAP) related to PCOS in the general female population, few focused on women with confirmed diagnoses. This study bridges that gap by assessing the KAP scores related to modifiable risk factors among women with PCOS.
Materials and methods: A cross-sectional study was conducted among 136 women aged 18–45 years, diagnosed with PCOS according to the Rotterdam criteria at Hospital Canselor Tuanku Muhriz. Participants completed a validated questionnaire assessing knowledge, attitude, and health-related practices related to modifiable risk factors. Data were analysed using descriptive and inferential statistics.
Results: The majority of respondents demonstrated good knowledge (97.8%) and a high attitude score (82.4%). In contrast, health-related practices were nearly evenly distributed, 50.7% reporting good practices and 49.3% reporting poor practices. Further analysis showed no significant relationship between knowledge of PCOS and health-related practices (p = 0.117). However, a significant association was observed between attitude towards PCOS and health-related practices (p = 0.020), whereby women with higher attitude scores were more likely to engage in good health-related practices.
Conclusion: Women with PCOS showed good knowledge and high attitude scores, although a substantial portion reported poor practices. While knowledge alone was not significantly associated with health-related practices, high attitude scores showed a positive influence, highlighting the importance of attitude-targeted interventions to promote lifestyle adherence.

Keywords: Lifestyle intervention; perception; practice behaviour; reproductive health

SSM 17
Oral Laboratory

Organ-Specific Effects of Intraperitoneally Administered Wharton's Jelly Mesenchymal Stem Cells in Aged Mice

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Background and Aims: Ageing is often associated with inflammation and organ decline. Human Wharton's jelly mesenchymal stem cells (hWJMSC) have been acknowledged for their immunomodulatory and regenerative properties. In a prior study, intraperitoneal injection of hWJMSCs (25 million cells/kg) improved bone density and mineral content, but not physical strength, in middle-aged mice two months post-injection. This follow-up study examines inflammatory and structural changes in other organs from the same cohort, as well as hWJMSC migration to host organs.

Materials and Methods: Formalin-fixed organs (liver, lungs, heart, brain, kidney, spleen) were collected from 16 male C57BL/6J mice: young (4 months; treated n = 3, controls n = 3) and middle-aged (17 months; treated n = 4, controls n = 4). Haematoxylin and eosin–stained sections were prepared and scored independently by two blinded pathologists for inflammation, while structural changes were quantified using ImageJ (NIH, USA). Data were analysed by Kruskal-Wallis with Bonferroni correction. hWJMSC migration was assessed by immunohistochemistry using STEM121, a human-specific cytoplasmic marker.

Results: Baseline inflammation was present in the kidneys, lungs, liver, and spleen, but absent in the brain and heart (p < 0.0001). Across-group comparisons revealed no significant differences in inflammation severity, either when pooled or when analysed organ-specifically (p > 0.05). Treated groups showed slight, non-significant increases in liver vascular congestion, splenic follicle size, lung haemorrhage, and lymphoplasmacytic infiltration compared with controls (p > 0.05). These trends, though minor, warrant further investigation with larger cohorts. Ongoing analyses are evaluating changes in the extracellular matrix and hWJMSC migration.

Conclusion: No significant age-related inflammation was observed in middle-aged mice. hWJMSC did not reduce baseline organ inflammation but may induce mild immune responses in xenogeneic settings. Further studies in larger cohorts and older animals are needed to clarify long-term safety and efficacy.

Keywords: Ageing; mesenchymal stromal cell; safety and efficacy; stem cell tracking

Assessment of Anti-Hepatitis B Core Antibodies Reactive, Clinical Significance and Detection of Occult Hepatitis B Infection in a Teaching Hospital

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Background and aims: Anti-hepatitis B core total antibodies (AHBcT) indicate exposure to hepatitis B virus (HBV), lifelong persistence of covalently closed circular DNA (cccDNA), and risk of reactivation. Detection of HBV DNA in some isolated AHBcT cases (IAHBc) signifies viral replication or occult HBV infection (OBI), with risk of transmission. Data are needed to support hepatitis B screening practices and to identify OBI and/or reactivations. This study aimed to determine the occurrence of reactive AHBcT and assess its clinical significance.

Materials and methods: This was a cross-sectional retrospective study at the Serology Unit and Molecular Biology Unit, Hospital Canselor Tuanku Muhriz. Laboratory data for AHBcT, including anti-HBs, HBV DNA, and other relevant results, were obtained via the Integrated Laboratory Management System from January 2022 to April 2025 through universal sampling. The results, together with clinical information traced from the Caring Hospital Enterprise System, were analysed.

Results: Out of 2,039 AHBcT tested, 391 (19.2%) were reactive. Among these, 64 patients (16.4%) were HBsAg-reactive, while 73 (18.7%) were IAHBc (or 3.6% of the total tested). Most had comorbidities, including immunosuppression (58.3%), liver cirrhosis (14.1%), hepatocellular carcinoma (5.4%), end-stage renal failure (5.1%), HIV (4.9%), transplant (2.6%) and active hepatitis C (2.0%). HBV DNA was detected in 64/391 patients, including 15 OBI cases (3.8% of AHBcT-reactive, 0.74% from all AHBcT tested), of whom 8 were IAHBc. Mean HBV DNA viral load in HBsAg-reactive cases was 3.4 log10 higher than in non-reactive cases (p = 0.325).

Conclusion: Hepatitis B screening and targeted triple testing with HBsAg, anti-HBs, and AHBcT is important for hepatitis B status profiling, and targeted HBV DNA testing to detect OBI. Due to the low prevalence of OBI detected and the high cost of testing, further studies are needed on target populations at risk to guide testing strategies.

Keywords: Anti-HBc antibody; chronic hepatitis B; hepatitis B; hepatitis B core antibody viral hepatitis

SSM 19
Oral Clinical

A Randomised Controlled Trial Evaluating the Efficacy of AI Chatbot Compared with a Conventional Counselling for Colonoscopy Preparation

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Background and aims: Colonoscopy is essential for colorectal cancer diagnosis, but its effectiveness depends on adequate bowel preparation, measured by the Boston Bowel Preparation Score (BBPS). Conventional counselling is labour- and time-intensive. Large Language Model (LLM) artificial intelligence (AI) offers a scalable alternative. This study evaluated a customised LLM-AI chatbot for its effectiveness in improving bowel preparation, anxiety, and satisfaction.

Materials and methods: This prospective, single-masked, non-inferiority randomised controlled trial included 92 patients aged 18–75 undergoing elective colonoscopy. Participants were block-randomised to receive counselling via a customised LLM-AI chatbot or trained healthcare workers. The primary outcome was BBPS graded by masked endoscopists (good preparation: ≥7). Secondary outcomes were anxiety (DASS-21) and satisfaction (PSQ-18). Data were analysed using intention-to-treat with the analysis of covariance (ANCOVA) under a non-inferiority framework and compared with per-protocol analyses. The protocol followed SPIRIT 2025 and SPIRIT-AI guidelines. The trial was registered at ClinicalTrials.gov (NCT06905782) on 01/04/2025 with ethics approval from the Universiti Kebangsaan Malaysia Research Ethics Committee (Ref: UKM PPI/111/18).

Results: Eighty-two patients completed the study (41 per group), with 10 lost to follow-up. Shapiro–Wilk test showed a non-normal distribution of the data (p < 0.001). No significant differences were found between groups for BBPS (p = 0.142) or anxiety (p = 0.345), nor between pre- and post-procedure measures (p = 0.437, p = 0.912). Median BBPS was 9 (IQR 3). Satisfaction was significantly higher in the LLM-AI chatbot group before (p = 0.025) and after colonoscopy (p = 0.011), with overall satisfaction also higher post-procedure (p = 0.002).

