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Does Malaysian Psychiatry Need a College of Psychiatrists? Regional Lessons and Malaysian Workforce Evidence

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ABSTRACT

Psychiatry in Malaysia is expanding within a complex training ecosystem that includes university pathways, service-based Ministry of Health Malaysia (MOH) training, and the MRCPsych parallel pathway, yet it still lacks a dedicated college under the Academy of Medicine of Malaysia (AMM). This study examined whether regional psychiatry college models and Malaysian workforce evidence support the case for such a platform. A structured narrative comparative review was conducted using bibliographic sources, official institutional websites, targeted Google site-specific searches, and citation tracking. Included sources were organised into a comparative framework matrix and synthesised thematically across governance, training, credentialing, continuing professional development, standards, advocacy, professional identity and international linkage. The review included 11 regional institutional sources and 3 Malaysian contextual documents or data sources. Regional models differed in structure but converged in key functions including training support, credentialing, continuing professional development, standards work, advocacy, professional identity, and selective international linkage. Official Malaysian data identified 111 current pathway-linked psychiatrists and 445 psychiatrists in MOH settings, indicating that the pathway-linked cohort constituted approximately 24.9% of the MOH psychiatry workforce. Regional psychiatry bodies differ in form but converge in function. Malaysia now has a visible and institutionally relevant psychiatry constituency, suggesting that a future College of Psychiatrists under AMM may be timely as a durable academic-professional platform to strengthen specialty development, rather than as a parallel regulator.

Keywords: Advocacy; Malaysia; professional organisation; psychiatry; workforce

Synchronous Dual Breast Pathology: Primary Breast Lymphoma of the Right Breast with Contralateral Invasive Breast Carcinoma - A Case Report and Literature Review

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ABSTRACT

Synchronous occurrence of primary breast lymphoma and contralateral breast carcinoma is an exceptionally rare clinical entity. The coexistence of two histologically distinct malignancies within the breasts poses significant diagnostic and therapeutic challenges due to differing biological behaviour and management principles. This is a 55-year-old woman who presented with bilateral breast masses. Clinical examination revealed a right breast mass and an ulcerating irregular skin lesion in the left breast. Imaging demonstrated suspicious lesions in both breasts with ipsilateral axillary lymphadenopathy on the right side. Core needle biopsy of the right breast confirmed diffuse large B-cell lymphoma, while biopsy of the left breast revealed invasive ductal carcinoma. Staging investigations excluded systemic lymphoma involvement. The patient underwent multidisciplinary evaluation and was subjected to receive systemic chemoimmunotherapy for lymphoma combined with staged surgical management of the contralateral breast carcinoma followed by adjuvant endocrine therapy. Primary breast lymphoma accounts for less than 1% of all breast malignancies and approximately 1–2% of extra nodal lymphomas. Simultaneous occurrence with contralateral breast carcinoma is extremely uncommon, with limited cases reported in literature. Diagnosis requires careful histopathological and immunohistochemical evaluation. Treatment strategies must balance oncological priorities of both malignancies while minimising morbidity. Current literature supports individualised multidisciplinary management. In conclusion synchronous bilateral breast malignancies of differing histologies are rare and diagnostically challenging. Accurate tissue diagnosis of each lesion is essential, as management differs significantly between lymphoma and carcinoma. Multidisciplinary treatment planning remains the cornerstone for achieving favourable outcomes.

Keywords: Diffuse large B-cell lymphoma; bilateral breast lesions; invasive ductal carcinoma; primary breast lymphoma; synchronous breast malignancy

Psychiatric Diagnoses and Associated Characteristics among Malaysian Civil Servants Receiving Psychiatric Follow-up Care at Hospital Putrajaya: A Retrospective Cross-sectional Study

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ABSTRACT

Mental disorders are a leading cause of disability and reduced work productivity worldwide, yet data describing the diagnostic profile of Malaysian civil servants receiving specialist psychiatric care remain limited. This study aimed to describe the distribution of psychiatric diagnoses and examine demographic and occupational characteristics associated with diagnostic categories among civil servants attending psychiatric follow-up care at Hospital Putrajaya. A retrospective cross-sectional study was conducted using electronic medical records of civil servants attending the Psychiatry Specialist Outpatient Clinic and MENTARI Clinic from January to December 2024. Demographic, occupational and clinical data, including ICD-10 psychiatric diagnoses, were extracted and analysed using descriptive statistics, Pearson's Chi-square and Kruskal–Wallis tests. A total of 227 patients were included (mean age 40.3 ± 6.3 years; 70.5% female). Mood disorders were the most common diagnosis (52.4%), followed by neurotic, stress-related and somatoform disorders (36.1%), schizophrenia spectrum disorders (10.1%) and other psychiatric disorders (1.3%). Suicidal ideation was documented in 9.7% of patients, while suicide attempts (2.6%) and involuntary admissions (0.9%) were uncommon. Significant associations were observed between psychiatric diagnostic categories and gender ($p = 0.047$), staff category ($p = 0.001$), ethnicity ($p = 0.038$) and age ($p = 0.011$), whereas marital status was not significantly associated ($p = 0.520$). Mood and neurotic disorders accounted for nearly 90% of psychiatric diagnoses. These findings provide baseline evidence to support targeted workplace mental health promotion, early identification and improved access to specialist psychiatric services for Malaysian civil servants.

Keywords: Civil servants; ICD-10; mental disorders; occupational mental health; retrospective studies

Factors Associated with Acute Adverse Drug Reaction Following Radioactive Iodine-131 Treatment for Differentiated Thyroid Cancer

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ABSTRACT

Differentiated thyroid cancer (DTC) is the most common type of thyroid malignancy, with radioactive iodine-131 [¹³¹I]iodine ablation therapy being a key component of post-surgical treatment. While effective, [¹³¹I]iodine is associated with various acute adverse drug reactions (ADRs), impacting patient well-being. However, limited data exist on the prevalence and contributing factors of acute ADRs following [¹³¹I]iodine ablation therapy. This study aimed to determine the prevalence, dose-dependence, and factors associated with acute ADRs following [¹³¹I]iodine ablation therapy in patients with DTC. A retrospective cross-sectional study was conducted at a tertiary hospital, involving 207 patients treated with [¹³¹I]iodine ablation therapy between May 2024 and February 2025. Data was collected using a standardised ADR observation form and hospital records. Acute ADRs were reported in 54.1% (n = 112) of patients, with nausea (n = 57, 27.5%), neck swelling (n = 40, 19.3%), and headache (n = 23, 11.1%) being the most common. A significant association was found with prescribed [¹³¹I]iodine activity (p = 0.047), indicating that doses ≤ 4.44 GBq were associated with higher prevalence of acute ADRs. Multiple logistic regression demonstrated that patients 50 years had a significantly higher risk of developing acute ADRs than older patients (OR 2.863, 95% CI 1.45-5.66, p = 0.002). Acute ADRs are prevalent following [¹³¹I]iodine ablation therapy, with younger patients at greater risk. These findings highlight the need for individualised patient management, emphasising supportive care and patient education to mitigate treatment-related toxicities.

Keywords: Ablation therapy; acute; adverse drug reaction; differentiated thyroid cancer; radioactive iodine

MyACE Questionnaire: Development and Pilot Validation of a Bilingual Tool to Evaluate User Perceptions of the MyUBAT Mobile Application

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ABSTRACT

Pharmacy Value-added Services (PVAS) introduced by the Ministry of Health Malaysia aim to reduce waiting times, improve medicine access, and ease congestion in public health facilities. The MyUBAT mobile application was launched to streamline PVAS registration and medication refills, but its user experience remains unevaluated. This cross-sectional study aimed to develop and validate a bilingual questionnaire (MyACE) to assess the perceived usefulness (PU), perceived ease of use (PEOU), satisfaction, and functionality of MyUBAT among adult users. MyACE integrated constructs from the Technology Acceptance Model, Mobile App Rating Scale and System Usability Scale. Two rounds of content validation involving eight experts were conducted using the Item-level Content Validity Index (I-CVI). The bilingual (English and Malay) version underwent face validation with ten adults from the general public via the Item-level Face Validity Index (I-FVI). A pilot study recruited end-users (N = 30) via convenience sampling at outpatient pharmacy units to evaluate internal consistency using Cronbach's alpha and corrected item-total correlation (CITC). MyACE (20 items) showed strong content validity (I-CVI:0.88 1.00; S-CVI/Ave:0.96) and excellent face validity (I-FVI ≥ 0.83 for 19/20 items; S-FVI/Ave:0.99; S-FVI/UA:0.90). Pilot testing confirmed excellent overall internal consistency ($\alpha=0.91$), with strong domain-specific reliability for Functionality ($\alpha = 0.90$) and Satisfaction ($\alpha = 0.80$). Although PU ($\alpha = 0.55$) and PEOU ($\alpha = 0.62$) showed lower reliability, all items were retained after considering overall reliability and CITC results. The MyACE questionnaire demonstrated good content validity and excellent reliability, supporting its use as a bilingual instrument to evaluate user perceptions of the MyUBAT mobile application and providing a foundation for future large-scale validation.

Keywords: Mobile application; MyUBAT; Pharmacy Value-added Services; questionnaire; validation

A Retrospective Analysis of Virological Outcomes and Medication Adherence among Patients on Antiretroviral Therapy: Insights from a Tertiary Hospital

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ABSTRACT

Antiretroviral therapy (ART) is pivotal in suppressing human immunodeficiency virus (HIV) replication among people with HIV (PWH), yet determinants of optimal HIV treatment outcomes among Malaysian PWH remain largely unknown. A retrospective cohort study was conducted among adult PWH receiving ART at the Infectious Diseases Clinic, Hospital Kuala Lumpur, between 2019 and 2022 to assess the proportion and predictors of viral load suppression (VLS) and medication adherence among PWH on different ART regimens. Among 217 patients, 83.9% achieved VLS. VLS was significantly associated with the choice of non-nucleoside reverse-transcriptase inhibitor, with normal-dose efavirenz demonstrating higher VLS compared with nevirapine or low-dose efavirenz ($p = 0.022$). Positive predictors of VLS included age (AOR: 1.07, 95% CI: 1.01-1.13, $p = 0.018$), regular clinic attendance (AOR: 4.76, 95% CI: 1.56-14.52, $p = 0.006$) and optimal ART adherence (AOR: 11.90, 95% CI: 3.95-35.86, $p < 0.001$). Unemployment (AOR: 0.28, 95% CI: 0.08-0.94, $p = 0.039$) and hospitalisation more than twice per year (AOR: 0.11, 95% CI: 0.01-0.89, $p = 0.038$) were negatively associated with VLS. Additionally, 75.5% had optimal ART adherence ($\geq 90\%$) determined via the proportion of days covered (PDC). Pre-ART pharmacist counselling significantly associated with optimal adherence (AOR: 3.67, 95% CI: 1.29-10.44, $p = 0.015$), whereas patients of Chinese ethnicity (AOR: 0.27, 95% CI: 0.11-0.68, $p = 0.005$) and those with a history of ART default (AOR: 0.31, 95% CI: 0.12-0.84, $p = 0.021$) had about 70% lower odds of optimal PDC. In conclusion, normal-dose efavirenz was associated with favourable virological outcomes while PDC provided a practical measure of ART adherence. Understanding determinants of viral suppression and ART adherence may inform pragmatic strategies to optimise HIV treatment outcomes.

Keywords: Antiretroviral therapy; human immunodeficiency virus; medication adherence; viral load suppression

Potential of Warfarin Anticoagulation with Usage of Topical Herbal Oil: A Case Report

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ABSTRACT

Warfarin is an effective oral anticoagulant for stroke prevention in atrial fibrillation and treatment of thromboembolic disorders. Despite its efficacy, warfarin has a narrow therapeutic window and is susceptible to interactions with drugs, food, and herbal products. While interactions with orally administered agents are well-documented, evidence regarding interactions with topical preparations remains limited. This case report describes two cases of markedly elevated international normalised ratio (INR) potentially associated with the use of a topical herbal oil. Two female patients receiving warfarin for stroke prevention in atrial fibrillation presented to Hospital Kuala Lumpur with significantly elevated INR (>10) following the topical use of "Herbal Oil Y", one of whom developed life-threatening gastrointestinal bleeding. The first patient, aged 31 years, had been on warfarin for a week prior to admission. The second patient, aged 69 years, had been taking warfarin for five years. Both patients denied recent dietary changes, use of over-the-counter medications, or oral herbal supplements. However, they reported applying Herbal Oil Y for one to two days prior to admission. Warfarin was withheld, and over-anticoagulation was managed with intravenous vitamin K or prothrombin complex concentrate. Following treatment, both patients recovered and were discharged well after close inpatient monitoring. These cases suggest a possible interaction between topically applied Herbal Oil Y and warfarin, likely due to the systemic absorption of active herbal components. Patients on warfarin should be counselled on the potential risks associated with herbal products, including topical preparations, to minimise adverse anticoagulation-related events.

Keywords: Herbal oil; interaction; international normalised ratio; over-anticoagulation; warfarin

Performance of the Colorectal Cancer Screening Program: A 4-Year Review in Kuala Lumpur and Putrajaya (2021–2024)

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ABSTRACT

Colorectal cancer (CRC) remains a significant health burden in Malaysia. The Kuala Lumpur and Putrajaya Health Department (JKWPKL&P) utilises the immunochemical Fecal Occult Blood Test (iFOBT) as a primary screening tool. This study evaluates the screening cascade from 2021 to 2024 to assess program performance and identify systemic bottlenecks. A retrospective analysis of CRC screening data from JKWPKL&P primary care facilities was conducted for the period of 2021–2024. A total of 20,106 screening was done among the primary care clinics attendees. Variables included in this study are screening volume, iFOBT positivity rates, referral compliance, specialist clinic attendance, and final colonoscopy findings. Data are presented as descriptive analysis. Screening volume increased significantly from 3,438 in 2021 to 5,956 in 2024. iFOBT positivity rates fluctuated between 8.2% and 15.3% across the four years. While primary care referral rates to Surgical Outpatient Department were exceptionally high, reaching 99.8% in 2024, actual attendance at specialist clinics remained sub-optimal, peaking at 61.6% in 2024. Resource constraints are evident; for instance, in 2023, 34.8% of patients were still waiting for appointments. However, the diagnostic yield for those who completed colonoscopy was high, with polyp detection rates between 38.5% and 49.0%, and cancer detection ranging from 1.6% to 9.6%. The screening program successfully identifies high-risk individuals. The high prevalence of polyps justifies the program's role in cancer prevention. Addressing hospital-level backlogs and improving specialist clinic attendance are critical to “bridge the gap” and ensure timely clinical intervention.

Keywords: Cancer; colorectal; iFOBT; Kuala Lumpur; Putrajaya

Management of Post-Parathyroidectomy in Primary Hyperparathyroidism: Incidence of Early Hypocalcaemia and Associated Risk Factors

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ABSTRACT

Introduction: Early postoperative hypocalcaemia is a recognised complication following parathyroidectomy for primary hyperparathyroidism (PHPT), with incidence of 12% to 70%. Postoperative calcium monitoring is essential, however local data is limited. This study evaluated calcium monitoring and replacement practices following parathyroidectomy for PHPT, as well as the incidence and risk factors of early postoperative hypocalcaemia. **Methods:** This study included 171 patients with PHPT who had parathyroidectomy at Hospital Putrajaya between 2015 and 2024. Demographics, laboratory, postoperative data were retrieved from electronic medical records. Early postoperative hypocalcaemia was defined as corrected calcium <2.20 mmol/L within 72 hours postoperatively. **Results:** Two-thirds (67.3%) were female with mean age of 59.3 ± 15.3 years and BMI of 25.9 ± 5.6 kg/m². Calcium was checked a median of 3 ± 3 times per admission. The median time to first postoperative calcium measurement was 6.37 ± 2.13 hours, with a mean level of 2.59 ± 0.20 mmol/L. Fifty-seven patients (33.3%) received calcium supplementation, including intraoperative (n = 4) and postoperative calcium infusion (n = 11). Fifty patients (29.2%) received activated vitamin D during admission. Early postoperative hypocalcaemia occurred in 43 patients (25.1%), most commonly on the first (48.8%) and second (32.6%) postoperative days. Among them, 13 patients (30.2%) were symptomatic. Early hypocalcaemia was associated with higher preoperative alkaline phosphatase (ALP) and lower preoperative calcium level. **Conclusion:** Patients undergoing parathyroidectomy for PHPT had their first postoperative calcium assessment at 6 hours. One-third required calcium and vitamin D replacement. Early postoperative hypocalcaemia occurred in one-quarter of patients, most commonly during the first two postoperative days. Higher preoperative ALP and lower preoperative calcium level were associated with an increased risk of early hypocalcaemia.

Keywords: Early hypocalcaemia; parathyroidectomy; primary hyperparathyroidism; risk factors

Three-Phase Bone Scintigraphy and Trauma Related Complex Regional Pain Syndrome: Potential Role of Nuclear Medicine in Pain Investigation and Management

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ABSTRACT

Complex regional pain syndrome (CRPS) is a relatively infrequent debilitating disorder characterised by chronic pain typically affecting one limb. Imaging with three-phase bone scintigraphy (TPBS) following radioactive tracer administration has been proposed as a valuable investigation tool in identifying bone involvement and inflammatory process. We report case series aimed to highlight the contemporary usage of TPBS in post-traumatic CRPS patients managed by pain clinic. All post-traumatic CRPS cases referred for TPBS between 2023 and 2025 were included (n = 5). Mean age was 41 (27-69) years-old. Following trauma, three patients had surgery for internal fixation and reconstruction while two patients were managed conservatively. However, their neuropathic pain persisted despite on analgesia. Sites of pain included feet, wrist and distal arm which appear to have healed on physical examination. All patients reported no significant uncontrolled systemic illnesses or ongoing infection at the time of scintigraphy. TPBS was performed between 3 months and 5 years after initial trauma. TPBS consisted of early flow and blood pool phases imaging followed by delayed phase imaging. Scan findings of increased tracer uptake in all phases in keeping with positive studies were observed in four patients. Another patient showed positive delayed phase but subtle tracer uptake on blood flow and pool phases likely depicting atypical findings for CRPS. Their pain medications were subsequently optimised. In conclusion, TPBS showed overall positive scintigraphy findings indicative of CRPS (four typical and one atypical) among our trauma patients. TPBS may assist clinicians by providing useful information related to CRPS evaluation.