Conclusion: The LLM-AI chatbot was non-inferior to conventional counselling for bowel preparation and anxiety, while significantly improving satisfaction. It shows promise as an adjunctive tool to ease healthcare workload without compromising safety or efficacy. Larger multicenter studies are recommended.

Keywords: Artificial intelligence; bowel preparation; ChatGPT; colonoscopy; randomised controlled trial

SSM 20
E-poster Laboratory

Ten-Year Trend of Candidemia and Antifungal Susceptibility Pattern in a Tertiary Healthcare Centre in Malaysia

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Background and aims: Candidemia is a serious bloodstream infection with rising drug-resistant non-albicans *Candida* species. Hospital Canselor Tuanku Muhriz (HCTM), a leading tertiary centre in Malaysia, has limited data on species distribution and antifungal susceptibility. This study analyses the 10-year trend in species distribution and antifungal susceptibility of *Candida* isolates at HCTM.

Materials and methods: This cross-sectional, retrospective study in the hospital reviewed 373 inpatient records of positive fungal blood cultures. Data obtained from the Department of Diagnostic Laboratory Services, HCTM (January 1, 2015-December 31, 2024), included age, gender, race, ward, Candida species and antifungal susceptibility.

Results: Over the decade, 373 candidemia cases were identified, predominantly in males (57.1%) and older adults (≥ 60 years, 62.7%), with Malays (55%) and Chinese (34.3%) being the most affected. Cases were mainly from the Intensive Care Unit (ICU, 32.2%) and medical wards (25.5%). Non-albicans *Candida*, *C. tropicalis* demonstrated an increasing trend, while *C. albicans* was stable. *C. parapsilosis* and *C. glabrata* varied over time without a consistent increase. Amphotericin B and echinocandins maintained sensitivity, flucytosine showed reduced activity against *C. albicans* and resistance in *C. krusei,* and azoles showed declining susceptibility in *C. tropicalis* and *C. glabrata*. However, no overall increase in resistance or shifts in minimum inhibitory concentration were observed. Ward distribution was significantly associated with species (p = 0.002), with *C. tropicalis* predominating in critical wards and *C. parapsilosis* in general wards, while age group (p = 0.877) showed no significant associations.

Conclusion: This study concludes that *C. tropicalis* has emerged as the most common species, particularly in older adults in ICU and critical wards. Amphotericin B and echinocandins remain effective, whereas azoles show increasing resistance. High-risk age groups and wards emphasise the need for targeted infection control and continuous surveillance.

Keywords: Antifungal resistance; azoles; bloodstream infection; *Candida*; echinocandins

SSM 21
Oral Laboratory

Positive Correlation between House Dust Mite Density in Residential College and Nasal Symptom Severity among Students

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Background and aims: House dust mites (HDM), major indoor allergens in the tropics, are linked to allergic rhinitis, yet data on university students are scarce. Persistent nasal symptoms may impair health and academic performance. This study aimed to investigate the association between HDM density, nasal symptom severity, and related risk factors among university students sampled from a student residential college in Malaysia.

Materials and methods: A cross-sectional study was conducted among 94 students residing in a residential college in Kuala Lumpur. Participants completed structured questionnaires on demographics, housing characteristics, and nasal symptoms using validated Nasal Obstruction Symptom Evaluation (NOSE) and Total Nasal Symptom Score (TNSS) instruments. Dust samples were collected from a 1 m^2 area of each participant's mattress using a standardised vacuum protocol and analysed microscopically to identify HDM species and quantify density (mites/g dust). Data were analysed using Spearman's rho, Mann-Whitney U, and Kruskal-Wallis ANOVA, with $p < 0.050$ considered statistically significant.

Results: The HDM species identified were *Dermatophagoides pteronyssinus* and *Dermatophagoides farinae*. HDM density correlated positively with nasal symptom scores, including total NOSE ($r_s = 0.58$, $p < 0.001$), TNSS at 2 weeks ($r_s = 0.49$, $p < 0.001$) and TNSS at 24 hours ($r_s = 0.38$, $p < 0.001$). Higher densities were linked to male sex ($U = 304.00$, $p < 0.001$), and housing levels ($H = 7.90$, $p = 0.048$). Protective factors included absence of dampness ($U = 519.00$, $p < 0.001$), impermeable bedding covers ($U = 438.50$, $p < 0.001$), frequent bedding cleaning ($r_s = -0.64$, $p < 0.001$) and frequent window opening ($r_s = -0.35$, $p < 0.001$).

Conclusion: The study demonstrated a significant association between HDM density and the severity of nasal symptoms among students, highlighting the role of HDM exposure in exacerbating allergic symptoms and underscoring the need for targeted interventions in student residences.

Keywords: Cleaning frequency; *Dermatophagoides* sp.; impermeable bedding covers; male sex; window opening

SSM 22
E-poster Laboratory

Whole Slide Imaging versus Light Microscope in Evaluating Breast Cancer: A Concordance Study

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Background and aims: In the era of digitalisation, most laboratories are transitioning from conventional light microscopy (LM) to whole slide imaging (WSI) for diagnostic reporting. The validation of concordance between LM and WSI is crucial prior to implementation. This study aimed to determine the concordance between LM and WSI in the evaluation of histological type, grade and HER2 status of breast cancer.

Materials and methods: This was a cross-sectional study comprising 120 breast cancer cases, including 120 haematoxylin and eosin-stained slides and 85 HER2 immunohistochemical-stained slides, diagnosed at Hospital Canselor Tuanku Muhriz over a 5-year period. A pathologist and 5 trained assessors independently reviewed the slides using LM and WSI, with a two-week washout interval to avoid memory bias. Concordance rate was determined, and Cohen's kappa value was calculated using SPSS.

Results: The study was performed by two groups: the pathologist and trained assessors. The pathologist demonstrated excellent concordance, exceeding 96% in histological type, with a substantial to almost perfect κ. Meanwhile, for the Modified Bloom-Richardson Grade, concordances were 73.1% (κ = 0.450), 70.6% (κ = 0.384), and 70.6% (κ = 0.375), for tubule, nuclear and mitotic scores, respectively, with moderate agreement 68.1% (κ = 0.446) for the overall grade. HER2 immunohistochemistry concordance was 85.9% (κ = 0.747). Trained assessors demonstrated 99.2% concordance in histological type (κ = 0.945). Grading concordances were 70.6% (κ = 0.423), 64.7% (κ = 0.351), and 53.8% (κ = 0.295) for tubule, nuclear, and mitotic scores, with an overall concordance of 56.3% (κ = 0.274). HER2 immunohistochemistry concordance was 85.9% (κ = 0.717).

Conclusion: LM and WSI showed high concordance for histological type and HER2 scoring. Trained assessors achieved excellent concordance, indicating suitability even for less experienced users. Lower concordance in grading likely reflected observer variability in pleomorphism, while HER2 challenges were mainly distinguishing between 0+ and 1+. Our study established that WSI could be routinely used as a diagnostic tool.

Keywords: Breast carcinoma; Cohen's kappa; digital pathology; HER2 testing

SSM 23
E-poster Clinical

Relationship between Second-trimester Haemoglobin Levels and Development of Pre-Eclampsia

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Background and aims: Pre-eclampsia affects 2-8% of pregnancies globally and remains a major cause of maternal and foetal morbidity and mortality. This study aimed to investigate the association between haemoglobin levels in the second trimester of pregnancy and the development of pre-eclampsia, among pregnant mothers in Malaysia.

Materials and methods: A retrospective case-control study was conducted involving 178 pregnant women who delivered at Hospital Canselor Tuanku Mukhriz between January 2017 and September 2024. The cases comprised 73 women diagnosed with pre-eclampsia, and the controls comprised 105 women with normotensive pregnancies. Haemoglobin levels measured during 13-27 weeks of gestation were retrieved from medical records. Pre-eclampsia diagnosis was based on the International Society for the Study of Hypertension in Pregnancy 2021 criteria. Statistical analysis included an independent t-test with Welch's correction, logistic regression analysis to predict pre-eclampsia, and receiver operating characteristic curve analysis.

Results: Welch's t-test showed that there was a significant increase in mean second-trimester haemoglobin levels in women with pre-eclampsia compared to controls ($p < 0.001$). Multivariable logistic regression showed that both haemoglobin and age significantly increased the risk of preeclampsia. Each 1 g/dL rise in Hb increases the risk with OR 2.06 (95% CI = 1.51-2.81), and each year of age increases the risk with OR 1.16 (95% CI = 1.07-1.25). ROC analysis for haemoglobin identified an optimal cut-off value of 11.2 g/dL with a sensitivity of 90 % and a specificity of 47% with an AUC of 0.73 for predicting pre-eclampsia.

Conclusion: Elevated haemoglobin levels in the second trimester are an independent predictor of pre-eclampsia. However, predictive accuracy is enhanced when combined with maternal age. Measurement of haemoglobin levels in the second trimester represents a simple and cost-effective screening tool that may improve the early identification of women at risk for pre-eclampsia.

Keywords: Biomarker; hypertensive disorders; pregnancy complications; proteinuria; screening

SSM 24
Oral Clinical

Risk Factor of Relapse and Surgical Intervention in Children with CTEV Treated by Ponseti Method in a Tertiary Centre

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Background and aims: The Ponseti method is the gold standard for managing congenital talipes equinovarus (CTEV), but relapse leading to surgical intervention remains a significant challenge. This study aimed to identify risk factors associated with relapse and surgical intervention.

Materials and methods: This retrospective study included 31 children (≤ 4 years old) with CTEV treated with the Ponseti method between January 2014 and December 2023. Demographic and clinical data, including aetiology, age at treatment initiation, Pirani score, number of casts, percutaneous Achilles tenotomy (PAT), surgery, bracing, number of relapses and follow-up duration were collected. Data were analysed using SPSS version 30. Descriptive statistics summarised outcomes, univariate tests assessed associations, and logistic regression identified risk factors for relapse.

Results: Of the 31 patients, 67.7% were male and 32.3% were female. Bilateral involvement was observed in 58.1% and idiopathic CTEV in 71.0%. Among non-idiopathic cases, arthrogryposis was most common (66.7%). The median age at presentation was 2 months (IQR 1–3). The median initial Pirani score was 5.0, improving to 0.0 at final follow-up (p<0.001). The number of casts required (7, IQR 5–10) correlated significantly with the initial Pirani score (p=0.021). PAT was performed in 77.4%. Surgical intervention was required in 32.3% of cases, most commonly for repeat tenotomy (33.3%). Median bracing duration was 84 weeks (IQR 32–136), with 64.5% compliance. Relapse occurred in 35.5% of patients, of whom 72.7% underwent recasting and surgery. Logistic regression revealed that only brace compliance (p<0.001) was associated with relapse. Compliant patients had 90% lower odds of relapse.

Conclusion: Children with CTEV treated by the Ponseti method who were not compliant with the brace were more likely to have relapse and surgical intervention. Close monitoring and strict adherence to bracing are essential to optimise outcomes.

Keywords: Clubfoot; recurrence; surgical management

SSM 25
E-poster Clinical

Clinical Variation of Epidemiology, Presentation and Management of Nasopharyngeal Carcinoma in Hospital Canselor Tuanku Muhriz: A 10-Year Retrospective Study

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Background and aims: Nasopharyngeal carcinoma (NPC) is an aggressive, life-threatening malignant tumour originating in the nasopharynx. This study evaluated the epidemiology, clinical presentation, staging, treatment patterns, and survival outcomes of NPC patients managed at Hospital Canselor Tuanku Muhriz over a ten-year period.

Materials and methods: A retrospective cohort of 106 patients diagnosed with NPC between January 2015 and December 2024 was analysed. The data collected included clinical history, examinations, histopathology, tumour-node-metastasis (TNM) staging, treatment modalities, and survival outcomes. Survival outcomes were compared between early stage (I-II) and late stage (III- IV) disease.

Results: The cohort was predominantly male (80.2%) and Chinese (56.6%), with a mean age of 54.8 ±13.2 years (range 14–82). The most common presenting symptoms were neck mass (68.9%), nasal symptoms (54.7%), and ear-related complaints (43.4%), particularly nasal obstruction (34%), epistaxis (34%), and hearing loss (28.3%). Non-keratinising squamous cell carcinoma was the most frequent histological subtype (53.8%), followed by undifferentiated carcinoma (37.7%). Most patients presented with advanced disease, 30.2% with T4, 38.7% with N2 disease, and 14.2% presenting with distant metastases. Overall, 84% were diagnosed at Stage III–IV. At the last follow-up, 21.7% were alive and disease-free, 27.4% had died, and 36.8% were lost to follow-up. Median survival for late-stage disease was 6.5 years (95% CI: 4.5–8.4 years), whereas the median survival for early-stage disease was not reached. The survival differences between stages were not statistically significant (p = 0.466).

Conclusion: NPC in this cohort predominantly affected middle-aged Chinese men and was often diagnosed at an advanced stage. Late-stage presentation remained common, highlighting the need for greater awareness, earlier detection, and timely intervention.

Keywords: Clinical presentation; epidemiology; nasopharyngeal carcinoma; retrospective studies; survival rate

Phoenixin's Role in Modulating Neuron Morphology in an in Vitro Parkinson's Disease Model

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Background and aims: Parkinson's disease (PD) is a progressive neurodegenerative condition characterised by the degeneration of dopaminergic neurons and heightened neuroinflammation, which together contribute to the worsening of motor and cognitive symptoms. Therapies for PD remain largely symptomatic without addressing neuronal degeneration and inflammation, while phoenixin (PNX), a neuropeptide with neuroprotective and anti-inflammatory effects, has yet to be investigated in this context. This study aims to evaluate the ability of PNX to modulate neuronal morphology in an in vitro PD model and to assess its therapeutic potential.

Materials and methods: SH-SY5Y neuroblastoma cells were differentiated using retinoic acid and subsequently exposed to 1-methyl-4-phenylpyridinium to establish a PD-like phenotype. Cells were then treated with varying concentrations of PNX. Neuronal morphology was assessed using ImageJ and confocal microscopy, with parameters including neurite length, soma size, and dendritic branching.

Results: Neurons in the PD group exhibited marked reductions in neurite length, soma size and dendritic branching compared to healthy controls, with fold changes approximately 1.5, confirming PD-induced structural impairment ($p < 0.05$ vs untreated, n = 3). Treatment with PNX improved neuronal morphology ($p < 0.05$ vs. induced but untreated, n = 3), with the most notable effect observed at 50 µM, restoring neurite length and soma size significantly relative to untreated PD cells. Higher concentrations of PNX (100 µM) did not produce an additional benefit ($p > 0.05$ vs 50 µM, n = 3), indicating a dose-dependent plateau effect.

Conclusion: PNX demonstrated a neuroprotective effect in the PD model, improving neuronal morphology at an optimal concentration. These findings highlight PNX as a promising candidate for disease-modifying interventions in PD, although further mechanistic studies and translational models are required to confirm its therapeutic applicability.