Keywords: Bone scintigraphy; complex regional pain syndrome

Predicting Tofacitinib Treatment Outcomes: A Biomarker-Based Approach in Rheumatoid Arthritis

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ABSTRACT

Tofacitinib is prescribed for patients with rheumatoid arthritis (RA) who have an inadequate response to conventional synthetic disease-modifying antirheumatic drugs (DMARDs). Therapeutic outcomes vary widely, influenced by clinical and genetic determinants. This study aims to identify clinical

and genetic predictors of tofacitinib response in RA patients. A retrospective, multicentre study was conducted on 164 RA patients treated with tofacitinib. Demographic and clinical outcome data were collected from medical records. Fifty-eight patients categorised by tofacitinib response were genotyped using whole-genome sequencing. The variants identified were analysed for their association with tofacitinib response utilising Fisher's Exact Test, along with calculation of odds ratios (OR) and 95% confidence intervals (CI). Two-thirds of the RA patients responded to tofacitinib. Anti-cyclic citrullinated peptide (CCP) positivity and joint erosion were both significantly higher in non-responders. Previous exposure to multiple biologic DMARDs was more common among non-responders, whereas biologic-naïve status was significantly more prevalent in the responder group, suggesting that prior biologic treatment might negatively affect tofacitinib efficacy. Five significant genetic variants with p-value less than 1×10^{-7} were identified for the outcome measure of tofacitinib response. The most significant evidence for association with tofacitinib response was with rs12149039_C variant of *CDH13* gene (OR: 62.2, $p = 8.82 \times 10^{-8}$), rs5749279_A of *EIF4ENIF1* gene (OR: 35.4, $p = 2.03 \times 10^{-7}$) and rs13315685_C of *SLC12A8* gene (OR: 13.9, $p = 2.03 \times 10^{-7}$). The identified biomarkers could inform clinical decision-making, helping to predict treatment outcomes and personalise therapeutic strategies for RA management. However, these findings warrant validation in larger, independent cohorts before integration into routine clinical settings.

Keywords: Drug response; JAK inhibitor; personalised medicine; pharmacogenomics; rheumatoid arthritis; tofacitinib

Reliability of C3 & C4 Cervical Vertebral Dimensions on Lateral Cervical Radiographs & Computed Tomography: A Pilot Study

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ABSTRACT

Reliable skeletal measurements are required before statistical modelling for age estimation in forensic and clinical contexts. Cervical spine radiographs and computed tomography (CT) are commonly performed, providing accessible anatomical landmarks for morphometric analysis. C3 and C4 vertebrae were selected for consistent visualisation on lateral cervical radiographs, as lower cervical levels are frequently obscured. This study aimed to evaluate intra- and interobserver reliability of C3 and C4 linear measurements on both imaging modalities, as a prerequisite for age estimation modelling. Two board-certified radiologists, blinded to age and sex, independently measured eleven predefined vertebral body dimensions on lateral radiographs and sagittal CT images in 40 anonymised patients using digital calipers (mm, one decimal place). Measurements were repeated after a minimum interval of ten days. Reliability was assessed using relative technical error of measurement (rTEM) and reliability coefficients (R). Reader 1 demonstrated high intraobserver consistency (radiographs: rTEM 0.48-5.88%, R = 0.96-1.00; CT: rTEM 0.53-6.06%, R = 0.86-0.99). Reader 2 demonstrated marked variability (radiographs: rTEM 1.32-200.00%, R = -1.04 to 0.95; CT: rTEM 2.05-200.00%, R = -2.88 to 0.99). Interobserver variability was greater than intraobserver variability across both modalities (radiographs: rTEM 1.22-24.87%, R = -2.48 to 0.94; CT: 0.58-142.52%, R = -0.97 to 0.99). C3 & C4 vertebral body dimensions are measurable on both radiographs and CT; however, reliability is strongly operator dependent. Marked interobserver variability underscores the need for standardised landmark definitions, structured reader training and stratified analysis to enable reproducible application in age estimation.

Keywords: Cervical vertebrae; computed tomography; observer variation; radiography; reliability

Knowledge, Attitudes and Practices of Primary Care Doctors in Kuala Lumpur towards e-cigarettes

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ABSTRACT

E-cigarettes are increasingly used as alternatives to conventional cigarettes, although their safety and effectiveness remain debated. However, evidence on primary care doctors (PCD) knowledge, attitudes and practices (KAP) towards e-cigarettes in Malaysia is limited. This study aims to determine PCD's level of knowledge regarding e-cigarettes and to determine the association between knowledge level and demographic factors, attitudes, as well as clinical practices regarding e-cigarettes. This is a cross-sectional study conducted in September 2024 among PCD from 13 public clinics in Kuala Lumpur. A self-administered questionnaire adapted from a validated Polish study was used. The questionnaire included four sections: demographics characteristics (10 items), knowledge (19 items), attitudes (9 Likert-scale items) and clinical practices (8 items). Questionnaire development involved expert validation by one respiratory physician and three family medicine specialists, with Scale Content Validity Index (S-CVI/UA) of 0.83. A pilot study among 30 postgraduate trainees demonstrated Cronbach's $\alpha = 0.722$. Data were analysed using SPSS version 26. Associations were tested using Mann-Whitney U, Kruskal-Wallis and Spearman correlation tests, with significance level set at $p < 0.05$. A total of 148 PCD participated (response rate 50.2%). Most PCD demonstrated moderate knowledge (62.2%), negative attitudes (53.4%) and positive clinical practices (84.5%) regarding e-cigarettes. Years of working experience and provision of smoking cessation advice were significantly associated with knowledge level. No significant association was found between knowledge with attitudes or clinical practices. In conclusion, PCD demonstrated moderate knowledge, cautious attitudes and positive clinical practices regarding e-cigarettes. Continuous medical education may improve EBM counselling regarding e-cigarettes.

Keywords: Electronic nicotine delivery systems; knowledge attitudes practice; physicians primary care; primary health care; smoking cessation

Improving Annual Practising Certificate Compliance among Medical Practitioners at Hospital Putrajaya: Impact of a Digital Surveillance Dashboard and Administrative Interventions

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ABSTRACT

Annual Practising Certificate (APC) renewal is mandatory for all registered medical practitioners in Malaysia, yet manual monitoring may delay the identification and follow-up of practitioners with pending or unresolved APC status. This quality improvement study evaluated the effectiveness of a real-time digital APC surveillance dashboard and structured administrative interventions in improving APC compliance at Hospital Putrajaya and transforming monitoring from a reactive administrative task into a proactive institutional governance system. A before-and-after design was conducted from December 2025 to February 2026 among 574 registered medical practitioners. A real-time digital dashboard was developed for individual- and department-level monitoring, followed by a structured five-step intervention workflow involving awareness, reminders, enforcement, digital surveillance, and follow-up. APC non-compliance decreased from 46 of 574 practitioners (8.0%) before intervention to 14 of 574 practitioners (2.4%) after intervention, representing a 69.6% reduction in non-compliance, with 32 practitioners achieving APC resolution. The main reasons for baseline non-compliance were pending Malaysian Medical Council approval (50.1%), no application submitted (28.7%), queries from the Malaysian Medical Council (MMC) Merits system (17.6%), and MyCPD synchronisation issues (3.6%). Digital surveillance combined with structured, escalating administrative interventions substantially improved APC compliance and enabled early identification and targeted follow-up. This approach provides a scalable model for proactive APC compliance management and institutional governance across Ministry of Health institutions.

Keywords: Administrative intervention; Annual Practising Certificate; APC compliance; digital surveillance dashboard; Hospital Putrajaya; Malaysian Medical Council; medical credentialing; MyCPD; quality improvement

Beyond Glycaemia: A Five-Year Trend Analysis of “ABC” Clinical Target Achievement in Wilayah Persekutuan Kuala Lumpur and Putrajaya (2021–2025)

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ABSTRACT

Comprehensive management of type 2 diabetes mellitus (T2DM) requires simultaneous optimisation of glycaemia (HbA1c), blood pressure (BP), and low-density lipoprotein cholesterol (LDL-C), collectively the “ABC” targets, to reduce the risk of microvascular and macrovascular complications. However, long-term trends in composite target achievement within public primary care settings remain poorly documented. This study aimed to evaluate five-year trends (2021–2025) in individual and composite ABC target achievement among T2DM patients in the Federal Territory of Kuala Lumpur and Putrajaya. A retrospective analysis was conducted using annual clinical audit data, with 19,246 records randomly sampled from the National Diabetes Registry. Primary outcomes were individual target achievement for HbA1c ($<7.0\%$), BP ($<140/80$ mmHg), and LDL-C (≤ 2.6 mmol/L), plus the composite “All-3 ABC” target. Associations were assessed using Pearson’s Chi-Square tests ($p < 0.05$). The cohort predominantly comprised older adults with long-standing T2DM and a high prevalence of overweight and obesity. Glycaemic control improved significantly from 50.8% to 56.5%, BP control rose from 36.5% to 46.1%, and LDL-C control showed the greatest improvement, from 56.4% to 67.1% (all $p < 0.001$). Despite these individual improvements, All-3 ABC achievement remained suboptimal, rising only modestly from 10.6% to 17.0% ($p < 0.001$). These findings indicate that while single-parameter control has improved substantially, simultaneous achievement of all three targets remains a persistent challenge, revealing a critical gap in integrated metabolic care. This underscores the need for intensified, multidisciplinary, patient-centered strategies to close the gap between individual risk-factor control and comprehensive T2DM management.

Keywords: Blood pressure; cholesterol; glycated haemoglobin; LDL-C; type 2 diabetes mellitus

Patient-related Cost Savings and Factors Influencing Pharmacy Value Added Services Utilisation: A Cross Sectional Study

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ABSTRACT

Pharmacy Value-Added Services (VAS) have been widely implemented to reduce waiting times and enhance patient convenience. However, data on user preferences and patient-related cost savings remain limited. This study evaluates the determinants of VAS selection and quantifies the economic benefits. A cross-sectional study was conducted in 18 public health facilities across Kuala Lumpur and Putrajaya from July to September 2025. Adult patients or caregivers utilising VAS were recruited. Data were collected using a self-administered questionnaire. Determinants of VAS selection were analysed using multinomial logistic regression. Of 290 respondents, Medicine by Post (UMP) was most preferred (49.8%) and yielded the highest patient-related cost reduction (90.96%; RM60.39), followed by appointment systems (32.8% preference; 42.54% reduction, RM20.36) and medicine lockers (17.4% preference; 77.50% reduction, RM43.20). Overall, VAS utilisation significantly reduced patient-related costs ($W = 2749$, $p < 0.001$) with no significant difference in the magnitude of savings across the three VAS types ($\chi^2 = 5.48$, $p = 0.064$). Multinomial regression showed that selection for Medicine by Post was predicted by higher productivity loss ($OR = 1.007$, $p = 0.040$) and higher cost incurred ($OR = 1.005$, $p = 0.042$). Preference for medicine lockers was driven by younger age ($OR = 0.974$, $p = 0.004$) and higher productivity loss ($OR = 1.009$, $p = 0.034$). Chi-square analysis revealed a significant relationship between age and VAS registration method ($\chi^2 = 18.0$, $p < 0.001$). Registration using MyUbat application dominated younger (91.4%) and middle-aged (88.5%) cohorts, whereas counter registration rose to 22.7% among seniors (>55 years), highlighting age-related digital barriers. Pharmacy VAS substantially reduces patient-related costs. Optimising digital registration and aligning services with patient demographics are essential to maximise future VAS uptake and long-term sustainability.

Keywords: Appointment systems; cost savings; medicines by post (UMP); medicine lockers; patient-related cost; pharmacy value-added services

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Research Landscape on Tuina as Complementary Treatment for Neurogenic Bowel Dysfunction Patient: A Systematic Scoping Review

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ABSTRACT

Neurogenic bowel dysfunction (NBD) is a common complication in people with spinal cord injury, multiple sclerosis, cerebral palsy and Parkinson's disease. Conventional treatments ranging from dietary modulation to invasive surgical interventions often have side effects or fail to provide long-term relief. Tuina is a traditional Chinese manual therapy that regulate Qi and Blood circulation and may improve bowel motility and defecation outcomes. However, the evidence base for tuina in the management of NBD is uncertain. The review followed the Arksey and O'Malley framework and adhered to the PRISMA-ScR guidelines. Literature was retrieved from PubMed, CNKI, Cochrane Library and ScienceDirect between year 2000 to 2026. Eligible studies included English and Chinese-language publications investigating tuina or massage interventions for NBD or related neurogenic constipation. Data extraction was structured around study characteristics, design, tuina regimens, and reported outcomes, without formal quality assessment. Eight studies met the inclusion criteria: five randomised controlled trials (RCTs), one uncontrolled clinical study and two systematic reviews. Populations included patients with NBD due to spinal cord injury, stroke, cerebral palsy and multiple sclerosis. The most frequent intervention was abdominal massage and acupoint manipulation. Improvements in defecation frequency, stool consistency, colonic transit time and quality of life have been reported across studies. However, methodological heterogeneity and the absence of large-scale trials limited generalisability. Tuina has hopeful benefits for the treatment of NBD, especially in the relief of symptoms and the improvement of bowel motility. More high-quality, multi-center RCTs are needed to prove efficacy and to establish clinical guidelines, using standardised tuina protocols and long-term follow-up.

Keywords: Neurogenic bowel dysfunction; tuina

Risk Factors for Childhood Undernutrition among Children Aged 2–5 Years in Urban Kuala Lumpur and Putrajaya, Malaysia: A Case–Control Study

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ABSTRACT

Despite rapid urbanisation, childhood undernutrition remains a significant public health challenge in urban Malaysia. To address gaps in the understanding of undernutrition among children aged 2–5 years, this study comprehensively examined child, maternal, behavioral and environmental risk factors and aimed to identify factors associated with undernutrition in urban Kuala Lumpur and Putrajaya. A 1:2 case–control study was carried out among 372 children aged 2–5 years attending five maternal and child health clinics in Kuala Lumpur and Putrajaya, including 123 undernourished cases and 249 controls. Child anthropometric measurements (weight, height, and mid-upper arm circumference) and maternal height and weight were measured. Sociodemographic, health, feeding, behavioral, and maternal data were collected through face-to-face interviews using validated questionnaires. Multivariable logistic regression was used to estimate adjusted odds ratios (AOR). More than half of the cases (50.4%) experienced multiple forms of undernutrition, with stunting being the most prevalent (80.5%). Higher odds of undernutrition were observed among boys (AOR = 1.99), children with short birth length (AOR = 2.47) or small birth head circumference (AOR = 1.91), those with siblings (AOR = 2.23–14.61), those cared for by extended family members (AOR = 3.50), and those exposed to screens during mealtimes (AOR = 1.90). Maternal short stature (height <145 cm: AOR = 10.90; 145–153 cm: AOR = 2.15) and inaccurate maternal perception of the child's weight (AOR = 5.10) were also significant risk factors. Lower odds of undernutrition were observed among children with emotional undereating, delayed sleep onset behaviors, and those from middle-income households ($p < 0.05$). The findings support targeted family-centered public health strategies that promote early identification of growth faltering and address modifiable caregiving practices to reduce childhood undernutrition in urban populations.

Keywords: Case-control study; childhood undernutrition; Malaysia; risk factors; urban

Knowledge of Radiation Protection and Safety among Nuclear Pharmacists in Malaysia: A Multicentre Survey

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ABSTRACT

Nuclear pharmacists play an important role in safe handling and preparation of radiopharmaceuticals. Adequate knowledge of radiation physics, protection, and safe ionising radiation practices is essential to ensure occupational safety and regulatory compliance. Yet evidence is limited in assessing radiation protection knowledge among Malaysian nuclear pharmacists. This study aimed to assess the knowledge of Malaysian nuclear pharmacists across three domains of the Health Professional Knowledge of Radiation Protection scale and to determine the demographic factors associated with radiation protection knowledge. A cross-sectional questionnaire survey based on HRKRP scale was conducted among nuclear pharmacists in Malaysia. Descriptive statistics were used to summarise knowledge scores. Mann–Whitney U, Kruskal–Wallis and Spearman's correlation analyses were performed to evaluate associations between demographic factors and knowledge scores. Multiple linear regression was conducted to identify predictors of knowledge. A total of 78 nuclear pharmacists were recruited for this study. Knowledge scores were highest for radiation protection and safety (8.35 ± 1.21) and lowest for radiation physics (7.86 ± 1.33). Working experience was significantly correlated with higher knowledge scores ($p = 0.376$, $p < 0.001$). Multiple linear regression analysis demonstrated that Master's degree ($\beta = 0.648$, $p = 0.041$), doctoral degree ($\beta = 1.761$, $p = 0.014$) and nuclear pharmacy attachment training ($\beta = 1.076$, $p = 0.007$) were predictors of total knowledge scores. Knowledge among nuclear pharmacists varied across domains, with lower performance in radiation physics. Structured learning through postgraduate education and formal attachment training plays an important role in improving knowledge, particularly in theoretical aspects of radiation use. These findings emphasise the importance of targeted training strategies to strengthen radiation-related competencies.

Keywords: Knowledge assessment; nuclear pharmacy attachment training; nuclear pharmacy; radiation protection; radiation safety

Childbirth Fear among Postnatal Mothers: Prevalence and Predictors in a Malaysian Public Hospital

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ABSTRACT

Childbirth fear (CBF) is an important psychological concern that may affect women's childbirth experiences and well-being. However, data on its prevalence and predictors in Malaysian public hospitals remain limited. This study aimed to determine the prevalence and predictors of CBF among postnatal mothers in a Malaysian public hospital. A cross-sectional study was conducted using consecutive sampling to recruit 210 postnatal mothers during their postpartum hospital stay between May and June 2025. Participants completed a self-administered questionnaire comprising the Childbirth Fear Questionnaire and the Labour Pain Relief Attitude Questionnaire. Multiple linear regression was performed to identify independent predictors of CBF. The mean CBF score was 54.74 (SD = 12.83), with 62.4% of participants experiencing a high level of fear. The regression model explained 28.7% of the variance in CBF ($R^2 = 0.287$, $p < 0.001$). Significant independent predictors were longer labour duration ($\beta = 0.410$, $p < 0.001$), multiparity ($\beta = 0.328$, $p < 0.001$), higher LPRA score ($\beta = 0.234$, $p < 0.001$), and previous assisted delivery ($\beta = 0.143$, $p = 0.025$). CBF was common among postnatal mothers in this study and was independently associated with obstetric factors and attitudes towards labour pain relief. These findings highlight the importance of early identification of CBF during antenatal care, particularly among first-time mothers. Routine screening, together with appropriate childbirth education and discussion of available pain relief options, may help healthcare providers identify women who require additional information, support, or referral before childbirth.

Keywords: Childbirth fear; Malaysia; postnatal mothers; predictors; prevalence

Prevalence and Distribution of Thalassaemia Status among Form Four Students Under Kepong Health Department: A Retrospective Cross- Sectional Study

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ABSTRACT

Thalassaemia remains a major inherited haemoglobin disorder in Malaysia, prompting the implementation of nationwide school-based adolescent screening programmes. However, data on prevalence and screening outcomes in urban populations remain limited. This study aimed to determine the prevalence, distribution, and screening outcomes of thalassaemia among Form 4 students attending Ministry of Education Malaysia public secondary schools within the jurisdiction of the Kepong Health Department. A retrospective cross-sectional study was conducted using secondary data from the 2025 school-based thalassaemia screening programme under the Kepong Health Department, encompassing the Batu, Kepong, and Segambut parliamentary constituencies. Sociodemographic characteristics, including sex, ethnicity, and parliamentary area, were analysed descriptively. Associations between thalassaemia status and categorical variables were assessed using chi-square tests, with $p < 0.05$ considered statistically significant. A total of 3,465 students completed the screening cascade and received definitive screening outcomes. Thalassaemia carriers accounted for 8.45% ($n = 293$) of students, while 0.31% ($n = 11$) were confirmed to have thalassaemia disease. Overall, 8.8% ($n = 304$) screened positive for thalassaemia. Positive cases were identified across all parliamentary areas and sociodemographic groups. Significant associations were observed between thalassaemia status and selected sociodemographic characteristics. Thalassaemia remains prevalent among adolescents within the study population, with carrier status constituting the majority of detected cases. These findings support the continued implementation of school-based screening programmes and highlight the need for targeted public health interventions to strengthen thalassaemia prevention and control efforts.