Keywords: Neuroinflammation; neuroprotection; neuropeptide therapeutics

SSM 27
Oral Community

Traditional and Complementary Medicine (TCM) Use, Knowledge and Attitudes among Older Patients in a Malaysian Tertiary Hospital

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Background and aims: Traditional and complementary medicine (TCM) is widely used in Malaysia, with a prevalence of 63.9% overall and 31.7% among those with chronic conditions. However, knowledge, attitudes, and usage patterns among older hospital patients remain understudied. This study aimed to assess the knowledge, attitudes, and prevalence of TCM use among older patients at Hospital Canselor Tuanku Muhriz (HCTM) and to identify associated factors.

Materials and methods: A cross-sectional study was conducted from January to September 2025 among patients aged 60 years or older receiving treatment at HCTM. Using random sampling, 358 participants were recruited. A validated, structured questionnaire was adapted and modified from previous Malaysian TCM research with the author's consent. The questionnaire covered sociodemographic data, clinical conditions, knowledge, attitudes, and usage patterns. Data were analysed using descriptive statistics and bivariate analysis.

Results: Of the 358 respondents, most were female (50.6%), aged 60-69 years (56.4%), and Malay (60.3%). A total of 114 (31.8%) reported using TCM, with availability (57.9%) and perception of being natural (47.4%) as the main reasons. Hypertension (66.5%) and diabetes mellitus (55.6%) were the most common conditions among all participants. Family and friends served as key recommenders (71.9%) and information sources (73.7%) among TCM users. However, 54.4% of users are unsure if their TCMs are registered legally. Bivariate analysis using Pearson's chi-square test revealed significant associations between TCM use and hearing problems ($p = 0.025$) and joint problems ($p = 0.001$), but no significance with multiple medical conditions. TCM users reported significantly higher perceived benefits, while non-users reported higher perceived barriers (both $p < 0.001$).

Conclusion: This study successfully determined the prevalence and factors influencing TCM usage among older patients at HCTM. Positive attitudes toward TCM were identified among older patients, with socio-demographic factors showing notable associations. These results support the study's objectives in characterising TCM utilisation in this hospital setting.

Keywords: Complementary medicine; health knowledge and practice; Malaysia; public health; tertiary care centre

SSM 28
E-poster Community

Cost of Treating Road Traffic Accident Cases Admitted to Emergency Department, HCTM in 2023

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Background and aims: Road traffic accidents (RTAs) are a leading cause of injury and death in Malaysia, placing a considerable economic burden on healthcare systems. The treatment cost of traffic accident cases varies depending on multiple factors. This study aims to determine the cost of treating RTA cases at the Emergency Department (ED) of Hospital Canselor Tuanku Muhriz (HCTM) in 2023 and identify its associated factors.

Materials and methods: A cross-sectional study using data of patients admitted to the ED, HCTM for RTAs in 2023 was conducted, with data retrieved from the Health Informatics Centre (HIC). Hospital tariffs calculated by HIC were used to estimate the cost of treating patients with RTAs. The associated variables measured included social demographics, clinical factors, type of vehicle, length of stay, and severity. Continuous data (age, length of stay, cost) were checked for normal distribution. Non-parametric tests were used to compare the costs between factors, as the costs are not normally distributed.

Results: A total of 1722 patients' data of RTAs were included in this study. The cost of treating patients involved in RTAs admitted to HCTM was from RM0.00 to RM42,807.00, with a median of RM6061.00 (IQR RM6582.00). Factors found to be significantly associated with the difference of cost treating RTAs were social demographic which are elder age ($p < 0.001$), male ($p<0.001$) and clinical factors such as hip and thigh ($p < 0.001$), multiple injuries ($p < 0.001$), others such as heavy vehicles ($p < 0.001$), long length of stay ($p < 0.001$), and high severity cases ($p < 0.001$).

Conclusion: The cost of treating road traffic accident cases admitted to HCTM ED is significantly associated with demographic and clinical conditions of the patients. These findings highlight the considerable financial burden RTAs place on healthcare resources. Strengthening targeted interventions for high-risk groups may help minimise the healthcare burden and lower the overall treatment costs of RTAs.

Keywords: Emergency Department; healthcare costs; road traffic accidents

SSM 29
Oral Community

Medical Students' Perceptions of Team-Interaction Training within the Different Personal & Professional Advancement (PPA) Camp Formats

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Background and aims: At Universiti Kebangsaan Malaysia, PPA camps for the 2020/2025 medical cohort were delivered in three formats: Online (Year 1), In-Campus (Year 3), and Out-Campus (Year 5). These differing learning environments shape the development of teamwork-related soft skills in distinct ways. This study aimed to compare students' perceptions of team interaction training across the three formats.

Materials and methods: A total of 117 Year 5 medical students (2020/2025 cohort) were given a questionnaire consisting of students' demographic data and Perceived Benefits of Team-Interaction Training Questionnaire, a validated 22-item tool assessing three domains: Team Cohesiveness (8 Items), Team Communication (7 Items), and Team Efficiency (7 Items). Responses were rated on a 5-point Likert scale. Descriptive statistics (mean, SD) and repeated measures ANOVA were conducted using SPSS, with statistical significance set at $p < 0.05$.

Results: Students' perceptions of team cohesiveness (coh), communication (com), and efficiency (eff) differed significantly across the three PPA camp formats ($p < 0.001$). Team communication showed the greatest improvement, rising from Online (com = 3.74 ± 0.89) to In-Campus (com = 4.19 ± 0.66) and Out-Campus (com = 4.42 ± 0.65), with the largest mean gain (+0.68) between Online and Out-Campus. Team cohesiveness and efficiency also improved significantly, increasing from Online (coh = 3.85 ± 0.87; eff = 4.01 ± 0.86) to In-Campus (coh = 4.24 ± 0.67; eff = 4.25 ± 0.70) and Out-Campus (coh = 4.48 ± 0.65; eff = 4.44 ± 0.67). Across all three domains, Out-Campus was rated most positively.

Conclusion: Students' perceptions of cohesiveness, communication, and efficiency improved across all PPA formats, with Out-Campus rated highest. Immersive experiences are most beneficial for developing teamwork-related soft skills. Future research should incorporate objective assessments and longitudinal tracking into clinical years to evaluate sustained outcomes and strengthen curricular integration.

Keywords: Communication; interpersonal skills; medical education; teamwork

SSM 30
Oral Health System

Symptom-to-Diagnosis Interval in Diffuse Large B-Cell Lymphoma: Associated Factors and Impact on Response to Chemo-Immunotherapy

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Background and aims: Symptom-to-diagnosis interval (SDI) influences cancer outcomes, yet data on haematological malignancies such as diffuse large B-Cell lymphoma (DLBCL) in Malaysia remain limited. This study aimed to determine the SDI among DLBCL patients, its associated factors, and its impact on response to rituximab, cyclophosphamide, doxorubicin, vincristine and prednisone (R-CHOP) chemotherapy at a tertiary centre in Kuala Lumpur.

Materials and methods: This retrospective study included patients with DLBCL diagnosed between 2014 and 2023. Demographics, comorbidities, dates of initial clinical presentation and histological results, and disease stage were recorded. SDI was categorised as shorter (<10 weeks) and longer (≥10 weeks). Response to R-CHOP chemotherapy was assessed by PET-CT scans and classified according to the Lugano classification as either a complete response (CR) or no CR.

Results: Of 403 DLBCL patients, 81 were eligible and included in the study. The median age of the study patients was 63.0 years (IQR 50.0-69.0). The median duration of SDI was 12.29 weeks (IQR 7.21-20.14), with 61.7% (n = 50) having a longer SDI, most commonly due to patient-related delays, specifically the symptom onset-to-first contact interval (80%, n = 40). The presence of lymphadenopathy was significantly associated with a longer SDI (OR = 3.67, 95% CI [1.40-9.56], p = 0.008). SDI was not significantly associated with response to R-CHOP chemotherapy (p = 0.908).

Conclusion: The median SDI in our study was longer than in other studies. Patients presented with lymphadenopathy were significantly associated with longer SDI, attributable to delayed help-seeking and time spent on other investigations. SDI was not significantly associated with response to R-CHOP chemotherapy. These findings suggest that the presence of lymphadenopathy warrants an earlier biopsy date to ensure a prompt diagnosis confirmation. Further studies involving data from referring centres may help improve healthcare referrals.

Keywords: Diagnostic delay; haematological malignancy; health system; non-Hodgkin lymphoma

Understanding Risk Factors and Functional Outcomes in Distal Radius Fracture of the Elderly

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Background and aims: Distal radius fractures (DRFs) are common fragility fractures in the elderly, often reflecting underlying osteoporosis and sarcopenia. This study aimed to evaluate functional outcomes and associated factors, osteoporosis knowledge, sarcopenia prevalence and the proportion meeting FRAX®-based treatment thresholds in patients aged ≥ 60 years with DRFs.

Materials and methods: A retrospective cross-sectional study was conducted among 119 elderly patients with radiographically confirmed DRFs at Hospital Canselor Tuanku Muhriz between 2020 and 2025. Data from electronic medical records were supplemented by structured interviews. Functional outcomes were assessed using QuickDASH, osteoporosis knowledge using the OKAT, sarcopenia prevalence using the SARC-F questionnaire supported by the Barthel Index, and fracture risk by FRAX®.

Results: The median QuickDASH score was 18.2 (IQR 9.1-34.1), indicating mild upper-limb disability post-DRFs. OKAT scores were low to moderate (median 8, IQR 6-10). Nearly half the cohort (46.2%) had sarcopenia, which was significantly associated with worse functional outcomes (p < 0.001). Increasing age showed a fair but significant positive correlation with poorer functional outcomes (Spearman's ρ = 0.308, p = 0.001). Functional dependency, measured by the Barthel Index, was significantly associated with functional outcomes (p < 0.001), with severely dependent patients demonstrating the worst outcomes. Nearly half of the patients (42.0%) had high major osteoporotic fracture (MOF) risk, and most (86.6%) were at high risk for hip fracture, meeting FRAX® treatment thresholds. FRAX® scores showed a fair but significant positive correlation with functional outcomes (Spearman's ρ = 0.340, p < 0.001 for MOF risk).

Conclusion: Elderly patients with DRFs frequently exhibited low-to-moderate osteoporosis knowledge, elevated osteoporotic fracture risk requiring osteoporosis treatment and a substantial prevalence of sarcopenia, all of which are associated with worse functional outcomes. Early identification and management of these risk factors are crucial to improve outcomes and prevent future fractures.

Keywords: Fragility fractures; osteoporosis; QuickDASH; sarcopenia

Validation of the Malay Ask Suicide-Screening Questions

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Background and aims: The burden of suicide is greatest in low- and middle-income countries. Existing Malay suicide screening tools have limited utility in terms of detecting suicide risk among clinical populations in Malaysia, an LMIC. This study aimed to translate the Ask Suicide-Screening Questions (ASQ) into Malay and evaluate its validity in identifying elevated suicide risk among psychiatric patients.

Materials and methods: A total of 140 psychiatric inpatients and outpatients aged 18 years and above were recruited through convenience sampling. Participants first completed the Malay ASQ administered by trained medical students, then underwent a clinician suicide risk assessment based on the Brief Suicide Safety Assessment (BSSA), conducted by psychiatry medical officers blinded to the ASQ results. The ASQ was scored dichotomously (positive/negative; acute/non-acute risk), while the BSSA served as the gold standard. ASQ was negative if all items 1-4 were answered 'No'; any 'Yes' indicated a positive screen (elevated suicide risk). A 'Yes' to item 5 signified acute suicide risk, while 'No' indicated non-acute suicide risk.

Results: Participants were 19–74 years old (mean ± SD: 36.9 ± 12.9), with mostly females (72.9%) and Malays (77.9%). ASQ-positive screens were significantly younger than those with negatives (33.6 ± 12.8 vs. 41.3 ± 12.5 years, p = 0.001). Compared with the BSSA, the ASQ showed a sensitivity of 98.4%, specificity of 65.8%, positive predictive value of 68.9%, negative predictive value of 98.1%, overall accuracy of 80.0%, and substantial agreement (κ = 0.612). Receiver Operating Characteristic (ROC) curve analysis demonstrated good validity of the ASQ (AUC 0.821, 95% CI: 0.750-0.892, p < 0.001).

Conclusion: The Malay ASQ is a valid tool for detecting elevated suicide risk among Malaysian psychiatric patients. This validates its use as a culturally relevant and practical screening instrument to facilitate early identification and timely management of at-risk individuals in Malaysia.

Keywords: Questionnaire translation; screening tool; suicide risk

SSM 33
E-poster Community

Information-Seeking Behaviour towards Medical Knowledge among Medical Students in Universiti Kebangsaan Malaysia

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Background and aims: Although digital platforms are increasingly used for knowledge acquisition, empirical data on the determinants and barriers of information-seeking behaviour among medical students remain limited. This study investigated the information-seeking behaviour among medical students at Universiti Kebangsaan Malaysia (UKM) across one academic session.

Materials and methods: A total of 220 undergraduate medical students of UKM from Year 1 to Year 5 session 2024/2025 were recruited via simple random sampling. A questionnaire adapted from previous studies by O'Carroll et al. (2015) and Jackson et al. (2024) was distributed via Google Forms. It examines the demographic factors, preferred sources, influencing factors, effectiveness, and challenges in information-seeking behaviour among medical students at UKM. Statistical analysis was done using IBM SPSS version 30, and descriptive statistics and Chi-square tests were performed.

Results: Most medical students preferred digital resources (84.5%) over physical resources (51.4%), with 49.5% of the respondents reporting heavy use of both. Google emerged as the most commonly used resource, heavily used by 72.3% of students and rated "Excellent" by most students for its accessibility (46.4%) and usefulness (30.5%). The prevalence of students opting for a hybrid of physical and digital resources was significantly higher among female students ($p = 0.021$) and those who had contributed to a peer-reviewed publication ($p = 0.026$). The most common challenge in information-seeking, as reported by the respondents, was a lack of knowledge regarding credible sources (36.5%).

Conclusion: Medical students of UKM predominantly chose formal digital resources due to their accuracy and trustworthiness, with a lack of knowledge regarding credible sources being the most common challenge. Developing software that validates the trustworthiness of digital resources could enhance students' ability to identify credible and reliable information effectively.

Keywords: Curriculum development; digital health; information retrieval; medical education

Prevalence of Electroencephalogram Abnormalities and Associated Risk Factors in Elderly Patients in Hospital Canselor Tuanku Muhriz

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Background and aims: Electroencephalography (EEG) abnormalities are common in the elderly due to a higher risk of vascular diseases, cognitive decline, and other systemic disorders. This study aimed to determine the prevalence and risk factors associated with EEG abnormalities in elderly patients at Hospital Canselor Tuanku Muhriz (HCTM).

Materials and methods: This cross-sectional study was performed in the medical wards and clinics. A convenience sampling was carried out on patients aged $\geq$ 65 years who underwent EEG. Patients with agitation, acute psychosis, and non-epileptic seizures were excluded. Demographic and clinical data were collected. EEG findings were classified as normal or abnormal. The outcome of the patients was evaluated using the Glasgow Outcome Scale. Descriptive statistics, simple and multiple logistic regression were performed.