Keywords: Adolescent; Malaysia; school-based screening; thalassaemia; thalassaemia carrier

Morphological Deception in Lymphocytosis: Sézary Cell Infiltration Mimicking Mature B/T Cell Lymphoproliferative Disorder

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ABSTRACT

Sézary syndrome (SS) is an aggressive leukemic variant of cutaneous T-cell lymphoma classically characterised by circulating lymphocytes with hyperconvoluted, cerebriform nuclei. When neoplastic cells display atypical variants, they present a profound diagnostic pitfall that can cause significant delays in care. A 52-year-old woman with a history of atopic dermatitis presented with progressive generalised erythroderma, pruritus, alopecia, and nail dystrophy. Initial skin biopsies were non-diagnostic, revealing only spongiotic dermatitis. Laboratory evaluation showed striking leukocytosis ($34.0 \times 10^9/L$) and absolute lymphocytosis ($16.55 \times 10^9/L$). Crucially, peripheral blood morphology did not exhibit the classic cerebriform pattern. Instead, it revealed an infiltration of atypical lymphocytes characterised by predominantly round-to-oval nuclei, coarse chromatin, and moderately abundant, slightly basophilic cytoplasm, mimicking benign reactive lymphocytosis or a mature B-cell/T-cell chronic lymphoproliferative disorder. Despite this deceptive presentation, flow cytometry resolved the diagnosis by confirming an abnormal clonal CD4+ T-cell population (46.7%) with a diagnostic loss of CD26 expression and heterogeneous CD7 expression, establishing Sézary syndrome. This case highlights a critical morphological exception in SS where malignant cells completely lack cerebriform features, presenting instead with round nuclei and basophilic cytoplasm. Clinicians and pathologists must not rule out SS based on benign-appearing or atypical lymphocyte shapes alone; persistent unexplained lymphocytosis paired with erythroderma demands immediate flow cytometric immunophenotyping.

Keywords: Atypical lymphocytosis; basophilic cytoplasm; flow cytometric immunophenotyping; morphological variants; round nucleus; Sézary syndrome

Assessing Knowledge, Attitudes, Practices and Trust in Online Over-the-counter Medication Purchases among Patients and Caregivers at Health Clinics in Putrajaya

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ABSTRACT

The rapid rise of online platforms has transformed the way consumers purchase over-the-counter (OTC) medications, offering greater convenience and accessibility while raising concerns regarding medication safety, counterfeit products, and inappropriate self-medication. However, there are limited studies on online OTC medication purchases. This study aimed to investigate knowledge, attitudes, practices and trust (KAPT) in online OTC purchases among patients and caregivers in Putrajaya health clinics. A cross-sectional study was conducted among patients and caregivers attending four health clinics in Putrajaya between December 2025 and February 2026. Using convenience sampling, 268 eligible respondents completed a self-administered questionnaire adapted from previous studies. Descriptive statistics, univariate and multivariate linear regression analyses were performed using Jamovi version 2.7.37. Overall, 68.7% of respondents demonstrated above-average knowledge, with a mean knowledge score of 6.0 ± 1.2 . Although only 23.0% had previously purchased OTC medicines online, respondents generally recognised both the benefits and risks of online purchasing. Trust in online OTC medicine purchases was neutral (mean 3.0 ± 1.18). Higher educational level was significantly associated with better knowledge ($B = -0.480$, $p = 0.017$), while previous online OTC purchasing experience ($B = 1.047$, $p < 0.001$), younger age ($B = -0.020$, $p = 0.003$) and higher income ($B = 6.03e-5$, $p = 0.019$) were significant predictors of greater trust scores. The findings suggest that, although respondents generally have good knowledge and awareness of the risks associated with online OTC medication purchases, knowledge gaps and cautious levels of trust remain. Strengthening consumer education and regulation is essential to promote safe online OTC medication purchasing and minimise potential digital health-related risks.

Keywords: Attitudes; caregivers; knowledge; online medication purchasing; over-the-counter medication; patients; trust

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Tuberculosis Mortality in the Federal Territory of Putrajaya, 2025: A Case Series

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ABSTRACT

Tuberculosis (TB) remains an important public health issue in Malaysia, even within urban, well-served administrative areas like the Federal Territory (FT) of Putrajaya. Despite relatively accessible healthcare services, TB-related mortality continues to be reported. This case series describes the epidemiological and clinical characteristics of TB mortality cases reported in Putrajaya in 2025. A retrospective review was conducted on all seven reported TB-related deaths in FT Putrajaya in 2025. The majority of cases were pulmonary TB ($n = 5$, 71.4%) and primarily involved elderly Malaysian males ($n = 3$, 42.9%) with underlying comorbidities, notably Diabetes Mellitus. Four patients (57.1%) presented with advanced pulmonary disease at diagnosis, indicating delayed healthcare-seeking behavior and prolonged self-medication. Clinical records revealed that most deaths ($n = 5$, 71.4%) occurred within the first two months of the intensive treatment phase. The presence of multiple comorbidities may have further contributed to poor treatment response and disease progression. TB mortality cases in FT Putrajaya commonly presented with delayed diagnosis, advanced disease at presentation, and underlying comorbidities. The predominance of early mortality following treatment initiation suggests that many patients entered care at a clinically advanced stage. To reduce TB-related mortality, public health strategies should strengthen active case detection among high-risk populations, particularly older adults and individuals with Diabetes Mellitus, while addressing barriers to early healthcare-seeking behaviour, including TB-related stigma.

Keywords: Case series; comorbidity; FT Putrajaya; mortality; tuberculosis

Tooth Wear and Full Mouth Rehabilitation Without Occlusal Vertical Dimension Adjustment: A Case Report

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ABSTRACT

Excessive tooth wear may compromise aesthetics, mastication, and occlusal stability, requiring comprehensive rehabilitation. This case report describes the management of a 63-year-old male patient who presented with severe anterior tooth wear and missing mandibular posterior teeth, causing discomfort during eating. Clinical examination revealed significant anterior attrition, exposed pulp in teeth 42 and 44, over-eruption of tooth 11 with a chipped porcelain-fused-to-metal crown, and a dislodged filling with exposed orifice in tooth 17. The patient reported no symptoms of temporomandibular disorder. Treatment included root canal therapy for teeth 42, 44 and 17, crown replacement on tooth 11, crown placement on tooth 17, and fabrication of a cobalt-chromium removable partial denture for the mandibular arch. Rehabilitation was completed without increasing the occlusal vertical dimension due to the patient's age and preference for conservative management. The treatment successfully restored oral function, comfort, and aesthetics with satisfactory outcomes.

Keywords: Attrition; denture; occlusal vertical dimension; rehabilitation; tooth surface loss

The Heart of the Storm: Dengue-Associated Haemophagocytic Lymphohistiocytosis Complicated by Myocarditis - A Case Report from Hospital Ampang

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ABSTRACT

Haemophagocytic lymphohistiocytosis (HLH) is a rare but life-threatening hyperinflammatory syndrome that may complicate dengue infection and is associated with significant mortality. Diagnosis is often challenging due to overlapping nonspecific clinical and laboratory features. While dengue-associated HLH has been increasingly recognised, cardiac involvement, particularly myocarditis, remains rarely reported. A 29-year-old woman with obesity (BMI 36.7 kg/m²) presented with four days of fever and lethargy. Dengue non-structural antigen-1 (NS1) was positive. On presentation, she was hypotensive with blood pressure of 92/53 mmHg. Laboratory investigations demonstrated transaminitis and markedly elevated ferritin levels, raising concern for secondary HLH. Electrocardiogram showed T-wave inversions, while troponin I was elevated at 26.8 ng/L (reference <19 ng/L). Echocardiography revealed septal hypokinesia, consistent with myocarditis. Despite aggressive fluid resuscitation with crystalloids and colloids, she developed haemodynamic instability requiring inotropic support and admission to the critical care unit. Intravenous dexamethasone 4 mg daily was initiated for suspected HLH with cardiac involvement. Her condition improved clinically and biochemically with resolution of shock, and she was discharged well on day 12 of illness. Cardiac dysfunction in secondary HLH is believed to result from cytokine-mediated myocardial injury, particularly tumour necrosis factor- α -driven inflammation. HLH-associated myocarditis is uncommon but carries significant morbidity due to haemodynamic compromise and intensive care requirement. Early recognition and prompt immunomodulatory therapy may reverse myocardial dysfunction and improve outcomes. This case highlights the under recognised cardiac manifestations of dengue-associated HLH. Early screening for myocardial involvement and timely intervention are essential to improve prognosis in this potentially fatal condition.

Keywords: Dengue; haemophagocytic lymphohistiocytosis; HLH; HScore; hyperferritinaemia; myocarditis; severe dengue

Staged Prosthetic Rehabilitation in a Young Bilateral Proximal Transfemoral Amputee Following Traumatic Mangled Limb Injury: A Case Report

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ABSTRACT

Traumatic bilateral transfemoral amputation is associated with profound functional limitation, high energy expenditure during ambulation, and prolonged rehabilitation. Functional restoration is further complicated by proximal residual limbs, obesity, stump complications, and impaired balance. This report describes the staged rehabilitation for prosthetic restoration of a young bilateral proximal transfemoral amputee. An 18-year-old Malay male sustained bilateral mangled lower limb injuries following a motorcycle-versus-lorry collision in October 2023. He underwent bilateral proximal transfemoral amputation. Rehabilitation was complicated by infected stumps requiring revision surgery and split skin graft, followed by terminal bony overgrowth requiring bony overgrowth removal. Additional challenges included obesity, bulbous stumps, hip extensor weakness, limited hip extension, poor trunk control, and impaired standing balance. Pre-prosthetic rehabilitation commenced six months post-amputation. Definitive prosthetic restoration began in September 2025 using bilateral transfemoral prostheses with total contact quadrilateral sockets, suction suspension, pelvic band with hip joint, stance control knees, pylons, and single-axis feet. A staged prosthetic progression strategy with initial short prostheses and delayed knee incorporation was employed alongside intensive multidisciplinary rehabilitation. Multiple prosthetic adjustments were required and he demonstrated progressive functional improvement. The 10-meter walk test improved from 5 minutes 45 seconds to 1 minute. He achieved independence in transfers, wheelchair mobility, stump bandaging, and prosthesis. Current Modified Barthel Index was 92/100 and AMPPRO score was 15/47. He currently participates in adaptive sports and is undergoing microprocessor knee training. A staged multidisciplinary rehabilitation and prosthetic approach enabled meaningful functional recovery and successful reintegration despite severe traumatic bilateral proximal transfemoral amputation.

Keywords: Bilateral transfemoral amputation; prosthesis restoration

Effectiveness of a Nutrition Education Intervention on Knowledge, Attitudes and Practices among Primary School Students Living with Obesity

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ABSTRACT

Limited nutrition knowledge, poor attitudes towards healthy eating, and unhealthy dietary practices are among the key factors contributing to the rising prevalence of obesity among children. Therefore, this study aimed to evaluate the effectiveness of Celik Nutrisi, a nutrition education intervention, in improving knowledge, attitudes and practices (KAP) among primary school students living with obesity in Kuala Lumpur. A total of 27 out of 40 primary school students living with obesity from Standard 4 and 5 successfully completed the 6-month intervention study, comprising 66.7% males and 33.3% females. Data were collected using a validated self-administered questionnaire assessing nutrition KAP before and after the intervention. Descriptive statistics were used to summarise participants' characteristics and KAP scores. Changes in mean KAP domain scores and overall KAP scores between pre- and post-intervention assessments were evaluated using paired-sample t-tests. Following the intervention, the mean percentage score for nutrition knowledge level increased significantly from $75.2\% \pm 16.5$ to $82.6\% \pm 10.2$ ($p < 0.01$). Improvements were also observed in attitude level, from $91.4\% \pm 13.4$ to $95.7\% \pm 7.4$, and practice level, from $56.7\% \pm 14.9$ to $60.1\% \pm 9.8$ but were not statistically significant. Overall, the total score increased significantly among the students from $65.8\% \pm 10.0$ to $70.3\% \pm 5.6$ ($p < 0.05$). In conclusion, Celik Nutrisi showed promise in enhancing nutrition knowledge and overall KAP scores. However, further efforts are needed to strengthen nutrition-related practices among students and support long-term behaviour change.

Keywords: KAP; nutrition; obesity; primary school; students

Turning Numbers to Metabolic Outcomes: Diabetes Educators Led-self Monitoring Blood Glucose in Type 2 Diabetes at Hospital Putrajaya

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ABSTRACT

Introduction: Self-monitoring of blood glucose (SMBG) is a cornerstone of type 2 diabetes mellitus (T2DM) management. However, its effectiveness depends on appropriate interpretation and patient education. Diabetes educator-led SMBG reviews may facilitate treatment optimisation and improve metabolic outcomes. **Objective:** To evaluate the effects of Diabetes Educator-led SMBG review on metabolic outcomes among insulin-treated T2DM patients. **Methods:** A retrospective study was conducted among insulin-treated T2DM patients newly referred for SMBG review by Diabetes Educators at Hospital Putrajaya between 1 April 2025 and 1 April 2026. Demographic, clinical, and metabolic data were retrieved from electronic medical records. Patients on oral therapy only or followed up at other centres were excluded. **Results:** Of 477 patient records reviewed, 161 met the inclusion criteria. The mean age was 56.0 ± 14.5 years, and 52.8% were female. Patients attended a mean of 1.85 Diabetes Educator visits. Median HbA1c significantly improved from 10.4% (IQR 8.6–12.3) to 8.3% (IQR 7.1–10.8) ($p < 0.001$). Total cholesterol also improved from 5.5 to 5.2 mmol/L, while LDL and triglyceride levels showed reductions without statistical significance. **Conclusion:** Diabetes Educator-led SMBG review significantly improved glycaemic control in insulin-treated T2DM patients. Integrating structured SMBG review into routine diabetes care may enhance long-term metabolic outcomes

Keywords: Diabetes educator; self-monitoring blood glucose; type 2 diabetes mellitus

Integrating Measles Detection in Existing Polio Wastewater Surveillance Using Digital PCR: A Pilot Study (MeWaW Study)

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ABSTRACT

The COVID-19 pandemic disrupted routine immunisations, increasing Malaysia's risk of measles resurgence. Integrating measles virus (MeV) detection into existing polio wastewater surveillance offers a non-invasive early warning tool. However, low viral loads in sewage require highly sensitive detection technologies like digital PCR (dPCR) to overcome environmental inhibitors. This longitudinal pilot study processes 85 wastewater samples, combining 2024 archived samples and prospective monthly raw wastewater collected from eight states via the grab method. Samples are concentrated using the WHO two-phase separation method (PEG/NaCl precipitation). Downstream viral RNA quantification is conducted using the QIAcuity OneStep Advanced Probe Kit on a QIAcuity dPCR instrument. Validated samples must test positive for the PMMoV fecal indicator. Initial pilot testing of five environmental wastewater samples (EP69-EP73) using the dPCR platform yielded zero detected copies of MeV RNA (0.000 copies/ μ L), with zero positive partitions. A non-template control confirmed the absence of assay cross-contamination. The study currently awaits analytical validation using a verified MeV positive control to establish the absolute limit of detection in the local wastewater matrix. While early samples tested negative, establishing this operational baseline is a critical first step. Once fully validated, this integrated dPCR approach will offer a cost-effective early warning system to complement clinical surveillance, particularly for detecting silent community transmission, ultimately supporting Malaysia's ongoing measles elimination efforts.

Keywords: Digital PCR; environmental surveillance; Measles virus; wastewater

Specialised Consultation Clinics as the Core Engine of Community Mental Health Centres: Lessons for Strengthening MENTARI Malaysia

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Abstract

Community mental health centres should move beyond routine follow-up toward integrated, recovery-oriented care. In Malaysia, MENTARI is grounded in the Mental Health Act 2001 and Mental Health Regulations 2010, yet its consultation-clinic function has not been systematically mapped against contemporary service models. This study aimed to identify transferable service-model characteristics for strengthening MENTARI consultation clinics. A PRISMA-ScR-informed scoping review and service-model synthesis used EBM Reviews/Ovid and targeted manual, grey-literature, policy, guideline, and framework searches. English- and Malay-language sources from 2016 to 2026 were eligible if they described community mental health centres, consultation clinics, integrated care, telepsychiatry, hub-and-spoke services, rehabilitation-linked care, governance, or workflow. One reviewer screened records, assessed eligibility, and charted data using predefined criteria across six domains. The original search identified 545 records; after removing three duplicates, 542 were screened and 70 database-derived sources were retained. Manual searching identified 48 potential sources, of which 25 were included. A July 2026 update retrieved 872 records; 163 new records were screened, 17 reports underwent full-text assessment, and none was included. The final synthesis comprised 95 sources. The six domains were governance and monitoring, workflow and operations, access and referral, multidisciplinary staffing, community integration and rehabilitation, and resource-sensitive adaptation. MENTARI consultation clinics should function within a broader community mental health centre platform, linking specialist psychiatric input with structured access, multidisciplinary care, rehabilitation, shared care, measurable outcomes, and flexible rural implementation.

Keywords: Community mental health centres; consultation clinics; MENTARI; rehabilitation; service models

Beyond Demyelination: Avascular Necrosis Mimicking Disease Progression in Tumefactive Demyelinating Disease

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ABSTRACT

Tumefactive demyelinating disease (TDD) is a rare inflammatory demyelinating disorder associated with recurrent neurological deficits, disability, and mobility impairment. In patients with chronic neurological conditions, functional decline is often attributed to disease progression, potentially overlooking treatable musculoskeletal comorbidities. Recognising reversible contributors to disability is crucial for optimising rehabilitation outcomes. A 35-year-old woman with TDD diagnosed in 2015 experienced multiple relapses resulting in persistent left-sided spastic hemiparesis and progressive ambulatory decline. She received repeated courses of corticosteroid therapy during relapses and remained on long-term steroid treatment for several years. Initially, she was able to ambulate independently indoors; however, following recurrent relapses, she requires walking frame and eventually a wheelchair for community mobility. Concurrently, she developed chronic right hip pain associated with worsening gait performance and reduced functional capacity. Clinical assessment demonstrated a right lower-limb length discrepancy, raising suspicion of musculoskeletal pathology. Radiographic evaluation performed at mid-2025 confirmed avascular necrosis (AVN) of the right femoral head, likely related to prolonged corticosteroid exposure. The patient underwent right total hip replacement in December 2025 followed by comprehensive inpatient rehabilitation comprising strengthening exercises, balance retraining, transfer practice, and gait re-education. Significant functional improvement was observed postoperatively. She regained the ability as indoor ambulator using a walking frame, although wheelchair use remained necessary for long distance. This case underscores the importance of a comprehensive and multidisciplinary assessment of mobility decline in patients with chronic neurological disorders. Steroid-induced AVN should be considered in individuals with demyelinating disease who develop hip pain and worsening mobility. Early recognition of this potentially reversible condition, timely surgical management and targeted rehabilitation, can lead to meaningful functional gains and improved participation.