Results: Out of 288 patients, the median age was 74 years (IQR: 69-80), and 50% were male. Common comorbidities include hypertension (76%), stroke (62.2%), and diabetes mellitus (56.6%). EEG abnormalities were present in 73.3% of patients, with generalised slowing (54.9%) being the most frequent, followed by focal slowing (10.8%), and epileptic activity (7.6%). In multivariate analysis, significant risk factors for abnormal EEG included seizures (aOR = 6.53, p< 0.001), hyperlipidaemia (aOR = 2.14, p = 0.039), infection (aOR = 3.56, p = 0.043), structural causes (aOR=2.98, p = 0.019), stroke (aOR = 5.65, p = 0.012), radiological infarct (aOR = 0.23, p = 0.044), creatinine (aOR = 1.01, p = 0.011), albumin (aOR=0.88, p < 0.001), and length of hospitalisation (aOR = 1.07, p = 0.014).

Conclusion: EEG abnormalities were common in elderly patients and were associated with several vascular, metabolic, and structural factors. The incorporation of EEG into geriatric care can improve diagnostic accuracy and guide management strategies. Future multicentre research is necessary to validate these conclusions.

Keywords: Elderly; electroencephalogram; electroencephalogram abnormalities; geriatric; risk factors

INVITATIONAL UNIVERSITIES EP1
E-poster Clinical

The Effects of *Ganoderma lucidum* on Atherosclerosis: A Scoping Review

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Background/Aim: Atherosclerosis increases cardiovascular morbidity and mortality by promoting plaque buildup, vessel narrowing, and life-threatening events like stroke and myocardial infarction. Despite its global impact, current pharmacological strategies remain largely reactive, with limited options for safe, targeted prophylaxis. Recent studies suggest that *Ganoderma lucidum* and its bioactive derivatives exert protective effects against atherosclerosis. This scoping review aimed to summarise current evidence on its actions and underlying molecular mechanisms in atherosclerosis prevention.

Materials and methods: A systematic search of PubMed, Scopus and Web of Science up to August 2025 was performed using the terms (ganoderma OR reishi OR lingzhi) AND (atherosclerosis OR "arterial stiffening" OR "arterial plaque" OR "atheroma"). Eligible studies were original English articles investigating *Ganoderma lucidum* in atherosclerosis with a defined model and treatment groups. Conference abstracts, items without primary data (including any types of reviews), studies of unrelated topics, and non-English reports were excluded.

Results: Database search retrieved 112 eligible articles at the title and abstract level, with only 24 articles meeting the inclusion criteria. The findings showed significant reductions in total cholesterol, triglycerides, and low-density lipoprotein cholesterol, while increasing beneficial high-density lipoprotein cholesterol with the usage of *Ganoderma* extracts. *Ganoderma* extracts also exhibit antioxidant properties and anti-inflammatory effects through NF-κB, PI3K/Akt, and TLR signalling pathways and activation of the Sirt7-Keap1-Nrf2 axis.

Conclusion: *Ganoderma lucidum* was found to lower lipid and cholesterol levels, exert antioxidant and anti-inflammatory effects, protect the vascular endothelium, promote healthy adipocyte differentiation and enhance glucose uptake. It holds a promise as a prophylactic and therapeutic agent for metabolic and cardiovascular diseases, warranting further mechanistic, toxicity and clinical investigations.

Keywords: Cardiovascular protection; inflammation; Lingzhi; triterpenes

INVITATIONAL UNIVERSITIES EP2
E-poster Clinical

Anthocyanins and Bone Health: A Scoping Review of their Role in Osteoporosis Prevention and Bone Cell Function

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Background and aims: Anthocyanins are hydrophilic phytopigments that have been shown to provide numerous health benefits. Anthocyanin-rich compounds have been reported to increase bone mineral density and trabecular microarchitecture in animal models, including ovariectomised rats with osteoporosis. In this scoping review, evidence on the effects of anthocyanins and their aglycones (e.g., cyanidin, delphinidin, malvidin, pelargonidin) on bone health was summarised, with a focus on their effects on bone cell functions.

Materials and methods: A comprehensive literature search was conducted using PubMed, Scopus, and Web of Science to identify studies examining the relationship between anthocyanins and their role in preventing osteoporosis and influencing bone cell function. Original research articles written in English, irrespective of study type or publication year, were included.

Results: A total of 25 relevant articles met the inclusion criteria and were analysed in this review. Findings revealed that anthocyanins enhanced osteoblast activity and bone mineralisation while inhibiting osteoclastogenesis through modulation of the receptor activator of nuclear factor-kappa B ligand/osteoprotegerin pathway and suppression of interleukin-17-mediated inflammation. Experimental studies show improvements in bone density and microarchitecture, with limited human evidence suggesting protective effects.

Conclusion: Anthocyanins demonstrate potent effects on bone cell regulation and osteoporosis prevention in preclinical studies. Further empirical research is needed to illustrate the osteoprotective mechanism of anthocyanins.

Keywords: Anthocyanidins; bone density; osteoblast; osteoclast; osteopenia

Knowledge, Attitude and Practices of Motorcycle Taxi Drivers in Metro Manila towards Sun Exposure, Sun Protection and Skin Cancer: A Descriptive Cross-Sectional Study

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Background/aim: Metro Manila's motorcycle taxi drivers are chronically exposed to sunlight during peak ultraviolet radiation hours, placing them at an increased risk for sun-related conditions, including skin cancer. Despite this occupational hazard, public health efforts targeting this group remain minimal. A gap also exists between awareness of sun exposure risks and the actual use of protective measures. This study aimed to assess the knowledge, attitudes, and practices (KAP) of motorcycle taxi drivers regarding sun exposure, sun protection, and skin cancer; describe the demographic profile of participants and determine the frequency of sources of knowledge regarding these topics.

Materials and methods: A descriptive cross-sectional study was conducted among 418 motorcycle taxi drivers in Metro Manila. Data were collected using an adapted, structured questionnaire conducted through face-to-face interviews and Google Forms. Knowledge, attitude, and practice levels were classified using Bloom's cut-off points and analysed through descriptive statistics, including frequency, proportion, and mean.

Results: Most respondents (97.37%) were male, with most aged between 25 and 34 years. Most demonstrated moderate levels of knowledge (60.64%), attitude (66.01%) and practice (68.76%). Higher educational attainment was associated with higher KAP scores. Respondents aged 25-34 years had the highest practice score, while female respondents scored higher in all domains. Social media (70.53%) emerged as the most frequently cited source of information.

Conclusion: Despite strong use of protective clothing and gear, there remains a notable gap in sunscreen use and sun-avoidance behaviours among motorcycle taxi riders. These findings support the need for targeted, accessible public health education, particularly through social media, to address knowledge gaps and promote protective behaviours among motorcycle taxi riders in Metro Manila.

Keywords: Cutaneous malignancy; motor transport; occupational health; photo protection; sunburn

INVITATIONAL UNIVERSITIES EP4
E-poster Community

The Correlation between Digital Health Literacy and Health Seeking Behaviour of Filipinos Aged 18-29 Years Old in Quezon City

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Background and aim: The rise of digital technologies has allowed people of all ages to access online health information. However, this also led to the rapid spread of misinformation. Digital Health Literacy (DHL) is crucial as more Filipinos use the internet for health information. Despite this, most local studies overlook the digital context of health literacy. There remain gaps in understanding how DHL influences health-seeking behaviours (HSBs). Therefore, the aim of the study is to explore the correlation between DHL and HSBs among internet users, Filipinos aged 18 to 29 residing in Quezon City, Philippines.

Material and methods: This analytic cross-sectional study examined the correlation between DHL and HSBs among 122 eligible participants through an online and paper-based questionnaire. Multistage cluster sampling was used to select respondents from three randomly selected barangays in one Quezon City district. Inclusion criteria were non-healthcare workers aged 18-29 years who were residents of the selected barangays.