Keywords: Hip fracture; steroid-induced avascular necrosis; tumefactive demyelinating disease

Trade-Offs between Rehabilitation Impact Indices in Multiple Sclerosis: A Descriptive Cohort Study Over 6 Years in a National Rehabilitation Centre

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ABSTRACT

Background: Multiple sclerosis (MS) is a chronic demyelinating disease causing progressive disability. Rehabilitation Impact Indices (RIIs) quantify rehabilitation outcomes. This study evaluated the relationship between RIIs and length of stay (LOS) to identify an optimal balance between functional gains and rehabilitation efficiency. **Method:** A descriptive cohort study included 16 MS patients who underwent inpatient rehabilitation at Hospital Rehabilitasi Cheras between 2018 and 2023. Demographic data, MS subtype, LOS) expanded disability status scale (EDSS), and modified barthel index (MBI) scores at admission and discharge were collected. RIIs, including absolute functional gain (AFG), rehabilitation efficiency (REy) and rehabilitation effectiveness (REs), were calculated. Comparative, correlation, regression, and median rank ratio analyses were performed to evaluate rehabilitation outcomes and identify the AFG–LOS trade-off point. **Results:** Mean age was 40.8 years and mean LOS was 22.5 days. Mean MBI improved from 65.3 to 76.0, corresponding to an AFG of 10.7. Mean REy was 0.47 and mean REs was 39.7%. No significant differences in RIIs were observed across MS subtypes or gender ($p > 0.05$). The modal EDSS improved from 7.0 at admission to 6.0 at discharge. Age demonstrated a significant negative correlation with REy ($r = -0.61$) and REs ($r = -0.74$). Regression analyses identified no significant predictors of rehabilitation effectiveness. The optimal trade-off point occurred at AFG 13 and LOS 19 days. **Conclusion:** Structured inpatient rehabilitation improved functional outcomes in MS patients. Patient characteristics were not significant predictors of rehabilitation efficiency or effectiveness. The identified trade-off point may assist in balancing functional recovery with efficient resource utilisation.

Keywords: Multiple sclerosis; rehabilitation impact indices; trade-off point

Predicting Post-Ischemic Stroke 1 Year-Fracture Risk: A FRAC-Stroke Tool Retrospective Study

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ABSTRACT

Background: Stroke is associated with accelerated bone loss, impaired mobility, increased falls risk, and a substantially higher risk of fragility fractures. The Fracture Risk after Ischemic Stroke (FRAC-Stroke) score estimates 1-year fracture risk using age, sex, and modified Rankin Scale (mRS). This study evaluated fracture risk among adults with ischemic stroke undergoing inpatient rehabilitation using the FRAC-Stroke tool. **Method:** This retrospective cross-sectional study included 75 ischemic stroke patients aged ≥ 50 years admitted for inpatient rehabilitation at Hospital Rehabilitasi Cheras between January and June 2025. Data collected included age, sex, length of stay (LOS), discharge mRS, history of falls and fractures, and comorbid osteoporosis or rheumatoid arthritis. FRAC-Stroke scores were calculated to estimate 1-year fragility fracture risk. Descriptive statistics were used to summarise patient characteristics and fracture risk profiles. **Results:** Mean age was 61.9 ± 6.8 years, and 60% were male. Mean LOS was 20 days. At discharge, 49.3% of patients had moderate-to-severe disability (mRS 4). A history of falls was reported in 12%, while none had known osteoporosis or rheumatoid arthritis. The mean FRAC-Stroke score was 5.1, corresponding to a mean predicted 1-year fracture risk of 2.0%. Overall, 57.3% of patients had an estimated fracture risk of 0.8–2.0%, warranting bone densitometry screening, while 41.4% had a predicted risk $>2.0\%$, suggesting consideration for pharmacological intervention. **Conclusion:** The FRAC-Stroke tool effectively stratified post-stroke fracture risk. The high proportion of patients at moderate-to-high risk highlights the importance of early bone health assessment and comprehensive fracture prevention strategies during stroke rehabilitation.

Keywords: FRAC stroke tool; fragility fracture; ischemic stroke; osteoporosis

Navigating Dental Extractions in a Patient on Intravenous Rituximab with Underlying Multiple Sclerosis: A Case Report

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ABSTRACT

Rituximab, a monoclonal antibody targeting CD20-positive B cells, is increasingly used in the management of autoimmune diseases such as multiple sclerosis (MS). Although effective, it causes significant immunosuppression and may increase the risk of medication-related osteonecrosis of the jaw (MRONJ), making dental management challenging. A 48-year-old Indian male with MS and trigeminal neuralgia (TN)-associated facial pain, receiving intravenous rituximab every six months, presented with extensive dental disease. Clinical and radiographic examination revealed generalised severe chronic periodontitis and multiple non-restorable teeth requiring extraction. Considering his immunosuppressed state and potential MRONJ risk, extractions were performed using a minimally invasive, atraumatic technique with measures to optimise soft tissue healing. Post-operative healing was closely monitored at two-week intervals. As facial pain could be related to either TN or post-surgical discomfort, management was undertaken in close collaboration with the patient's neurologist to differentiate the pain source and ensure appropriate treatment, using neuropathic medication for TN flares and conventional analgesics for surgical pain. Treatment timing was planned with consideration of the six-month rituximab dosing interval, as performing extractions toward the end of the treatment cycle may enhance healing potential. Extractions were prioritised because untreated chronic oral infection could pose a greater systemic risk in an immunocompromised patient. The patient achieved favourable healing without complications through meticulous treatment planning, atraumatic surgical technique, multidisciplinary collaboration, and regular follow-up. This case demonstrates that necessary dental extractions can be safely performed in patients receiving rituximab therapy when managed with careful risk assessment, coordinated medical care, and vigilant post-operative monitoring.

Keywords: Dental extractions; medication-related osteonecrosis of the jaw; multiple sclerosis; multidisciplinary management; rituximab

Bringing Habilitation Home: Exploring Caregiver Support Needs for Children with Hearing Impairment

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ABSTRACT

Home-based aural habilitation is essential for supporting listening and language development in children with hearing impairment, yet its effectiveness depends on caregiver involvement. In Malaysia, evidence remains limited regarding caregivers' support needs when implementing home-based auditory and language intervention. This cross-sectional pilot study aimed to describe caregiver-reported support needs using the Home-Based Aural Habilitation: Barriers, Readiness and Facilitators (HBAH-BRF) Questionnaire. A total of 135 caregivers of children with bilateral sensorineural hearing loss were recruited from public audiology clinics. Participants completed the bilingual HBAH-BRF Questionnaire, developed through literature review, expert input, adaptation of instruments, and forward-backward translation. Data were analysed descriptively using frequencies, percentages, means, and standard deviations. Most respondents were female (80.0%) and were the children's mothers (78.75%). Nearly half of the children were diagnosed before one year of age (48.75%), while most used hearing aids (86.25%). The most prominent caregiver-reported concerns were anxiety about the child's future development ($M = 3.56$, $SD = 1.19$), the cost of future hearing aid upgrades or repairs ($M = 3.46$, $SD = 1.14$), and time constraints affecting consistent home practice. Key sources of support included regular professional check-ins ($M = 4.30$, $SD = 0.66$), emotional support from family members ($M = 4.21$, $SD = 0.73$), technology-assisted home intervention ($M = 3.89$, $SD = 0.78$), and practical guidance on hearing aid use ($M = 3.78$, $SD = 0.89$). These findings indicate that effective home-based habilitation requires more than clinical advice. Caregivers need structured training, emotional support, practical resources and recognition as active partners in their child's rehabilitation journey. Addressing these needs may strengthen caregiver confidence and promote participation in daily listening and communication activities.

Keywords: Caregiver involvement; caregivers needs; family-centred intervention; hearing impairment home-based aural habilitation

Public Knowledge, Attitudes, and Practices Regarding Medication Safety in Malaysia: A Nationwide Survey

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ABSTRACT

Despite global and national medication safety initiatives, unsafe medication use remains a significant cause of preventable medication-related harm. However, research on public knowledge, attitudes, and practices regarding medication safety in Malaysia remains limited. This study assessed knowledge, attitudes, and practices regarding medication safety among the general public in Malaysia. A cross-sectional survey was conducted among members of the general public aged 18 years using convenience and snowball sampling. Data were collected between October and November 2025 using a validated, pre-tested, self-administered online questionnaire. Knowledge (10 items), attitudes (six items), and practices (seven items) were classified according to Bloom's cut-off points: knowledge and practices as poor (<50%), moderate (50–79%), or good (≥80%); and attitudes as negative (<80%) or positive (≥80%). Data were analysed using SPSS. A total of 482 respondents completed the survey, with a mean age of 34.2 ± 12.9 years. Mean knowledge, attitude, and practice scores were 6.8 ± 2.8 , 22.5 ± 4.8 , and 25.2 ± 5.4 , respectively. Good knowledge, negative attitudes, and moderate practices were observed in 51.7%, 53.1% and 55.2% of respondents, respectively. Higher knowledge scores were significantly associated with more positive attitudes ($r_s(480) = 0.52$, 95% CI [0.45, 0.58], $p < 0.001$) and better medication safety practices ($r_s(480) = 0.61$, 95% CI [0.55, 0.66], $p < 0.001$). Overall, the findings highlight the need to strengthen medication safety attitudes and practices among respondents. Targeted medication safety education and behavioural interventions may promote more positive attitudes and safer medication use in Malaysia.

Keywords: Attitudes; knowledge; medication safety; practices; public

Breathe Better, Spend Smarter: Optimising Chronic Obstructive Pulmonary Disease Inhaler Therapy at Hospital Jelebu

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ABSTRACT

Chronic Obstructive Pulmonary Disease (COPD) is the 7th leading cause of death in Malaysia, driving high emergency visits and hospitalisations. GOLD 2025 guidelines recommend high-risk patients (GOLD E) receive dual bronchodilation (LABA+LAMA) to mitigate exacerbations. This study aims to audit prescribing compliance in facility and project 3-year economic impact of optimising therapy. This retrospective study utilised a two-phased design using the Pharmacy Information System. Phase 1 was a clinical audit of 22 active COPD patients to evaluate treatment appropriateness. Phase 2 was a Budget Impact Analysis (BIA) modeling a 3-year cost impact from payer's perspective, comparing baseline LAMA monotherapy against a 50/50 escalation mix of Spiolto® Respimat and Ultibro® Breezhaler. Admission costs were inflated to 2024 terms (RM 1,487) using the Consumer Price Index, and a one-way sensitivity analysis was applied. GOLD A-B patients (n = 3) showed 100% treatment appropriateness while 73.7% of GOLD E patients (14/19) were inappropriately prescribed LAMA monotherapy. Escalating these 14 patients yields a 3-year cumulative net drug-budget impact of just RM 682.68. Preventing one hospital admission (saving RM 1,487) yields net institutional savings of RM 1,271.88 per year. Clinical gaps exist in GOLD E management at our facility. However, BIA indicates that the incremental cost of dual therapy is minimal, and avoiding a single admission serves as the primary downward cost driver. Prioritising these patients for escalation offers a potentially high-value strategy with minimal additional budget impact to optimise clinical outcomes and hospital resource utilisation.

Keywords: Budget impact analysis; chronic obstructive pulmonary disease; GOLD guideline; hospitalisations; inhalers

Knowledge and Attitudes Regarding Medication Error Reporting among Community Pharmacists in Selangor, Malaysia

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ABSTRACT

Medication errors (MEs) remain a significant patient safety concern, with underreporting limiting opportunities for improvement. In Malaysia, despite the availability of Medication Error Reporting System, reporting among community pharmacists remains suboptimal. This study aimed to assess the knowledge and attitudes of community pharmacists in Selangor towards ME reporting. A quantitative cross-sectional study was conducted among community pharmacists in Selangor using convenience and snowball sampling. Data was collected using a validated self-administered questionnaire from October to December 2025. Knowledge and attitudes were assessed using Bloom's cut-off points. Knowledge scores were categorised as good (11–14), moderate (7–10), or poor (0–6), while attitudes were classified as positive (7–9) or negative (0–6) based on an 80% threshold. Data were analysed descriptively using SPSS. Ethical approval was obtained from the University Ethics Committee (Approval No. EA-L1-01-SPH-2025-12-0009), and the study was registered with the National Medical Research Register (NMRR ID: 25-03019-6T1). A total of 306 pharmacists participated. Most respondents were female (56.5%), aged 20–40 years (72.5%) and had ≤10 years of experience (72.6%). While 50.7% demonstrated good knowledge (mean score: $10.43 \pm 3.43/14$), only 40.8% exhibited positive attitudes towards reporting (mean score: $4.99 \pm 3.67/9$). Fear of negative consequences (41.5%) and perceived error severity (33.3%) were the main barriers to reporting. Although more than half of community pharmacists demonstrated good knowledge of MEs, positive attitudes towards reporting remained suboptimal. Addressing fear of repercussions and fostering a non-punitive reporting culture may improve reporting practices and enhance patient safety.

Keywords: Attitudes; community pharmacists; knowledge; Malaysia; medication errors

Shoshin Beriberi in Vulnerable Population

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ABSTRACT

Background: Shoshin beriberi is a fulminant cardiovascular emergency caused by severe thiamine deficiency, characterised by high-output heart failure, refractory cardiogenic shock, and severe lactic acidosis. It poses a diagnostic challenge as patients can maintain a normal body mass index (BMI) despite life-threatening micronutrient deficiencies. **Case Presentation:** A 23-year-old Rohingya male with a normal BMI presented with a two-week history of reduced effort tolerance, palpitations, and abdominal pain. Initial investigations revealed severe high anion gap metabolic acidosis with marked hyperlactatemia. Over five days, his condition deteriorated into profound shock requiring high-dose multi-vasopressor support and mechanical ventilation. Echocardiography demonstrated right-sided heart failure with severe right ventricular dilation and a reduced TAPSE of 1.2cm. Given his refugee status, high-carbohydrate diet, and history of chronic betel nut chewing (an anti-thiamine factor), Shoshin beriberi was highly suspected. **Management and Outcome:** Empirical intravenous thiamine 500 mg was initiated. Hemodynamic status improved rapidly after the first dose, allowing weaning of vasopressors. Serum lactate completely normalised within 12 hours after just two doses, and the patient was successfully extubated. **Conclusion:** This case highlights the crucial need for a high index of suspicion for micronutrient deficiencies in displaced populations experiencing food insecurity, even with a normal BMI. Chronic betel nut consumption further compounds this risk. Early empirical administration of intravenous thiamine is a safe, definitive, and a lifesaving intervention.

Keywords: Betel nut chewing; lactic acidosis; ShoshinBeriberi; thiamine deficiency;vulnerable populations

Sensory Processing and Behavioural Outcomes Following 6 Months of Multidisciplinary Occupational Therapy in Children with Autism Spectrum Disorder: A Pre-Post Evaluation Using the Short Sensory Profile-2

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ABSTRACT

Autism spectrum disorder (ASD) is a neurodevelopmental condition frequently associated with sensory processing difficulties that adversely affect behavioural regulation, functional participation, and quality of life. Although occupational therapy (OT) incorporating sensory integration has demonstrated promising outcomes, longitudinal evaluations of concurrent sensory and behavioural changes within a multidisciplinary team (MDT) framework remain limited in Malaysia. This study aimed to evaluate pre-to-post changes in sensory processing and behavioural regulation among autistic children following a 6-month MDT-based OT intervention. A single-group quantitative pre-post evaluation was conducted involving six children with ASD aged 2–5 years receiving clinical services in Kuala Lumpur, Malaysia. Participants underwent a structured six-month intervention comprising Ayres Sensory Integration® therapy, behavioural regulation strategies, and functional activity training. Sensory processing and behavioural outcomes were assessed at baseline and post-intervention using the Short Sensory Profile-2 (SSP-2), supported by structured MDT clinical observations. Five of six participants demonstrated clinically meaningful improvements in sensory modulation, particularly sensory sensitivity and sensory avoidance, with the greatest reduction in SSP-2 score being 22 points. One participant maintained stable sensory function without regression. Behavioural observations indicated enhanced sustained attention, improved emotional regulation, reduced distress responses to sensory stimuli, and smoother transitions between activities following intervention. These findings suggest that a six-month MDT-integrated occupational therapy programme is associated with clinically meaningful improvements in sensory processing and behavioural regulation among autistic children. Although the absence of a control group limits causal inference, consistent within-participant improvements support the clinical value of neurodiversity-affirming, multidisciplinary occupational therapy and provide preliminary evidence to inform studies.

Keywords: Autism spectrum disorder; Ayres Sensory Integration; behavioural regulation; multidisciplinary team; occupational therapy; pre-post evaluation; sensory processing; Short Sensory Profile-2

Hidden in Plain Sight: Neutrophil Howell-Jolly-like Inclusions as a Morphological Signature of HIV Patients: A Case Series

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ABSTRACT

Background: Neutrophil Howell–Jolly–like inclusions (HJLIs) are rare cytoplasmic abnormalities typically described in conditions associated with critical illness or impaired granulopoiesis. HJLIs named for their morphological resemblance to Howell–Jolly bodies found in erythrocytes. Peripheral blood smear (PBS) examination remains a valuable diagnostic tool in the evaluation of these rare features, especially in critically ill patients. **Case Description:** We present a case series of three patients with advanced Human Immunodeficiency Virus (HIV) infection complicated by severe sepsis and multi-organ failure, all demonstrating these distinctive basophilic, spherical cytoplasmic inclusions within peripheral blood neutrophils. The patients, aged 24, 47 and 37 years, presented with immunodeficiency (CD4 counts 40 cells/ μ L or antiretroviral-naïve/non-adherent status) and concomitant severe systemic illness, including suspected cerebral toxoplasmosis, tuberculous meningitis, and *Pneumocystis jirovecii* pneumonia (PCP). Hematological findings consistently revealed cytopenias, marked lymphopenia and features of neutrophil dysplasia (vacuolation, toxic granulation, Döhle bodies), with HJLIs noted on PBS examination. The absence of blast cells supported a reactive rather than malignant etiology. **Conclusion:** These cases underscore the diagnostic value of PBS examination in critically ill, immunocompromised individuals, highlighting HJLIs as a potential morphological marker of profound immune dysfunction and intense inflammatory/septic states in the context of advanced HIV disease.

Keywords: Howell-Jolly-like inclusions; HJLI; HIV; neutrophils; PBS

Identification of Factors Associated with Extrahepatic Uptake in Technetium-99m Macroaggregated Albumin Hepatic Perfusion Imaging Prior to Selective Internal Radiation Therapy

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ABSTRACT

Extrahepatic uptake during [^{99m}Tc]Tc-macroaggregated albumin ([^{99m}Tc]Tc-MAA) hepatic perfusion imaging prior to selective internal radiation therapy (SIRT) may complicate image interpretation and affect procedural planning. However, factors contributing to different uptake patterns remain incompletely understood. This study aimed to identify factors associated with extrahepatic uptake of [^{99m}Tc]Tc-MAA and evaluate the influence of radiopharmaceutical preparation, administration, and imaging workflow factors. A retrospective observational study was conducted involving 80 hepatic perfusion studies performed in 72 patients at Hospital Kuala Lumpur. Extrahepatic uptake of [^{99m}Tc]Tc-MAA was categorised into vascular-pattern uptake, pertechnetate-pattern uptake, and lung uptake based on imaging findings. Variables evaluated included radiochemical purity, administered activity, total particle number, preparation-related timing intervals, injection efficiency, and imaging timing parameters. Mann–Whitney U test, Spearman’s correlation, and logistic regression analyses were performed. No significant associations were identified between vascular-pattern uptake or lung uptake and radiopharmaceutical preparation factors (all $p > 0.05$). Pertechnetate-pattern uptake demonstrated significant positive correlations with injection-to-planar imaging time ($p = 0.387$, $p < 0.001$) and injection-to-SPECT/CT time ($p = 0.361$, $p < 0.001$). Logistic regression identified injection-to-SPECT/CT time as an independent predictor of pertechnetate-pattern uptake (OR 1.034, 95% CI 1.012–1.060, $p = 0.003$). No radiopharmaceutical preparation factors were identified as significant predictors. Pertechnetate-pattern extrahepatic uptake was significantly associated with prolonged injection-to-imaging intervals, whereas vascular-pattern and lung uptake showed no association with radiopharmaceutical preparation and administration parameters. These findings suggest that imaging workflow timing may contribute to time-dependent uptake patterns and highlight the importance of optimising imaging intervals during pre-SIRT [^{99m}Tc]Tc-MAA hepatic perfusion imaging.

Keywords: Extrahepatic uptake; hepatic perfusion imaging; injection-to-imaging time; selective internal radiation therapy; technetium-99m macroaggregated albumin

Hemoglobin Bart's Hydrops Fetalis Syndrome Survivor: A Rare Case Encountered in Hospital Kuala Lumpur Molecular Haematology Laboratory

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ABSTRACT

Background: Haemoglobin Bart's hydrops fetalis syndrome (BHFS) is the most severe form of α -thalassaemia usually arising from deletion of all four functioning α -globin genes. BHFS is usually lethal, resulting in hydrops fetalis or stillbirth. We reported a rare case of surviving BHFS infant up to 68 days of life with no history of intrauterine transfusion or hydrops features. **Case Report:** A 68 day-old male infant, born prematurely at 28 weeks due to fetal distress associated with severe anaemia. There were no features of hydrops or history of intrauterine transfusions. Following birth, he required monthly transfusions to maintain the haemoglobin (Hb) level. Hb analysis showed presence of mainly Hb Barts and Portland. Both parents exhibited normal Hb to mild anaemia, with hypochromic microcytic indices. Molecular DNA analysis confirmed that both parents were carriers of the Southeast Asian (-SEA) α^0 -thalassaemia deletion and the infant was homozygous for the same deletion consistent with Hb Bart's hydrops fetalis. **Conclusion:** This case illustrates the rare phenotypic spectrum of BHFS, with survival beyond the neonatal period in the absence of hydrops fetalis. Unlike other types of alpha zero thalassaemia deletions, the --SEA deletion deleted both α -globin genes while sparing the embryonic ζ -globin gene, thus permitting production of Hb Portland 1 ($\zeta 2\gamma 2$) and Portland 2 ($\zeta 2\beta 2$). These embryonic haemoglobins provide sufficient oxygen transport to support fetal and early neonatal survival, which may explain the survival of this infant despite the absence of α -globin production.

Keywords: BHFS; Bart's; hydrops fetalis; Southeast Asian alpha zero deletion

Assessment of Patient Satisfaction Using PSQ-18 in Public Healthcare Facilities under JKWP&P: A Cross-Sectional Analysis

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ABSTRACT

Patient satisfaction is an important indicator of healthcare quality and reflects the effectiveness of patient-centred healthcare delivery. Regular assessment of patient satisfaction provides valuable evidence for healthcare organisations to monitor service performance and identify opportunities for quality improvement. This study aimed to assess patient satisfaction towards healthcare services using the Patient Satisfaction Questionnaire Short Form (PSQ-18) in public healthcare facilities under the Jabatan Kesihatan Wilayah Persekutuan Kuala Lumpur & Putrajaya (JKWP&P). A quantitative cross-sectional study was conducted using secondary PSQ-18 data collected from Hospital Rehabilitasi Cheras and Hospital Putrajaya between January and December 2025. A total of 3,965 patient responses were analysed using IBM SPSS Statistics. Descriptive statistical analysis was performed to determine overall patient satisfaction and satisfaction across the seven PSQ-18 domains. Overall patient satisfaction was high, with Hospital Rehabilitasi Cheras recording a higher overall satisfaction score than Hospital Putrajaya (88.19% vs. 84.17%). Hospital Rehabilitasi Cheras also achieved higher scores across all seven PSQ-18 domains. The highest satisfaction scores were observed for Interpersonal Manner (92.16% vs. 87.82%), whereas Accessibility and Convenience recorded the lowest scores (82.90% vs. 80.13%). The overall patient satisfaction score across healthcare facilities under JKWP&P was 83.39%. These findings demonstrate a high level of patient satisfaction while identifying accessibility and convenience as priority areas for improvement. Continuous monitoring using PSQ-18 may support evidence-based quality improvement initiatives and strengthen patient-centred healthcare services within JKWP&P.

Keywords: Accessibility and convenience; healthcare quality; patient satisfaction; PSQ-18; public healthcare

From Assisted to Independent: A Novel Assistive Device for Insulin Self-Injection in Post-Stroke Patients with Hand Disabilities - A Report of Two Cases

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ABSTRACT

Introduction: Diabetes affects 15.6% of Malaysian adults, with 21.8% requiring insulin therapy. Post-stroke hand disabilities impair fine motor control needed for insulin self-injection, leaving patients dependent on caregivers. The GripEase PenBuddy, a locally developed 3D-printed device, enables one-handed dose dialing and safe needle attachment via a secure port connector, reducing needle-prick risk and restoring self-injection independence, the first such device in Malaysia. **Case Description:** Patient 1, a 55-year-old female with recurrent cerebral ischaemic stroke, presented with bilateral hand incoordination, dysdiadochokinesia, and reduced left-hand grip strength, impairing fine motor tasks. After introducing the GripEase PenBuddy, HbA1c improved markedly from 8.9% to 6.6%. Quality of life increased from 40 to 60, and the EQ-5D-5L utility index rose dramatically from 0.0338 (very severe problems) to 1.0000 (no problems). Patient 2, a 62-year-old female with left lacunar infarct and right upper limb weakness, exhibited reduced precision grip with preserved power grip and mild dexterity impairment. Following device use, HbA1c improved significantly from 9.2% to 7.2%, while quality of life improved from 60 to 70. The EQ-5D-5L utility index rose from 0.7364 (moderate problems) to 0.9187 (no problems). Insulin injection adherence remained consistently good. Both patients reported renewed confidence in self-administration, marked reduction in needle-prick injuries and rated the device's usability as exceptional (scoring 92.5% and 97.5%). **Discussion/Conclusion:** GripEase PenBuddy shows potential as a simple, low-cost device enabling post-stroke patients to safely and confidently self-administer insulin, with measurable gains in adherence, glycaemic control, quality of life, and usability. Larger studies are warranted to validate these findings and support adoption.

Keywords: GripEase PenBuddy; insulin therapy; post-stroke hand disabilities; quality of life; self-injection

Effect of Carbohydrate Counting on Glycemic Control among Type 1 Diabetes Mellitus Patients in Hospital Putrajaya

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ABSTRACT

Type 1 diabetes mellitus (T1DM) requires intensive glycaemic control to reduce long-term complications, although achieving glycaemic targets remains challenging. Carbohydrate counting (CC) enables insulin dose adjustment according to carbohydrate intake and is recommended in diabetes self-management. This study aimed to describe the practice of CC and factors associated with CC practice among T1DM patients in Hospital Putrajaya. This retrospective study included all T1DM patients attending the diabetes clinic between 1st January and 31st December 2025. Patients were categorised into CC and non-CC groups. Clinical and biochemical data were reviewed and analysed, with $p < 0.05$ considered statistically significant. There were 150 registered T1DM patients with a median age of 33.0 years and their mean diabetes duration was 17.6 ± 9.7 years. Most patients were female (57.3%), Malay (62.0%), and treated with multiple daily insulin injections (89.3%). A total of 54 patients (36.0%) practiced CC. There was no significant difference in mean duration of diabetes (CC: 19.0 vs non-CC: 16.7 years, $p = 0.153$) and median age (CC: 32.5 vs non-CC: 34.0 years, $p = 0.245$) between the CC and non-CC group. Patients that practiced CC had lower median HbA1c (8.1% vs 8.7%, $p = 0.015$), lower fasting blood glucose (8.4 vs 10.5 mmol/L, $p = 0.021$), lower systolic blood pressure (126.0 vs 133.0 mmHg, $p = 0.003$), and lower diastolic blood pressure (70.1 vs 74.2 mmHg, $p = 0.014$) compared with the non-CC group. Females ($p = 0.028$) as well as patients of Chinese & Indian ethnicity ($p = 0.046$) were more likely to practice CC. Among patients with T1DM, those who practiced carbohydrate counting demonstrated better glycaemic and blood pressure control than those who did not. Female patients and those of Chinese or Indian ethnicity were more likely to practice carbohydrate counting.

Keywords: Carbohydrate counting; type 1 diabetes mellitus; Hospital Putrajaya

Hybrid Conventional and Digital Workflow for Copy Complete Denture

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ABSTRACT

Patients with radiation-induced microstomia or trismus present significant challenges in complete denture fabrication due to restricted mouth opening and manipulation of peri-oral tissues, limiting conventional impression procedures and intraoral scanning. This case report presents the management of complete denture rehabilitation using a hybrid conventional-digital workflow in a patient with radiation-induced microstomia following treatment for columellar squamous cell carcinoma. A 77-year-old edentulous patient with unsatisfactory denture retention but acceptable aesthetics, occlusion, and vertical dimension was managed using a copy denture approach. The existing dentures were functionally relined, and interocclusal records were obtained before digitisation using a laboratory scanner. A definitive complete denture was designed using CAD software, preserving the existing tooth arrangement and occlusal scheme while updating the tissue surface. The final prostheses were fabricated using 3D printing technology and assessed clinically for retention, stability, border extension, and occlusion. At the two-week review, the patient demonstrated improved denture retention, stability, comfort, speech, and masticatory function, with no significant pressure areas. The patient also reported increased confidence and satisfaction with the new dentures. This case highlights the effectiveness of integrating conventional functional impression techniques with digital denture technology in managing complex prosthodontic rehabilitation. A hybrid workflow may provide a predictable approach for patients with limited oral access, particularly when existing denture aesthetics and occlusion are satisfactory.

Keywords: CAD/CAM; complete denture; digital dentistry; microstomia; 3D printing

Clinical Audit on Humpty Dumpty Fall Protocols

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ABSTRACT

Inpatient paediatric falls represent a critical patient safety challenge, accounting for a significant portion of hospital incident reports. To mitigate this, Hospital Rehabilitasi Cheras (HRC) adopted the Humpty Dumpty Fall Prevention Program, making regular staff credentialing mandatory. However, paediatric fall rates doubled between 2021 and 2024, raising concerns regarding protocol adherence. This clinical audit aimed to assess compliance with the Humpty Dumpty Fall Prevention Protocol in the paediatric rehabilitation ward and to identify areas for quality improvement and implement targeted interventions to enhance patient safety. A two-cycle clinical audit was conducted among paediatric inpatients admitted for 7 hours, with Cycle 1 performed on 8 August 2024 (n = 24) and Cycle 2 on 13 June 2025 (n = 13). Compliance with 15 components across risk assessment, fall-prevention interventions, environmental safety, and education was assessed through direct observation and documentation review. Targeted interventions included staff education and interactive caregiver sessions. Environmental safety improved following intervention, particularly in call-bell accessibility, appropriate use of special equipment, lighting, and door positioning. Patient and caregiver engagement also improved, likely reflecting the effectiveness of interactive educational sessions. However, documentation compliance declined, attributed to limited staff familiarity with documentation requirements and time constraints. Compliance with maintaining a clutter-free environment also decreased, potentially due to prolonged admissions and accumulation of caregivers' belongings. This two-cycle audit successfully improved environmental safety measures and caregiver engagement through targeted, interactive interventions. However, the noticeable decline in documentation adherence suggests that current staff training and credentialing methods require critical re-evaluation to ensure engagement and comprehension.

Keywords: Clinical audit; falls prevention; humpty dumpty; paediatric falls; paediatric rehabilitation

A 15-Year Review of Adult Diabetic Ketoacidosis Admissions: Clinical Features, Precipitants and Outcomes

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ABSTRACT

Diabetic ketoacidosis (DKA) is a serious hyperglycaemic emergency that can occur in all types of diabetes mellitus (DM). This study aimed to evaluate the clinical characteristics and outcomes of adult DKA admissions over a 15-year period. All adult admissions with a DKA diagnosis from 2011 to 2025 were included. Clinical and demographic data were extracted from the electronic medical record and analysed across three five-year periods: 2011–2015, 2016–2020, and 2021–2025. A total of 665 DKA admissions involving 564 patients were identified. Admissions increased over the three five-year periods (109, 202, and 354 admissions, respectively), corresponding to 0.5%, 0.8% and 1.05% of all medical admissions. Type 2 DM was the most common diabetes type (66.1%–72.0%) with no significant temporal change. Infection was the leading precipitant of DKA and increased significantly over time (55.0%, 69.8%, 72.9%, $p = 0.002$). ICU admissions increased in the final period (34.2% vs 43.5%, $p = 0.046$). Median time to DKA resolution improved from 23 hours to 12 hours ($p < 0.001$). Occurrence of hypoglycaemia increased in the third period (3.0% to 8.2%, $p = 0.044$), while acute kidney injury reduced in the third period (65.8% to 44.4%, $p < 0.001$). Rates of hypokalaemia, cerebral oedema, venous thromboembolism and pneumonia remained similar throughout all three periods. Most patients were discharged home, while mortality ranged from 2.8% to 6.9%. Adult DKA admissions increased over 15 years, predominantly in Type 2 DM. Despite increased ICU utilisation, DKA resolution improved, with stable mortality rates.

Keywords: Acute kidney injury; diabetic ketoacidosis; diabetes mellitus; hypoglycaemia; resolution time

Six Hours on the Floor: Severe Rhabdomyolysis with Acute Kidney Injury and Marked Transaminitis Following Unwitnessed Syncope: A Case Report

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ABSTRACT

Rhabdomyolysis results from skeletal muscle breakdown with release of intracellular contents, potentially causing acute kidney injury, electrolyte disturbances, and multiorgan dysfunction. Immobilisation following unwitnessed loss of consciousness is an underrecognised precipitant in elderly patients with multiple comorbidities. A 70-year-old Indian male with ischemic heart disease, hypertension, and diabetes mellitus presented after unwitnessed collapsed following a 2-days of profuse diarrhea, he was found unconscious on the floor after 6 hours, with clinical dehydration, bilateral lower limb weakness and gross dark-brown urine. Laboratory investigations revealed profound rhabdomyolysis with a peak creatine kinase of 112,720 U/L, acute kidney injury and significant transaminitis with a preferential aspartate aminotransferase (AST) elevation (AST 1,704 U/L, ALT 252 U/L). Urinalysis demonstrated severe proteinuria and hematuria. Cardiac enzymes were elevated (Troponin I 11,647 ng/L) in the presence of a right bundle branch block on electrocardiogram, raising suspicion for a concurrent myocardial injury. Bedside echocardiography confirmed an undervolume left ventricle with preserved contractility, indicating severe intravascular dehydration secondary to antecedent diarrhea and a prolonged immobilisation. The patient received aggressive intravenous fluid resuscitation and empirical antimicrobial therapy for suspected gastrointestinal infection. This case demonstrates that elderly patients may develop severe rhabdomyolysis from non-exertional causes. Troponin elevation and AST-predominant transaminitis may reflect muscle injury rather than primary cardiac or hepatic disease. Early recognition in elderly dehydrated patients and early fluid resuscitation guided by clinical assessment and bedside ultrasound are critical to prevent pigment nephropathy and irreversible renal damage.

Keywords: Acute kidney injury; immobilisation; loss of consciousness; myoglobinuria; rhabdomyolysis; troponin

Clinical Characteristics and Outcomes of Diabetic Ketoacidosis Requiring Intensive Care Unit Admission: Experience Over a Decade at a Malaysian Tertiary Referral Centre

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ABSTRACT

Introduction: Diabetic ketoacidosis (DKA) is a life-threatening diabetic emergency with high morbidity and mortality, particularly in intensive care unit (ICU) patients but data in Southeast Asian settings remain scarce. Therefore, this study aimed to describe the clinical characteristics and outcomes of DKA patients admitted to the ICU over a decade in Hospital Putrajaya. **Methods:** A retrospective cohort of all DKA admissions between 2015 and 2025 was done. Patient demographics, clinical and biochemical parameters at presentation, precipitating factors, complications, and discharge outcomes were retrieved. **Results:** Among 599 DKA admissions, 248 (41.4%) required ICU care. Mean age was 47.6 ± 17.1 years, with slight female predominance (55.6%), and had Type 2 Diabetes Mellitus (T2DM) (71.4%). Majority presented with severe disease, with a mean pH of 7.07 ± 0.27 , serum bicarbonate of 5.8 ± 6.5 mmol/L, and blood ketones 5.4 ± 1.5 mmol/L. Mean blood glucose was 26.3 ± 15.8 mmol/L, and HbA1c $11.8 \pm 3.0\%$, indicating poor glycaemic control. Main precipitating factor was infection (73.8%). Acute kidney injury (67.3%) was the most frequent complications. DKA resolution within 24 hours was 87.4%. Rebound DKA occurred in 4.1% of patients while in-hospital mortality was 11.3%. **Conclusion:** DKA requiring ICU admission predominantly affected females and patients with T2DM, with infection as the main precipitating factor. They had poor glycaemic control and severe disease at presentation. The majority of patients achieved DKA resolution within 24 hours, while high in-hospital mortality highlights the need for early recognition, prompt management, and improved diabetes control.

Keywords: Clinical characteristics; diabetic ketoacidosis; intensive care unit; outcomes

Drug Related Problems and Potentially Inappropriate Medications in Elderly Patients Admitted to Geriatric Rehabilitation Ward

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ABSTRACT

About 25–80% of older population are prescribed with potentially inappropriate medications (PIMs). Due to that, older adults are at high risk of drug-related problems (DRPs) due to polypharmacy and age-related pharmacokinetic and pharmacodynamic changes. This study aims to determine the prevalence of DRPs and PIMs among elderly patients admitted to rehabilitation ward and to evaluate pharmacists' interventions with the goal of preventing drug related problems. This retrospective cross-sectional study included elderly patients aged 60 years and above who were admitted to the Geriatric Wards of Hospital Rehabilitasi Cheras between 1st January 2023 and 30th November 2025. PIMs were identified using the AGS Beers Criteria 2023 and DRPs were identified during hospitalisation through pharmacist intervention. Among the 340 patients included in this study, 53.2% were male and 46.7% were female. An average of seven medications was prescribed per patient. A total of 473 PIMs were identified, with 69.1% of patients being exposed to at least one PIM. In addition, 127 (37.4%) DRPs were identified and pharmacist interventions were implemented to address these issues. The acceptance rate of pharmacist interventions was 95.7%. The most commonly prescribed potentially inappropriate medications were antihypertensive agents (36.5%), followed by gastrointestinal medications (31.1%) and antidiabetic agents (15.5%). Older adults are at a high risk of being prescribed with PIMs. Medication reviews are essential to identify PIMs, ensure medication appropriateness, and prevent DRPs.