Results: Educational attainment showed significant variation in DHL and some HSB dimensions, while sex and income did not. Social media emerged as the most preferred source of health information, both online and overall, highlighting its strong influence on young adults' HSBs. Results showed a positive correlation between DHL and all HSB dimensions, indicating that higher DHL was associated with more proactive HSBs.

Conclusion: The positive correlation indicated that higher DHL fosters more proactive HSBs, reflecting confidence in navigating online health information. Educational attainment influences DHL and some HSBs, but sex and income do not. Social media was the most preferred source of health information across all platforms, highlighting its role in providing accessible online health information. This knowledge provides insights to guide public policies, researchers, and the general public in making better-informed healthcare decisions and achieving more effective outcomes.

Keywords: Health misinformation; Philippines; social media; young adults

Performance of Various Adiposity Indices in Identifying Malaysians with Excess Adiposity

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Background and aims: The body mass index (BMI) is a convenient tool for predicting body adiposity; however, it is not entirely accurate. Recent studies have demonstrated that alternative body adiposity indices have better performance and accuracy in predicting adiposity, but their performance has not been examined in the Malaysian population. This study aims to compare the performance of conicity index (CI), body roundness index (BRI), a body shape index (ABSI) and bioelectrical impedance analysis (BIA) in predicting body fat percentage measured with dual-energy X-ray absorptiometry (DXA).

Materials and methods: Data mining of a cross-sectional study conducted in 2018-2019, comprising 400 Malaysian men and women aged 40 years and above, living in Klang Valley, Malaysia, was performed. Weight, height, BMI and waist circumference were determined, and body composition, including body fat percentage, was determined using DXA. The adiposity indices were calculated as per the convention. Area under the curve (AUC), sensitivity and specificity were determined using receiver-operating curve analysis.

Results: The performance of each index was different in predicting body adiposity. For women, the performance of BIA (sensitivity = 90.34%; specificity = 79.41%; AUC = 0.849) was the best, followed by BRI (sensitivity = 85.79%; specificity = 76.47%; AUC = 0.811), CI (sensitivity = 75.57%; specificity = 58.82%; AUC = 0.672) and ABSI (sensitivity = 51.70%; specificity = 58.82%; AUC = 0.533). Similarly in men, BIA (sensitivity = 84.42%; specificity = 80.56%; AUC = 0.825) performed the best, followed by BRI (sensitivity=83.76%; specificity= 80.56%; AUC=0.822), CI (sensitivity = 71.43%; specificity = 72.23%; AUC = 0.718) and ABSI (sensitivity = 39.61%; specificity = 80.56%; AUC = 0.615). The performance of all indices was optimal at their cut-off values, except for ABSI, which had low sensitivity for both women (51.70%) and men (39.61%).

Conclusion: The performance of BIA in predicting body fat percentage was the best for both men and women. Among the calculated indices, the performance of BRI was the best for both sexes and should be considered by clinicians.

Keywords: Anthropometric indices; body composition assessment tool; body fat percentage

INVITATIONAL UNIVERSITIES EP6
E-poster Laboratory

Green or Grim: An Investigation of Extended-Spectrum Beta-Lactamase Producing (ESBL) and Carbapenem-Resistant *Escherichia coli* Isolates in Lettuce from Wet Markets

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Background: The growing preference for "green living" has led to increased consumption of fresh produce; however, multidrug-resistant *Escherichia coli (E. coli)* remains a significant food safety concern in Malaysia. This study aimed to determine the prevalence of Extended-Spectrum Beta-Lactamase (ESBL) and Carbapenem-Resistant *E. coli* (CRE) in lettuce from wet markets, assess their antibiograms and biofilm-forming abilities, and bridge existing knowledge gaps to strengthen public health understanding of antimicrobial resistance in fresh produce.

Materials and methods: Thirty-nine lettuce samples were collected from ten vendors and transported in ice boxes to the MAHSA Laboratory. *E. coli* was isolated using selective media and confirmed with Gram staining, motility, and indole tests. Antimicrobial susceptibility was assessed using the Kirby–Bauer disc diffusion method. ESBL and metallo-beta-lactamase producers were confirmed following CLSI guidelines, while biofilm formation was evaluated using the tube method. Data were analysed descriptively in SPSS and presented in graphs and charts.

Results: Of 39 samples, 34 (87.2%) showed *E. coli* growth on EMB agar. Most isolates (84%) were purple lactose fermenters, and 14.7% produced a green metallic sheen. Indole tests confirmed 87.2% as *E. coli*. High resistance was observed to amoxicillin–clavulanate (82.4%), tetracycline (47.1%), and cefotaxime (38.2%). Fourteen isolates were multidrug-resistant (MDR), including 13 ESBL producers and 3 CRE. Most MDR isolates formed moderate to strong biofilms, with relative biofilm formation values ranging from 105.1% to 241.4%.

Conclusion: This study reveals a high prevalence of *E. coli* contamination in lettuce samples obtained from wet markets in Malaysia, with more than half of the isolates exhibiting multidrug resistance. The detection of ESBL and CRE strains, coupled with strong biofilm-forming ability, signifies a serious food safety concern. These findings underscore the urgent need for stricter hygiene practices, regular surveillance of antimicrobial resistance in fresh produce, and prompt intervention by relevant public health authorities to mitigate the risk to consumers.

Keywords: Biofilm; Carbapenem-Resistant Enterobacterales (CRE); Extended-Spectrum Beta-Lactamase (ESBL); Southern Klang Valley

INVITATIONAL UNIVERSITIES E01
Oral Community

Regular Supervision Saves Lives: The Role of Puskesmas in Ensuring Food Hygiene and Sanitation an Gianyar, Bali

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Background and aims: Foodborne diseases remain a significant public health concern, particularly in tourist destinations such as Gianyar, Bali. Community health centres (puskesmas) are responsible for supervising food hygiene and sanitation to prevent outbreaks. Within Warmadewa University's medical education program, junior doctors are assigned to puskesmas for six weeks, with a focus on environmental health. This study aimed to assess supervision practices by puskesmas and the compliance of food establishments with hygiene standards in Gianyar Regency.

Materials and methods: A cross-sectional study was conducted from January to December 2024 in eight puskesmas. Junior doctors, in groups of three, collected data during their rotations under the supervision of faculty and sanitarians. A stratified random sample of 120 food establishments (15 per puskesmas) was assessed using a Ministry of Health Regulation No. 1096/2011 checklist. Data on puskesmas supervision were obtained from interviews and document reviews. Chi-square tests examined associations between supervision and compliance.

Results: Of the 120 establishments, 47 (39.2%) complied with hygiene standards, 42 (35.0%) were moderate, and 31 (25.8%) were poor. Common deficiencies included lack of handwashing facilities (49%), improper food storage (40%), and absence of pest control (35%). Regular supervision ($\geq$4 inspections/year) occurred in five puskesmas, while three showed irregular supervision. Establishments under regular supervision demonstrated significantly higher compliance (51.0% vs. 22.5%, $p < 0.01$). Supporting factors included food handlers' knowledge (OR 2.4; 95% CI: 1.1–5.0) and availability of clean water (OR 3.4; 95% CI: 1.6–6.9).

Conclusion: Less than half of food establishments in Gianyar meet hygiene standards. Regular puskesmas supervision is strongly associated with higher compliance. Involving junior doctors enhances both medical education and workforce capacity. Strengthening routine inspections, improving infrastructure, and providing continuous education to food handlers are essential strategies to enhance food safety.