Keywords: Drug related problems; elderly; inappropriate medications; pharmacist intervention; rehabilitation

Screening for Sight: Analysis of Patients Undergoing Diabetic Retinopathy Screening in a Diabetes Resource Centre, Hospital Putrajaya

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ABSTRACT

Introduction: Diabetic retinopathy (DR) screening enables early detection and timely referral to prevent vision loss. Continuous evaluation of screening performance is essential. **Objectives:** To evaluate screening outcomes, referral indications and diagnostic accuracy of DR screening performed by diabetes educators using fundus cameras by assessing agreement with ophthalmology diagnosis. **Methods:** A retrospective cross-sectional audit was conducted on patients screened for DR from 1 January to 31 December 2025 in Hospital Putrajaya. Data on demographics, fundus image gradability, screening findings, and referral outcomes were extracted from electronic records. Referable disease was defined as moderate or worse DR, maculopathy, advanced diabetic eye disease, or ungradable images. Agreement was assessed using weighted Cohen's kappa, and diagnostic performance using positive predictive value (PPV). **Results:** A total of 1,737 patients were screened (49.4% male). Most had no DR (71.4%), while 16.4% had DR and 12.1% had ungradable images. Mild non-proliferative DR was most common (10.0%), and sight-threatening DR was detected in 1.9%. Maculopathy was present in 5.9%. Overall, 17.2% were referred to ophthalmology, of whom 74.9% attended follow-up and 24.8% defaulted. The main referral indication was ungradable images (64.3%), followed by DR-related findings (35.7%). Cataract accounted for most ungradable cases (66.7%). Screening showed moderate agreement with ophthalmology ($\kappa = 0.485$) and a PPV of 45%. **Conclusion:** DR screening by trained diabetes educators using fundus cameras demonstrated moderate agreement with ophthalmology assessment and enabled identification of patients requiring specialist care. However, the high proportion of ungradable images and follow-up default rates highlight important gaps in screening effectiveness. Improving image acquisition quality, staff training, and referral coordination may enhance screening performance.

Keywords: Audit; diabetic retinopathy; ophthalmology; referral; screening

Early Postoperative Obstruction Following Endoscopic Sinus Surgery for Acute Rhinosinusitis with Facial Cellulitis in an Adolescent: The Importance of Nasal Irrigation and Middle Turbinate Stabilisation

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ABSTRACT

Early postoperative obstruction following endoscopic sinus surgery (ESS) is an uncommon but clinically significant complication that may result in treatment failure and revision surgery. Poor nasal irrigation compliance and middle turbinate lateralisation are potentially preventable yet under-recognised factors contributing to early surgical failure. We report a 15-year-old boy who presented with left facial swelling, fever and nasal blockage for three days. Examination revealed left naso-orbital cellulitis with preserved visual acuity and normal intraocular pressure. Computed tomography demonstrated left pansinusitis with subcutaneous abscess formation. Despite intravenous antibiotics, poor clinical response necessitated ESS with mini orbital decompression. Although initial postoperative improvement was observed, poor compliance with nasal irrigation was noted, and facial swelling recurred on postoperative day six. Revision surgery demonstrated middle turbinate lateralisation, granulation tissue, and obstruction of the sinus ostia. Middle turbinate medialisation was performed, and nasal irrigation was reinforced with caregiver involvement, resulting in gradual clinical recovery. This case demonstrates that rapid postoperative obstruction can occur within the first week after ESS in patients with severe inflammatory disease and highlights poor nasal irrigation compliance and middle turbinate lateralisation as modifiable contributors. Surgical success depends not only on operative technique but also on close postoperative surveillance, effective nasal douching, and caregiver-supported adherence to postoperative care, particularly in adolescents.

Keywords: Adolescent; endoscopic sinus surgery; facial cellulitis; middle turbinate lateralisation; nasal irrigation

Retrospective Review of Patients with Type 1 Diabetes Mellitus on Continuous Subcutaneous Insulin Infusion Therapy at the Type 1 Diabetes Clinic, Endocrine Institute, Hospital Putrajaya

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ABSTRACT

Introduction: Continuous subcutaneous insulin infusion (CSII) is an established treatment for type 1 diabetes mellitus (T1DM), offering more physiological insulin delivery and greater flexibility than multiple daily injections. However, local evidence on CSII outcomes in Malaysia remains limited. **Objectives:** To describe the demographic and clinical characteristics of T1DM patients receiving CSII and evaluate glycaemic and clinical outcomes following CSII initiation. **Methods:** A retrospective review was conducted among T1DM patients attending the Type 1 Diabetes Clinic, Endocrine Institute, Hospital Putrajaya. Data on demographics, CSII model, indication for initiation, HbA1c, severe hypoglycaemia, and diabetic ketoacidosis (DKA) episodes were extracted from electronic medical records. Pre-CSII data were obtained within three months before initiation, while post-CSII outcomes were assessed six to twelve months after initiation. **Results:** Eighteen patients were included, with a mean age of 33.3 ± 9.6 years and diabetes duration of 18.9 ± 8.2 years. Most were female (77.8%), and the Medtronic MiniMed 780G was the most commonly used device (55.6%). Common indications for CSII initiation were DKA (38.9%), frequent hypoglycaemia (33.3%), and poor glycaemic control (27.8%). Mean HbA1c improved significantly from $9.6 \pm 1.9\%$ to $7.7 \pm 0.9\%$ ($p < 0.001$). Severe hypoglycaemia episodes decreased significantly ($p = 0.017$), while DKA episodes showed a non-significant reduction ($p = 0.068$). **Conclusion:** CSII therapy was associated with improved glycaemic control and reduced severe hypoglycaemia, supporting its effectiveness in routine T1DM management and highlighting its value in optimising long-term diabetes outcomes in Malaysia.

Keywords: Continuous subcutaneous insulin infusion; glycaemic control; hypoglycaemia; insulin pump; type 1 diabetes mellitus

Knowledge, Attitude and Practices on Breast Cancer Screening among Nurses in Hospital Putrajaya

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ABSTRACT

Breast cancer screening is essential for early detection, improved survival, and reduced mortality. Nurses play an important role in promoting screening. This study assessed the knowledge, attitudes, and practices regarding breast cancer screening among nurses. A cross-sectional study was conducted among 309 nurses at Hospital Putrajaya in June 2026 using a validated questionnaire. The instrument included sociodemographic characteristics, knowledge and practice of breast cancer screening (BSE), and attitudes toward BSE. Pearson chi-square tests were used to assess associations between knowledge and practice, and between attitude and practice. Of 309 nurses, 133 (43.0%) responded. Most were female (94.0%), married (63.9%), had a mean age of 35.01 ± 8.26 years, held a diploma qualification (80.5%), and had >11 years of working experience. Good knowledge was observed in 85.0% of respondents, while 15.0% had moderate or poor knowledge. Overall, 65.4% practiced BSE and 34.6% did not. Respondents with good knowledge were more likely to practice BSE than those with moderate/poor knowledge (70.8% vs. 35.0%), with a significant association ($p = 0.002$). Fear of being diagnosed with breast cancer was also significantly associated with BSE practice ($p = 0.005$). More than 80.0% of respondents demonstrated positive attitudes toward BSE. Positive attitudes towards BSE were common among nurses, however, the level of practice among nurses was unsatisfactory. Strengthening breast cancer education and behavioural interventions may help translate knowledge into regular screening practices.

Keywords: Attitude; breast cancer screening; breast self-examination; knowledge; practice

Post-viral Cardiac Inflammation in Adolescents: A Two-case Series of Myopericarditis and Fulminant Myocarditis with Divergent Clinical Courses

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ABSTRACT

Myocarditis and myopericarditis in adolescents can range from self-limited chest pain syndromes to fulminant cardiogenic shock and cardiac arrest. Early recognition is important because clinical presentation, imaging findings, and prognosis may differ substantially. We report two post-infectious cases with contrasting clinical trajectories to highlight the diagnostic and prognostic value of echocardiography, cardiac magnetic resonance imaging, and serial biomarkers. Case 1 was a 16-year-old boy with underlying bronchial asthma and class II obesity who presented with pleuritic central chest pain, diffuse ST elevation, and markedly raised troponin. Cardiac magnetic resonance imaging 4 months later showed preserved biventricular systolic function, no myocardial edema, and dense subepicardial late gadolinium enhancement in the inferolateral walls, suggesting prior myocarditis. Case 2 was a previously healthy 16-year-old girl who developed progressive heart failure symptoms 1 week after an upper respiratory tract infection, and subsequently deteriorated into cardiogenic shock with two episodes of cardiac arrest requiring prolonged resuscitation, intubation, and multi-inotrope support. Echocardiography showed severe dilated cardiomyopathy with profound global hypokinesia and severely reduced left ventricular ejection fraction, while cardiac MRI demonstrated severe non-ischemic dilated cardiomyopathy with biventricular dysfunction, myocardial edema, and extensive midwall and subepicardial late gadolinium enhancement, in keeping with recent myocarditis, planning for transplant. These cases illustrate the spectrum of post-viral cardiac inflammation in adolescents, from hemodynamically stable myopericarditis with residual myocardial scar to fulminant myocarditis complicated by shock and multiorgan dysfunction, and also emphasise the pivotal role of multimodality imaging particularly cardiac magnetic resonance (CMR), in diagnosis, risk stratification and long-term follow up.

Keywords: Adolescent myocarditis; cardiac magnetic resonance; cardiogenic shock; fulminant myocarditis; myopericarditis

Rebound Diabetic Ketoacidosis in Pregnancy: Lessons from Three Severe Cases

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ABSTRACT

Diabetic ketoacidosis (DKA) in pregnancy is a medical emergency associated with significant maternal and fetal morbidity. While prompt treatment usually results in metabolic resolution, rebound DKA after apparent recovery is poorly described. We report the clinical characteristics and outcomes of three pregnant patients who developed rebound DKA. Three pregnant patients with rebound DKA were identified through a retrospective review of DKA admissions from 2002–2025. Mean age was 28.7 ± 4.6 years, mean gestational age was 16.3 ± 9.7 weeks, and all were Malay. Two patients had type 2 diabetes mellitus and one had type 1 diabetes mellitus. Rebound DKA occurred 33.3 ± 40.3 hours after initial remission. Infection was the precipitating factor in two cases, while insulin omission was identified in one. All episodes occurred in the intensive care unit and were biochemically severe (mean bicarbonate 7.0 ± 0.2 mmol/L; mean anion gap 27.5 ± 10.0). Mean time to resolution was 6.3 ± 1.2 hours for the initial episode and 4.5 ± 2.4 hours for the rebound DKA. Mean intensive care unit (ICU) stay was 5.7 ± 2.1 days and mean hospital stay was 10.7 ± 7.4 days. Complications included hypokalaemia, acute kidney injury, and hypoglycaemia. All patients achieved metabolic recovery and were discharged clinically stable. However, pregnancy outcomes were poor, with two pregnancy losses and one incomplete miscarriage. Rebound DKA in pregnancy may occur despite initial metabolic resolution and was associated with substantial pregnancy loss in this series. Intensive post-resolution monitoring and meticulous insulin management may help prevent recurrence and improve maternal-fetal outcomes.

Keywords: Diabetic ketoacidosis; pregnancy; rebound

Sphenoid Sinus Mucocoele Presenting as Acute Optic Neuropathy: A Vision-Threatening Condition With Rapid Post-Decompression Recovery

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ABSTRACT

Isolated sphenoid sinus mucocoele is a rare but potentially vision-threatening condition due to its close anatomical relationship with the optic nerve, orbital apex, and other critical neurovascular structures. Its nonspecific presentation often delays diagnosis, as patients may initially present with headache and visual disturbances before developing nasal symptoms. We report a 37-year-old male with underlying chronic rhinosinusitis with nasal polyps and previous functional endoscopic sinus surgery who presented with a two-week history of pulsatile bilateral headache followed by sudden onset right-sided visual blurring and central scotoma. Ophthalmological examination revealed reduced right visual acuity (6/30), relative afferent pupillary defect, and central scotoma. Computed tomography demonstrated an expanded right sphenoid sinus lesion with soft tissue density encroaching the orbital apex and widening of the right optic canal, consistent with sphenoid sinus mucocoele causing compressive optic neuropathy without intracranial extension. The patient underwent urgent bilateral revision functional endoscopic sinus surgery with excision of the sphenoid mucocoele and right optic nerve decompression. Intraoperatively, optic nerve bony canal dehiscence with compression by the expanded mucocoele was identified. Following surgery, the patient experienced rapid visual recovery with normalisation of visual acuity to 6/6, resolution of the central scotoma, and disappearance of the relative afferent pupillary defect. This case highlights that isolated sphenoid sinus mucocoele, although uncommon, should be considered in patients presenting with headache and acute visual symptoms before the onset of nasal complaints. Optic neuropathy secondary to sphenoid sinus mucocoele constitutes a surgical emergency, and early radiological assessment with urgent surgical decompression is essential to prevent irreversible optic nerve damage and achieve favorable visual outcomes.

Keywords: Endoscopic sinus surgery; optic nerve compression; optic neuropathy; orbital apex; sphenoid sinus mucocoele; visual loss

Factors Associated with Out-of-Hospital Deaths among Children Under 5 Years Old in Kuala Lumpur from 2017 to 2021

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ABSTRACT

Under-5 mortality refers to deaths among children younger than 5 years, expressed per 1,000 live births. Sustainable Development Goal 3.2 aims to end preventable deaths among newborns and children under 5, with all countries targeting an under-5 mortality rate of 25 per 1,000 live births or lower. Malaysia achieved this target in 1984, but its rate has plateaued at 8-9 per 1,000 live births since 2000. Out-of-hospital deaths remain understudied. This cross-sectional study identified factors associated with out-of-hospital deaths among children under 5 in Kuala Lumpur from 2017 to 2021 using secondary data from the Ministry of Health Stillbirth and Under 5 Mortality Death Form collected by JKWPKL. There were 54 out-of-hospital deaths, representing 5.4% of all deaths. Most occurred at home (4.1%), while 0.4% occurred at a babysitter's house and 0.4% en route to hospital. Leading causes were conditions originating in the perinatal period (38.9%), congenital malformations, deformations and chromosomal abnormalities (18.5%), and respiratory diseases (14.81%). Non-citizens had nearly three times the odds of out-of-hospital death compared with Malaysians (OR 2.80, 95% CI 1.51-5.16). Multiple logistic regression showed higher odds among children of mothers younger than 25 years (OR 4.41, 95% CI 1.14-17.04), grand multiparous mothers (OR 2.87, 95% CI 1.34-6.15), and fathers with primary education only (OR 9.96, 95% CI 1.41-70.27). These findings support strengthening home and community-based care, perinatal services, support for vulnerable groups, reporting systems, intersectoral collaboration, and further research. Such measures may help reduce child deaths and improve survival among under-5 children in Kuala Lumpur.

Keywords: Brought in dead; children; non-hospital death; out-of-hospital death; under-5 mortality

The Ultimate Mimicker: Tertiary Hyperparathyroidism

Masquerading as Parathyroid Carcinoma with Incidental Papillary Thyroid Carcinoma in Stage 4 CKD: A Case Report

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ABSTRACT

Tertiary hyperparathyroidism in advanced chronic kidney disease (CKD) may manifest with profound hypercalcaemia and lytic bone lesions, closely mimicking parathyroid carcinoma. Concurrent thyroid malignancy compounds management with severe metabolic, surgical, and adjuvant radioactive iodine challenges. We report a case of a Malay gentleman with Stage 4 CKD presented with recurrent, refractory hypercalcaemia (peak corrected calcium 5.42 mmol/L; intact PTH >362 pg/mL). Imaging revealed bilateral parathyroid lesions, a dominant 5.2 cm right neck mass causing thyroid mass effect, and multiple skull brown tumours. Hypercalcaemia remained refractory despite aggressive medical therapy. He underwent total thyroidectomy and bilateral superior parathyroidectomy, with intraoperative PTH falling appropriately from 419 to 41.7 pg/mL. Histopathology unexpectedly revealed bilateral parathyroid hyperplasia coexisting with multifocal papillary thyroid carcinoma of the right lobe, with focal extrathyroidal extension and one metastatic lymph node. Postoperatively, the patient developed severe hungry bone syndrome requiring intravenous calcium bridging and highdose oral calcium, alongside worsening renal impairment necessitating temporary haemodialysis. Serum calcium improved to 1.96 mmol/L at latest follow-up. He was commenced on suppressive levothyroxine and referred for tailored, doseadjusted radioactive iodine therapy. This case highlights the difficulty of distinguishing severe hyperplastic parathyroid disease from carcinoma in advanced CKD, and underscores the vital role of multidisciplinary care in managing severe hungry bone syndrome, acute-on-chronic kidney injury, and radioactive iodine kinetics in patients with concurrent thyroid malignancy.

Keywords: Chronic kidney disease; hungry bone syndrome; papillary thyroid carcinoma; radioactive iodine therapy; tertiary hyperparathyroidism

Circumferential Hip-Girdle Botulinum Toxin A Chemodenervation in Severe Cerebral Palsy with Hip Displacement: A Case Report

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ABSTRACT

Hip displacement and severe hypertonia cause debilitating pain and high caregiver burden in non-ambulatory children with Cerebral Palsy (CP). Conventional Botulinum Toxin A (BoNT-A) targeting isolated muscles often fail to address the complex, multi-planar hip hypertonia seen in children with Gross Motor Function Classification System (GMFCS) levels IV-V. A regional agonist-antagonist network approach through circumferential chemodenervation provides a comprehensive strategy to alleviate nociceptive pain and facilitate daily care. A 12-year-old girl with spastic quadriplegic CP (GMFCS V), severe neuromuscular scoliosis, and chronic bilateral hip dislocation presented with intense left hip pain during diaper changes and sleeping on her left side. Caregivers reported significant resistance and distress during routine hygiene care. To mitigate pain and facilitate positioning, she underwent ultrasound-guided regional circumferential chemodenervation using a total dose of 400 units of BoNT-A distributed bilaterally to the iliopsoas, rectus femoris, adductors, gluteus maximus, and tensor fasciae latae. Two-weeks post-injection, she achieved resolution of pain-induced nocturnal awakenings and significantly improved tolerance of perineal care. These gains in musculoskeletal comfort and care burden reduction remained well-sustained at 3.5-month follow-up, with optimised hip hypertonia while awaiting definitive orthopaedic management for her hip pain. The procedure demonstrated a robust safety profile with no acute local or systemic adverse events. Circumferential hip-girdle chemodenervation acts as a crucial treatment bridge for patients with advanced CP awaiting definitive orthopaedic surgery. By managing pain and soft tissue contracture, this approach optimises the surgical window and significantly reduces caregiver burden, offering a comprehensive clinical strategy for managing complex hip displacement where traditional focal therapy remains insufficient.