Keywords: Environmental health; food safety; hygiene supervision; public health; sanitation compliance

INVITATIONAL UNIVERSITIES E02
Oral Community

Jago Jantung Demo, Baru Buleh Hidup Bahagio: A Community Intervention Trial on Attitude and Beliefs on Cardiovascular Disease Risk in Jeli, Kelantan

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Background: Cardiovascular disease (CVD) remains the leading cause of death in Malaysia. Despite various public health preventive programs, only small improvements were observed in disadvantaged individuals, especially in rural settings. The Malaysian data on urban-rural disparities in CVD risk demonstrated that communities in rural areas were at a significantly higher risk than their urban counterparts. Thus, the objective of this study was to measure the effectiveness of an intervention programme to improve the mean perceived risk score of CVD in Jeli, Kelantan.

Materials and methods: This was a community intervention trial involving 103 adults in Mukim Kuala Balah, Kelantan. The validated Malay version of the Attitude and Beliefs about Cardiovascular Disease (ABCD) Risk Questionnaire was used. The domains of the questionnaire include perceived risk, general knowledge of CVD, and intention to change behaviour related to certain risks. The intervention package included home visiting and personalised education with a newly developed educational module, specific exercise programmes, dietary intervention, community garden, lectures and exhibitions, and screening for VCD risks. Cultural sensitivity and appropriateness, as well as practicality and local support, were central to the design of the programme.

Results: Post-intervention, only 92% (n = 95) of the participants' results were available; eight persons withdrew or were lost to follow-up. The change in mean score pre- and post-intervention was awareness 4.71 (SD 1.96) to 6.32 (SD 1.49), belief 11.62 (SD 3.29) to 12.87 (SD 3.02), consequences 12.60 (2.53) to 13.11 (2.15) and decision to change 18.01 (SD 2.90) to 18.46 (SD 1.74). The CVD screening revealed that 11.5% (n = 6) of the attendees required further assessment and diagnosis.

Conclusion: This study showed that a carefully planned and multi-pronged programme on CVD risk perception can be conducted with positive results in a rural setting. A change in perception can lead to individuals taking charge of their own health.

Keywords: ABCD risk questionnaire; cardiovascular disease; NCD; perceived risk; rural areas

INVITATIONAL UNIVERSITIES E03
Oral Community

Darah Comey Hidup Seney: Enhancing Knowledge, Attitude and Practices Through Community Intervention and Sustainability Projects among Adults in Kampung Jerimbong, Jeli, Kelantan

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Background and aims: Hypertension remains a public health issue in Malaysia. The National Health and Morbidity Survey 2023 reported a national prevalence was 29.2% among adults aged 18 years and above. In Kampung Jerimbong, Jeli, Kelantan, local prevalence was reported at 25.2%, with higher rates of obesity (37.4%) and smoking (24.4%) than national averages, elevating hypertension risk. Limited knowledge, attitudes, and poor practices in hypertension management further compounded the problem. This study aimed to assess community knowledge, attitudes, and practices (KAP) towards hypertension and evaluate the impact of a culturally tailored intervention programme, "Darah Comey Hidup Seney."

Materials and methods: A community-based pre- and post-intervention design was implemented, and adults 18 years and above were recruited via systematic random sampling. Data were obtained using a validated KAP questionnaire, comprising 26 items on knowledge, 15 on attitudes, and 12 on practices. The intervention incorporated multiple strategies, including health talks, screenings, educational booths, cooking demonstrations, brisk walks, aerobic sessions, and fruit distribution. Sustainability projects include the hypertension corner, mural, educational videos, and a WhatsApp support group. Outcomes were assessed by comparing pre- and post-intervention KAP scores, with analysis performed using the McNemar test in SPSS version 30.

Results: A total of 130 respondents participated. Post-intervention, knowledge significantly improved from 75.4% to 83.1% (p < 0.001) and practice from 50.0% to 64.6% (p = 0.011). Attitudes increased from 47.7% to 57.7%, though the difference was not statistically significant (p = 0.401). Female respondents and known hypertension demonstrated better health practices. Sustainability projects further reinforced long-term awareness and engagement.

Conclusion: The intervention programme successfully enhanced community knowledge and practices but had a limited impact on attitude. Community-driven, multi-modal health promotion activities play a critical role in addressing non-communicable disease risks in rural Malaysia.

Keywords: Awareness; hypertension; lifestyle modification; rural health

INVITATIONAL UNIVERSITIES E04
Oral Community

An Ecological Time Series Analysis using Structural Equation Modeling of Climate Factors, Air Quality Indices and the Pulmonary Tuberculosis Incidence Rates in the Philippines From 2010 to 2019

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Background and aim: The Philippines had the third-highest incidence rate of tuberculosis worldwide in 2023. While traditional disease control efforts focus on the host-pathogen interaction, the environment is a crucial component of the epidemiologic triangle that influences disease transmission and outcomes. This is especially important in the Philippines, which has ranked 10th in the Global Climate Change Risk Index over the past three decades.

Materials and methods: The study utilised an Ecological Time-Series design to explore the relationships between climatic factors, air quality indices, and pulmonary tuberculosis (PTB) incidence rates in the Philippines from 2010 to 2019. Interannual regression analysis was used to evaluate the trend of the annual means of each factor, while linear regression analysis was used to determine the relationship between the annual means of climatic factors and air quality indices with PTB incidence rate. Finally, structural equation modelling (SEM) was employed to investigate whether the effects of climatic factors on the incidence of PTB were mediated by air quality indices.

Results: The analysis identified 14 out of 22 path relationships as statistically significant, affirming the presence of both direct and mediated environmental pathways influencing PTB incidence. The remaining eight non-significant paths highlight the complex interplay and contextual nuances within the environmental determinants of public health.

Conclusion: Climate and air quality may play a significant role in the prevention and control of PTB in the Philippines. Addressing these environmental factors could enhance public health strategies and contribute to reducing the disease burden in the country.

Keywords: Climate change; environmental determinants; incidence trends; mediated effects; path relationships

INVITATIONAL UNIVERSITIES E05
Oral Community

The Relationship of Dietary Intake of Micro- and Macronutrients and Bone Health in the Malaysian Population

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Background/Aim: Bone health is a growing public health concern, particularly in ageing populations. Nutritional factors are recognised as modifiable determinants of bone mineral density (BMD), but evidence regarding the specific effects of individual nutrients remains inconsistent. This study aimed to investigate the associations between dietary intake of selected macro- and micronutrients and bone health indicators among middle-aged and older Malaysian adults.

Materials and methods: A cross-sectional study was conducted among 399 Malaysian adults aged ≥40 years, recruited through quota sampling. Data on anthropometric measurements, lifestyle factors, and dietary intake were obtained using a validated diet history questionnaire. Bone parameters, including hip and spine BMD (assessed via dual-energy X-ray absorptiometry, DXA) and calcaneal quantitative ultrasound (QUS) index, served as the outcome variables. Multiple linear regression analyses were performed to assess the association between nutrient intake and bone health, adjusting for sociodemographic, lifestyle, and dietary covariates.

Results: Hip BMD was positively associated with potassium intake ($p = 0.032$, $\beta = 0.234$) and negatively associated with sodium intake ($p = 0.029$, $\beta = -0.227$). Spine BMD demonstrated an unexpected inverse association with calcium intake ($p = 0.044$, $\beta = -0.154$). No significant associations were observed between nutrient intakes and QUS index. Although multicollinearity was identified among nutrient predictors, it remained within acceptable thresholds for non-dietary covariates.

Conclusion: Potassium and sodium emerged as significant predictors of hip BMD, reflecting their opposing influences on bone health. The absence of consistent associations across skeletal sites suggests that nutrient effects on BMD may be site-specific and modulated by factors such as nutrient bioavailability and mechanical loading. Future longitudinal and interventional studies are warranted to establish causal pathways and inform nutritional strategies for maintaining optimal bone health.

Keywords: Ageing; bone mineral density; nutrition; potassium; sodium