Keywords: Botulinum toxin A; cerebral palsy; circumferential chemodenervation; hip displacement; spasticity

Extensive Aortic Thrombosis in Antiphospholipid Syndrome - An Uncommon Manifestation of a Rare Disorder

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ABSTRACT

Antiphospholipid syndrome is a systemic autoimmune condition that commonly presents with recurrent arterial and/or venous thrombosis. The diagnosis requires a set of clinical criteria of thrombosis along with persistently positive antiphospholipid antibody test. This is a case of a 42-year-old gentleman with underlying poorly controlled young hypertension and had multiple admissions for hypertensive emergency with acute pulmonary oedema, there was no proper workup done prior to this. He was incidentally found to have blood pressure discrepancy in all limbs during his admission, and proceeded with a contrasted computed tomography scan of the thoracic and abdominal aorta to investigate for coarctation of aorta / vasculitis. The computed tomography scan reveals extensive thoracic and abdominal aorta thrombosis. He also has prolonged APTT which is not corrected by mixing test, hence he was screened for Antiphospholipid syndrome. All 3 autoimmune laboratory markers including Lupus anticoagulant, Anti-cardiolipin Antibody and Anti-beta-2 Glycoprotein 1 Antibody turns out to be positive with a high titer. He was promptly started on Warfarin treatment, and referred to the vascular team, but no surgical intervention was recommended as the thrombosis was too extensive. He was then referred to a rheumatologist and haematologist for further management. Antiphospholipid syndrome can present as a diverse spectrum of thrombotic and non-thrombotic clinical manifestations, involving multiple neurological, cardiac and renal manifestation, therefore high index of suspicion is necessary for the diagnosis of the disease in young patients with unexplained thromboembolic event. A prompt diagnosis can prevent future episodes and complications of thromboembolic events.

Keywords: Antiphospholipid syndrome; aortic thrombosis; atypical presentation

Adnexal Tumours and Malignancies: A Six-Year Case Series from Plastic and Reconstructive Surgery Hospital Putrajaya (2020–2025)

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ABSTRACT

Cutaneous adnexal tumours are a heterogeneous group of neoplasms arising from hair follicles, sebaceous glands, and sweat glands. Although predominantly benign, their varied clinical presentations and occasional malignant potential may pose diagnostic challenges. This study aimed to describe the demographic characteristics, histopathological spectrum, anatomical distribution, surgical management, and recurrence of cutaneous adnexal tumours managed by the Plastic and Reconstructive Surgery unit, Hospital Putrajaya. A retrospective case series was conducted involving patients with histopathologically confirmed cutaneous adnexal tumours treated between January 2020 and December 2025. Medical records and histopathological reports were reviewed for demographic data, tumour subtype, anatomical location, treatment modality, and recurrence. Sixty-three patients were identified, with a mean age of 45.9 years (range 3–87 years); 34 were female and 29 were male. Most patients were Malay (48), followed by Chinese (11) and Indian (4). The majority of lesions occurred in the head and neck region, with pilomatricoma and trichilemmal cyst being the most common histopathological diagnoses. Most tumours were benign, while malignant adnexal tumours represented a minority. All patients underwent surgical excision with reconstruction tailored to defect size and anatomical location, and no recurrence was observed during follow-up. These findings demonstrate that adnexal tumours encountered in reconstructive surgical practice are predominantly benign and support surgical excision with histopathological assessment as an effective approach for definitive diagnosis, exclusion of malignancy, and favourable local disease control.

Keywords: Adnexal tumours; case series; pilomatricoma; reconstructive surgery; trichilemmal cyst

Incidence and Characteristics of Surgical Site Infection Following Clean Thyroid and Breast Surgery: A Three-Month Audit

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ABSTRACT

Current guidelines do not recommend routine prophylactic antibiotics for clean thyroid and breast surgery because surgical site infection (SSI) rates are generally low. However, an apparent increase in SSI cases at our institution prompted an audit to determine the incidence and characteristics of SSI following these procedures. This retrospective audit included all clean thyroid and breast operations performed at a tertiary surgical centre between January and March 2026. During the three-month study period, 151 clean thyroid and breast operations were performed, of which eight patients developed SSI, giving an overall incidence of 5.3%. Four patients had received prophylactic antibiotics, and four had not. SSI occurred following both thyroid and breast procedures, with presentations ranging from superficial wound infections managed with outpatient antibiotics to infections requiring hospital readmission. The observed SSI rate exceeded the generally accepted benchmark for clean surgery (<2%) and published rates for thyroid (0.1–3%) and breast surgery (1–2%). These findings suggest that factors beyond prophylactic antibiotic use may contribute to SSI risk and highlight the need to review perioperative infection prevention practices and patient-related risk factors.

Keywords: Antibiotics; breast; infection; prophylaxis; thyroid

Knowledge and Behaviour towards Individuals with Mental Illness among Employers Participating in the Supported Employment Programme Awareness Module at MENTARI Putrajaya

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ABSTRACT

Mental health stigma remains a major barrier to employment for individuals with severe mental illness, as employers' misconceptions and discriminatory attitudes limit inclusive hiring and retention. Supported Employment Programme at MENTARI Putrajaya introduced an enhanced employer awareness module in 2024 incorporating mental health literacy, stigma reduction, and supported employment practices. This study aimed to evaluate employers' post-programme mental health knowledge and behavioural intentions, and to compare outcomes between the 2023 standard module and the 2024 enhanced module. A descriptive cross-sectional study was conducted among two independent employer cohorts (2023: n = 31; 2024: n = 25). Post-programme outcomes were assessed using the Mental Health Knowledge Schedule (MAKS) and the Reported and Intended Behaviour Scale (RIBS). Employers from the 2024 module demonstrated improved knowledge and behavioural intention scores compared with the 2023 cohort. Median MAKS scores increased from 41 to 43 and the proportion with high knowledge scores rose from 19.4% to 32.0%. Mean RIBS scores increased from 12.0 to 12.64 ± 2.41 , with a slight increase in high behavioural intention scores from 22.6% to 24.0%. Higher education was associated with better knowledge scores. Positive correlation between knowledge and behavioural intentions was observed in the 2023 cohort ($r = 0.466$, $p = 0.008$). The enhanced module was associated with improved mental health knowledge and behavioural intentions. However, gains in behavioural intentions were modest, suggesting stigma-related attitudes are more resistant to change. These findings support integrating structured mental health awareness and stigma reduction strategies into employer engagement programmes through sustained, contact-based interventions to promote inclusive employment practices.

Keywords: Employers; mental health literacy; mental health stigma; severe mental illness; supported employment

Lymphoma of The Oral and Maxillofacial Region: A Case Series and Diagnostic Challenges

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ABSTRACT

Lymphoid neoplasms comprise approximately 5% of head and neck malignancies and can present with both nodal and extranodal involvement. Extranodal oral involvement is particularly rare and frequently manifests with non-specific symptoms, often leading to diagnostic delays or misidentification as benign inflammatory conditions. In Malaysia, documentation of oral extranodal non-Hodgkin lymphoma is limited. This case series describes the clinical characteristics and diagnostic pathways of lymphoma patients managed at the Oral and Maxillofacial Department of Hospital Putrajaya. We reviewed four male patients, aged 50 to 80 years old, diagnosed with head and neck lymphoma between 2025 and 2026. The most common presenting complaint was painless swelling, localised to the cheek (n = 3) or the neck (n = 1). All cases underwent definitive tissue biopsy and histopathological evaluation. Findings revealed one case of peripheral T-cell lymphoma and three cases of B-cell lymphoma (one low-grade and two high-grade subtypes). The clinical mimics encountered included odontogenic infections and benign maxillofacial lesions, highlighting the deceptive nature of these malignancies. Head and neck lymphoma remains a diagnostic challenge due to its ability to mimic common benign or odontogenic pathologies. Persistent or progressive facial and neck swellings, even when painless, must warrant a high index of suspicion. Early surgical biopsy and comprehensive histopathological assessment are critical for establishing an accurate diagnosis, enabling timely oncological intervention and improving patient outcomes.

Keywords: Case series; diagnostic challenge; extranodal lymphoma; non-hodgkin lymphoma; oral and maxillofacial lymphoma; oral manifestations

Exploring Challenges and Facilitators of Pharmacy Enforcement Officers as Prosecutors in Kuala Lumpur and Putrajaya: A Qualitative Study

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ABSTRACT

In Malaysia, Pharmacy Enforcement Officers (PEOs) are authorised to conduct prosecutions under pharmaceutical legislation. However, their professional participation in courtroom prosecution remains limited. It is essential to understand the challenges and facilitators in this career path to cultivate professional development and ensure the efficacy of enforced law. This study explores the challenges and facilitators experienced by PEOs in the prosecution of enforced law. This qualitative study was conducted using purposive sampling. Six in-depth semi-structured interviews were conducted with PEOs experienced in conducting trials in Kuala Lumpur and Putrajaya. The participants were asked about their experience in prosecution and the factors aided their prosecutorial role. Data collection ceased after the sixth interview as data saturation was achieved. All interviews were audio-recorded and transcribed verbatim. Data were analysed using a thematic approach with QSR NVivo 14 software. Three challenges were identified: (i) limited legal proficiency of PEOs as raiding officers, investigating officers and prosecuting officers that affected their confidence in prosecution; (ii) inconsistent dedications due to workloads and time constraints in preparing for prosecution; and (iii) interpersonal challenges with parties involved in court proceedings. Three facilitators were identified: (i) personal development and initiative; (ii) superior and team support, and (iii) operational assistance. PEOs faced both structural and competency-related challenges in prosecution. The result emphasises the importance of exposure to both legal field knowledge and interpersonal skills. Institutional intervention such as structural training, workload allocation and improving practice guidelines may strengthen the enforcement of the pharmaceutical law.

Keywords: Challenges; facilitators; pharmacy enforcement officers; prosecution; qualitative study

Dietitian-Led Nutritional Care in Intra gastric Balloon Therapy: The First Case Experience from Hospital Putrajaya

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ABSTRACT

Intra gastric balloon (IGB) therapy is an effective minimally invasive intervention for obesity management that facilitates significant weight loss. However, maintaining adequate nutritional intake and preserving skeletal muscle mass during treatment remain challenges due to reduced gastric capacity, early satiety, and gastrointestinal symptoms. This case report describes the first dietitian-managed IGB case in Hospital Putrajaya. A 42-year-old female with severe obesity (weight = 117.6 kg; body mass index = 47.5 kg/m²) underwent Spatz3 IGB insertion for weight management. Baseline body impedance analysis demonstrated body fat mass of 62.3 kg, body fat percentage of 53.0%, visceral fat area of 282.6 cm² and skeletal muscle mass (SMM) of 30.7 kg. Dietary assessment conducted during the first day of the clear fluid phase revealed low energy intake (approximately 624 kcal/day) and inadequate protein intake (approximately 24 g/day), consistent with expected post-procedure adaptation. Individualised dietary intervention was initiated immediately following IGB insertion. Nutrition care included staged dietary progression from clear fluids to nourishing fluids, pureed diet, soft diet, and regular texture as tolerated. Energy intake was progressively advanced from approximately 600 kcal/day during the immediate post-procedure phase to 1000–1200 kcal/day during follow-up, while protein targets of 60–80 g/day were prescribed to support muscle preservation. At four months post-procedure, body weight decreased by 15.8 kg (117.6 kg to 101.8 kg), accompanied by reductions in body fat mass (62.3 kg to 51.2 kg) and visceral fat area (282.6 cm² to 255.9 cm²). Despite improved dietary adherence, SMM decreased from 30.7 kg to 27.6 kg. Persistent early satiety limited the patient's ability to consistently achieve prescribed protein requirements. This case highlights the critical role of individualised dietitian-led nutritional care in supporting weight loss while addressing the ongoing challenge of preserving skeletal muscle mass during IGB therapy.

Keywords: Body composition analysis; dietitian led; intra gastric balloon; lean body mass nutritional management

Online Learning Readiness and Learning Preferences among Nurses in Gombak District: A Cross-Sectional Study

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ABSTRACT

Online learning is seen as a good solution for organisations that deal with fast-changing knowledge and for reducing the cost of training. Online learning is a good opportunity for nursing organisation but it needs to be well prepared. Thus, it is important for the organisation to assess nurses' online learning readiness and explore their learning styles. A Cross-sectional Study was done with self-administered questionnaires on Learning Styles Scale and Online Learning Readiness Scale. Registered nurses in Pejabat Kesihatan Daerah Gombak were recruited using proportionate stratified random sampling. Data was analysed using SPSS. A total of 198 nurses completed the survey. Most respondents were Malay (97%), diploma holders (62.6%), and aged 30–39 years (54%). It was found that nurses overall online learning readiness is at a high level ($M = 4.44$, $SD = 0.81$). Majority of nurses (88.7%) moderately preferred perceptive learning styles and 79.8% moderately preferred solitary learning styles. There was statistically significant difference between different education in online learning readiness ($F(2,195) = 3.75$, $p = 0.025$). A Tukey post hoc test revealed that online learning readiness significantly higher in diploma group (4.55 ± 0.73 , $p = 0.018$) compared to SPM/STPM/certificate group (4.22 ± 0.89). Most nurses demonstrated moderate preferences for perceptive and solitary learning styles, indicating a tendency toward experiential and self-directed learning. These findings underscore the importance of incorporating flexible, learner-centered approaches in nursing education. Blended learning, which integrates face-to-face and online methods, is recommended to enhance knowledge retention and engagement while offering a cost-effective solution.

Keywords: Learning preferences; learning readiness; nurses; online; online learning

Medication-Associated Falls among Geriatric Population: Insights from a Retrospective Study at Hospital Putrajaya

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ABSTRACT

Falls pose a significant public health challenge, frequently leading to serious complications. While multifactorial, polypharmacy and the use of fall-risk-increasing drugs (FRIDs) significantly escalate vulnerability within the geriatric population. This study identifies the prevalence and patterns of FRID use among geriatric patients presenting to Emergency Department at Hospital Putrajaya due to fall-related incidents. A retrospective study design was deployed analysing medical records from January 2023 until December 2024 involving geriatric patients aged 65 years old who sought treatment for an alleged fall. Descriptive statistics and frequency distributions were analysed to identify the most common pharmacological agents involved. Out of a total study cohort of 151 patients, the highest fall prevalence occurred among those aged 70 to 79 years ($n = 78$). Antihypertensive agents were the most frequently prescribed FRID at the time of the fall ($n = 114$, 75.5%), followed by oral hypoglycemic agents (OHAs) ($n = 62$, 41.1%), diuretics ($n = 25$, 16.6%), insulin ($n = 17$, 11.3%), neurological drugs ($n = 17$, 11.3%) and alpha-blockers ($n = 15$, 9.9%). Additionally, a substantial subset of individuals who are on antihypertensive drugs were also concurrently taking OHAs ($n=50$). The findings indicate a strong relationship between blood-pressure-lowering agents, glycaemic therapies, and geriatric falls. The high coexistence of anti-hypertensive and anti-diabetic agents highlights a critical clinical vulnerability, likely driven by compound side effects such as orthostatic hypotension and hypoglycaemia. These results highlight the need for routine medication reviews and vigilant monitoring of polypharmacy. Implementing targeted pharmaceutical interventions and de-prescribing strategies for high-risk elderly patients could significantly reduce fall risks and improve overall geriatric patient safety.

Keywords: Antihypertensive agents; falls; fall-risk-increasing drugs; geriatric; oral hypoglycemic agents; polypharmacy

Determinants of Successful Tuberculosis Treatment Outcomes in an Urban Malaysian Setting: Findings from Putrajaya (2016–2025)

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ABSTRACT

Tuberculosis (TB) treatment success is a key indicator of the effectiveness of TB control programmes and is essential for reducing disease transmission and improving patient outcomes. However, factors influencing treatment success in urban Malaysian settings remain incompletely understood. This study aimed to determine the factors associated with successful TB treatment outcomes among patients in the Federal Territory of Putrajaya. A retrospective cross-sectional study was conducted among 431 TB patients registered between 2016 and 2025. Treatment success was defined as the sum of patients who were cured and those who completed treatment. Data were analysed using descriptive statistics and binary logistic regression in JASP version 0.97. The overall treatment success rate was 88.8%. Multiple logistic regression analysis showed that patients aged ≥ 65 years (adjusted odds ratio [aOR] = 0.07, 95% confidence interval [CI]: 0.02–0.22, $p < 0.001$), non-Malaysians (aOR = 0.02, 95% CI: 0.01–0.11, $p < 0.001$), and those with maintenance-phase directly observed treatment, short course (DOTS) adherence below 80% (aOR = 0.04, 95% CI: 0.02–0.10, $p < 0.001$) had significantly lower odds of treatment success. Patients without diabetes mellitus were more likely to achieve treatment success than those with diabetes mellitus (aOR = 6.04, 95% CI: 1.75–20.86, $p = 0.004$). The final model demonstrated good discriminative performance (area under the receiver operating characteristic curve = 0.87; Nagelkerke $R = 0.47$). These findings indicate that older age, non-Malaysian nationality, diabetes mellitus, and poor maintenance-phase DOTS adherence remain important barriers to successful TB treatment. Targeted interventions focusing on these high-risk groups and strengthening treatment adherence may further improve treatment outcomes and contribute to more effective TB control in Putrajaya.

Keywords: diabetes mellitus; DOTS adherence; Malaysia; treatment success; tuberculosis

“Your Reset Matters (STEPS)” : A Brief Workplace Psychological Reset Intervention for Immediate Perceived Stress Reduction among Healthcare Workers

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Healthcare workers are frequently exposed to occupational stress, emotional fatigue, and burnout in demanding clinical settings. Brief, accessible workplace psychological interventions may support emotional regulation and well-being. “Your Reset Matters (STEPS)” was developed as a brief experiential intervention booth integrating self-awareness, breathing, grounding, self-soothing, and reflective activities to reduce stress among healthcare workers. A non-clinical pre–post service evaluation involving 55 healthcare workers was conducted during a workplace outreach programme. Participants completed a self-rated stress scale (0–10) before and immediately after the counsellor-facilitated STEPS booth. Activities included burnout reflection, stress self-rating, Deep Breathing Exercise (DBE), brisk walking with breathing regulation, Butterfly Hug with self-affirmation, and mandala colouring. Descriptive analysis assessed stress reduction, preferred activities, and interest in further psychological support. Mean self-rated stress scores decreased from 3.71 to 1.75 (52.6% reduction). Of 52 participants with baseline scores 1, 50 (96.2%) showed improvement, while 2 (3.8%) remained unchanged; three participants with a baseline score of 0 were excluded. The DBE was rated the most helpful (51%, $n = 28$), followed by Butterfly Hug with self-affirmation (31%, $n = 17$). Additionally, 41.8% (23/55) requested further psychological support, including individual and group interventions. These findings suggest that brief workplace psychological interventions may reduce perceived stress among healthcare workers. Simple strategies such as breathing regulation and self-soothing techniques were perceived as practical and immediately useful. The demand for further support highlights the importance of accessible psychological services in healthcare settings for burnout prevention and staff well-being.

Keywords: Burnout prevention; emotional regulation; healthcare workers; stress reduction; workplace psychological intervention

Behind the Scenes: A Case Study on The Role of Operational Staff in Senior Citizen Immunisation

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ABSTRACT

Influenza vaccination for senior citizens is a vital public health measure, but remains low due to access barriers and vaccine hesitancy. The role of clinical staff is well recognised, the contributions of diverse healthcare providers including family medicine specialists, public health physicians, medical officers, nurses, assistant medical officers, administrative staffs, clinic attendants, and drivers are frequently overlooked. This case study highlights the critical role of operational staff in achieving high influenza immunisation coverage during the senior citizen vaccination program at Klinik Kesihatan Kuala Lumpur from February to August 2025. The study involved direct observation of clinic workflows and descriptive data from records. The focus was on identifying operational and communication strategies implemented by support staff to enhance patient engagement and overcome logistical challenges. Among 1742 senior citizens, 584 was vaccinated and 126 from them was taken during outreach programs. Findings revealed that proactive engagement by operational staff was a key driver of the program's success. Key strategies included personalised patient booking via the MySejahtera app, collaboration with local leaders for outreach programs, and doctors dedicated efforts to address common misconceptions and fears about the influenza vaccine through empathetic and effective conversations. Support personnel also played a crucial role in streamlining the patient journey from registration to post-vaccination observation, significantly reducing waiting times and improving the overall patient experience. In conclusion, this case study demonstrates that well-trained and empowered operational staff are important to the success of public health campaigns. Their work in patient communication, outreach, and operational efficiency is as critical as clinical services. Future public health initiatives should prioritise investing and empowering support personnel to bridge the gap between healthcare services and community health outcomes.

Keywords: Influenza; health clinics; senior citizen multirole staffs; vaccination

A Palatal Mass Unmasking Acromegaly: An Unusual Diagnostic Pathway to a Growth Hormone-Secreting Pituitary Macroadenoma

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ABSTRACT

Introduction: Acromegaly is a rare endocrine disorder caused by chronic excess growth hormone (GH), most commonly from a GH-secreting pituitary adenoma, resulting in elevated insulin-like growth factor-1 (IGF-1) levels. Due to its insidious onset and slowly progressive manifestations, diagnosis is often delayed, increasing the risk of complications. Oral manifestations may be present but are frequently overlooked during routine clinical assessment. We report an unusual case of acromegaly that initially presented as a palatal dental mass with uncontrolled type 2 diabetes mellitus. **Case:** A 54-year-old man with 3 years history of type 2 diabetes mellitus and dyslipidaemia initially presented to a dental clinic with a hard pedunculated palatal mass overlying a torus palatinus. Histopathological examination demonstrated hyperkeratosis with mild-to-moderate epithelial dysplasia. During admission for excision of the lesion, severe hyperglycaemia (HbA1c 18.1%) persisted despite intensive insulin therapy, prompting endocrinology referral. Further history revealed a 3-year history of acral enlargement, bilateral hand numbness over the past year, snoring, headaches and excessive daytime somnolence. Physical examination demonstrated classic acromegalic features, including frontal bossing, macroglossia, enlarged lips and nose, skin tags, and spade-like hands without visual changes. Biochemical evaluation showed markedly elevated IGF-1 (531.8 ng/mL) and decreased testosterone (2.26 nmol/L). Pituitary magnetic resonance imaging revealed a 3.1 cm pituitary macroadenoma with suprasellar extension and optic chiasm compression. The patient was diagnosed with acromegaly complicated by obstructive sleep apnoea and subsequently underwent multidisciplinary management with somatostatin analogue therapy and subsequent transsphenoidal surgery. **Conclusion:** This case highlights an unusual oral presentation of acromegaly and emphasises that acromegaly can present to different departments and the importance of considering secondary endocrine causes that may mask as refractory diabetes mellitus.

Keywords: Acromegaly; growth hormone; oral manifestation; palatal mass; pituitary macroadenoma, refractory diabetes mellitus

Environmental Health and Hygiene Practices in a Welfare Institution Following Recurrent Infectious Disease Outbreaks: A Retrospective Review from Cheras, Kuala Lumpur

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ABSTRACT

Children residing in welfare institutions are particularly vulnerable to infectious disease outbreaks due to communal living, shared facilities, and challenges in maintaining effective infection prevention and control measures. Evidence describing recurrent outbreaks involving multiple infectious diseases within the same institution remains limited. This study aimed to evaluate environmental health conditions and hygiene practices associated with repeated infectious disease outbreaks in a welfare institution in Cheras, Kuala Lumpur. A retrospective review was conducted using outbreak investigation reports, surveillance records, and environmental health assessments from 2021 to 2026. Twelve outbreaks involving influenza-like illness, acute gastroenteritis, enterovirus infection, hand-foot-and-mouth disease, chickenpox, scabies and COVID-19 were identified. Recurrent deficiencies included overcrowding, poor ventilation, inadequate isolation facilities, inconsistent cleaning and disinfection, delayed identification and isolation of symptomatic residents, suboptimal hygiene practices, limited caregiver training, staffing shortages, and frequent resident movement, all of which compromised outbreak control. Despite repeated public health interventions and health education activities, similar deficiencies persisted throughout the review period. These findings demonstrate that recurrent outbreaks are driven by persistent environmental and organisational vulnerabilities. Sustainable improvements in infrastructure, staffing capacity, infection prevention and control practices, and interagency collaboration are essential to strengthen outbreak preparedness and protect vulnerable children in congregate care settings.

Keywords: Childcare institutions; environmental health; infectious disease outbreaks; infection prevention and control; welfare institutions

Evaluation of Electronic Medical Records – Workflow Fit in A Government Hospital using the HOPT-Fit Framework

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ABSTRACT

Although Electronic Medical Records (EMR) offer important benefits, poor alignment with daily clinical practice may increase user burden, disrupt workflow, and reduce efficiency. This study evaluated EMR–clinical workflow fit from the end-user perspective and identified the socio-technical factors influencing its effectiveness in supporting clinical work. A qualitative exploratory case study guided by the Human, Organisation, Process, and Technology–Fit (HOPT-Fit) framework was conducted at Hospital Kuala Lumpur. Seventeen healthcare professionals from General Medicine, Urology, and Nuclear Medicine participated in three semi-structured interviews and five dyadic interview and one focus group discussions. Data were further triangulated through eight hours of non-participant observation and document analysis, and analysed thematically with NVivo. The findings showed a partial workflow fit. Users valued the EMR for improved note legibility, simultaneous access, faster retrieval of previous records, and reduced dependence on physical files. However, the absence of formal training, unstable network connectivity, limited hardware, restrictive interface design, fragmented imaging access, and the lack of alerts for edited entries disrupted clinical processes. These limitations encouraged risky workarounds, including third-party note-taking, copy-and-paste documentation, silent editing, and parallel paper–electronic charting. Although nurses and pharmacists frequently prevented harm through manual cross-checking, this placed an additional safety burden on frontline staff. The study concludes that effective EMR implementation requires continuous socio-technical alignment through structured training, stronger infrastructure, user-centred interface redesign, workflow standardisation, and automated safety features. The findings demonstrate the value of the HOPT-fit process dimension in identifying workflow misfits that may be overlooked by technology-acceptance models.

Keywords: Clinical workflow; electronic medical records; HOPT-Fit framework; socio-technical systems; workflow fit

Fatal Malignant Pertussis with Severe Hyperleukocytosis in an Ex-Premature Infant: A Case Report

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ABSTRACT

Malignant pertussis is a rare but life-threatening form of *Bordetella pertussis* infection characterised by severe respiratory failure, marked leukocytosis, pulmonary hypertension, and cardiovascular compromise. Mortality remains high despite advances in intensive care and leukoreduction strategies. Following this case report of a 4-month-old ex-premature infant (25+3 weeks gestation) who presented with a six-day history of cough and progressive respiratory distress following exposure to sick contacts. She was admitted for community-acquired pneumonia and subsequently developed recurrent apnoeic episodes requiring intubation and mechanical ventilation. The clinical course was complicated by frequent paroxysmal coughing associated with cyanosis, desaturation, and cardiorespiratory instability. Nasopharyngeal aspirate PCR confirmed *Bordetella pertussis*. Laboratory investigations demonstrated severe hyperleukocytosis with a peak white blood cell count of $87 \times 10^9/L$ and lymphocytic predominance. Double-volume exchange transfusion was performed, reducing the white blood cell count to $37.9 \times 10^9/L$. Despite antimicrobial therapy, leukoreduction, and escalation to high-frequency oscillatory ventilation, the patient developed severe acute respiratory distress syndrome, refractory hypoxaemia, pleural effusions, and haemodynamic instability requiring inotropic support. She subsequently suffered cardiovascular collapse and succumbed to illness. In conclusion, hyperleukocytosis is a key predictor of poor outcome in malignant pertussis. This case highlights the rapid progression of disease despite aggressive management and underscores the importance of early recognition, timely intervention, and preventive strategies such as maternal vaccination.

Keywords: Acute respiratory distress syndrome; *Bordetella pertussis*; exchange transfusion; hyperleukocytosis; malignant pertussis

A 5-Year Retrospective Review of Neonatal Congenital Hypothyroidism Screening at a Tertiary Centre: Evaluation of Clinical Workflows and Outcomes

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ABSTRACT

Evaluating multi-year neonatal congenital hypothyroidism (CH) screening registry data is essential to monitor programmatic efficiency and key performance indicators (KPIs). This study evaluated 5-year trends, sample rejection rates, recall rates, and treatment timelines at Hospital Putrajaya. A retrospective descriptive audit of the CH registry (2021–2025) was conducted across 36,336 live births. Primary screening utilised cord blood TSH, followed by venous sampling after 72 hours of life for diagnostic recall ($\text{TSH} > 60 \text{ mIU/L}$, or borderline $\text{TSH } 20\text{--}60 \text{ mIU/L}$ with $\text{FT4} \leq 15 \text{ pmol/L}$) and catch-up screening. Among 36,334 processed samples, the laboratory rejection rate was 0.34% ($n = 124$). Screening identified 267 recalls (0.73% recall rate), confirming 23 CH cases (incidence 1:1580). Overall timely treatment (< 14 days of life) was achieved in 56.5% of cases ($n = 13$). Annual KPI adherence declined from 80.0% in 2021 to 33.3% in 2025, directly coinciding with a case surge from 3 cases in 2024 to 9 in 2025. The workflow demonstrates high front-end laboratory efficiency and low recall rates. The 2025 case surge may reflect increased diagnostic awareness and lower treatment thresholds rather than true disease incidence shifts. It is postulated that the reduced KPI adherence in 2025 was mostly contributed by deliberate clinical monitoring in borderline cases where immediate treatment before two weeks was not indicated. Optimising multidisciplinary tracking and implementing risk-stratified KPI benchmarks are essential to safeguard the 14-day treatment window for overt CH while allowing appropriate monitoring for borderline cases.

Keywords: Congenital hypothyroidism; key performance indicators; neonatal screening; recall rate; timely treatment

GIS-Based Spatiotemporal Analysis of Reported HFMD Cases in Cheras District, 2023–2025

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ABSTRACT

Hand, Foot and Mouth Disease (HFMD) remains a significant communicable disease affecting children in Malaysia and contributes to recurrent outbreaks in urban communities. Understanding the geographical and temporal distribution of HFMD cases can support targeted public health interventions and strengthen disease surveillance. This retrospective descriptive study analysed secondary surveillance data of reported HFMD cases extracted from the eNotifikasi system between January 2023 and December 2025. To ensure spatial comparability, a standardised current Cheras district boundary was applied across all study years following administrative boundary changes. Cases were analysed descriptively by age, gender, and year of notification. Residential addresses were geocoded and mapped using Geographic Information System (GIS) software to examine the spatiotemporal distribution of cases. Kernel density estimation was performed to identify residential hotspot clustering. A total of 4,594 HFMD notifications were identified, of which 3,905 cases within the standardised Cheras boundary were included in the analysis. Most cases were male (56.3%) and aged 1–5 years (63.8%). Temporal analysis showed substantial annual variation, with 1,418 cases (36.3%) reported in 2023, declining to 415 cases (10.6%) in 2024, followed by a resurgence to 2,072 cases (53.1%) in 2025. GIS analysis demonstrated spatial expansion of hotspots towards the northwest of Bandar Tun Razak and Bandar Sri Permaisuri, and the southwest towards Sungai Besi, suggesting urban infill and emerging development corridors may have influenced case redistribution. GIS-based spatiotemporal analysis provided valuable visualisation of HFMD burden and identified recurrent hotspot areas within Cheras District. Integrating spatial surveillance into routine communicable disease monitoring may facilitate geographically targeted public health interventions and strengthen early outbreak detection and response.

Keywords: Disease surveillance; Geographic Information System; hand, foot and mouth disease; hotspot analysis; spatiotemporal analysis

Soft Bones, Hard Lessons: Disproportionate Thigh Pain Revealing Femoral Fracture in Adult Rickets

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ABSTRACT

Rickets is a chronic metabolic bone disorder caused by impaired bone mineralisation, resulting in skeletal deformities, bone pain, muscle weakness, and increased bone fragility. Adults with longstanding rickets are at risk of insufficiency fractures, which may be difficult to recognise because chronic musculoskeletal pain is commonly present. We report a 40-year-old woman with renal rickets diagnosed since childhood who was ambulant with a walking frame and independent in seated personal activities of daily living. She had cervicothoracic ossification of the posterior longitudinal ligament with cord compression, spinal canal narrowing, requiring spinal instrumentation, laminectomy, and decompression surgery in April 2026 following a trivial fall. During the acute admission, no long bone fracture was identified. One month later, she was transferred to our rehabilitation centre for further spinal rehabilitation. During assessment, she complained of severe right anterolateral thigh pain with a Numerical Rating Scale score of 9/10 on movement, particularly during hip flexion, and 5/10 at rest despite regular analgesic. Pain significantly affected mobility training and participation in rehabilitation sessions. Initial assessment did not reveal swelling or deformity, contributing to fracture recognition. Further reassessment and repeat imaging subsequently demonstrated a right femoral fracture, likely secondary to chronic skeletal fragility associated with renal rickets. In conclusion, this case highlights the importance of recognising disproportionate pain as a potential indicator of occult fragility fractures in patients with metabolic bone disease undergoing rehabilitation. Early reassessment and timely imaging are essential to avoid delayed diagnosis and optimise rehabilitation outcomes.

Keywords: Femoral fracture; metabolic bone disease; renal rickets; spinal rehabilitation

Association of Human Leukocyte Antigen (HLA) Class II and Selected Non-HLA SNPs with Type 1 Diabetes in a Multi-Ethnic Malaysian Population: A Pilot Study

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ABSTRACT

Type 1 diabetes (T1D) is an autoimmune disease where the immune cells attack, infiltrate and destroy insulin-producing β cells in the pancreas. Nearly 30%-50% of genetic susceptibility to T1D is attributed to human leukocyte antigen (HLA) genes, while non-HLA genes are also a contributing factor. The aim of this pilot study is to determine the distribution of HLA and non-HLA alleles of multi-ethnic Malaysian T1D patients and determine the associations for risk of developing disease using ethnicity-matched controls. A total of 31 paediatric patients diagnosed with T1D were recruited from an endocrinology clinic, consisting of 10 Malays, 10 Chinese and 11 Indians. Patients were genotyped for HLA class II (i.e. HLA-DRB1, HLA-DQA1, HLA-DQB1) alleles and non-HLA SNP markers across three loci (i.e. rs2476601, rs2104286, rs12722495, rs45450798) by real time PCR. Our data showed that the commonest alleles among Malays and Chinese were HLA-DRB1*03:01 (AF = 0.3), followed by HLA-DQA1*05:01 (AF = 0.125) and HLA-DQB1*02:01 (AF = 0.125). Meanwhile, HLA-DRB1*03:01 (AF = 0.25), HLA-DRB1*04:01 (AF = 0.25), followed by HLA-DQA1*03:01 (AF = 0.18) were the commonest allele recorded for Indians. HLA-DRB1*03:01 was associated with increased risk for developing T1D in Malays (OR = 9.05, 95% CI = 3.39-24.13, $p < 0.0001$). No significant association was observed between T1D and gene polymorphism alleles rs2476601, rs2104286, rs12722495, and rs45450798 ($p > 0.05$). In conclusion, larger studies is warranted to validate these findings and further characterise genetic risk factors of T1D across Malaysian main ethnic groups.

Keywords: Association; disease risk; HLA; Malaysian; SNP; type 1 diabetes

Oral Health Literacy Level among Healthcare Workers in Government Clinics In Kota Bharu

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ABSTRACT

Oral health literacy (OHL) helps healthcare professionals in understanding and delivering oral health information, yet evidence regarding Malaysian primary healthcare workers is still limited. This research assessed OHL levels and related factors among medical officers, staff nurses, and community nurses in government clinics located in Kota Bharu, Kelantan. This cross-sectional research involved 497 subjects who filled out the electronically self-administered Oral Health Literacy Instrument–Malay Language (OHLI-M), which consists of weighted reading comprehension and numeracy elements. Scores were classified as inadequate, marginal or adequate. The proportional-odds assumption was supported. Ordinal logistic regression included 493 individuals with valid age information, with education and occupation modelled independently and controlled for age and gender due to collinearity. In total, 326 individuals (65.6%) demonstrated adequate OHL, 112 (22.5%) demonstrated marginal oral health literacy, and 59 (11.9%) demonstrated inadequate oral health literacy. The average score was 77.66 (SD 14.11). In comparison to certificate holders, individuals with a degree or higher qualification (adjusted odds ratio [aOR] 5.19, 95% CI 2.79–9.64) and those with diplomas (aOR 2.17, 95% CI 1.43–3.31) exhibited increased odds of occupying a higher OHL category. Medical officers (aOR 8.58, 95% CI 3.74–19.72) and staff nurses (aOR 1.95, 95% CI 1.31–2.91) exhibited greater odds compared to community nurses. Older age was inversely associated with OHL; gender showed no significant association. Despite around two-thirds possessing adequate OHL, over one-third exhibited marginal or inadequate OHL. Targeted, role-appropriate initiatives should prioritise certificate-qualified personnel, community nurses and older workers.

Keywords: Healthcare workers; logistic regression; oral health literacy; primary healthcare

Primary Hyperparathyroidism in Pregnancy: A Case Series Review

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ABSTRACT

Primary hyperparathyroidism (PHPT) during pregnancy is an uncommon endocrine disorder that can result in significant maternal and fetal complications if not diagnosed and managed promptly. This retrospective review evaluates the clinical presentation, diagnostic findings, surgical management, and outcomes of five pregnant patients (aged 21–37 years) diagnosed with PHPT between 2022 and 2026. Diagnosis occurred predominantly during the first and second trimesters, with initial serum calcium levels ranging from 2.76 to 3.50 mmol/L. While neck ultrasonography successfully localised most lesions, sestamibi scanning was utilised selectively. All patients underwent parathyroidectomy with intraoperative parathyroid hormone monitoring, which led to a progressive normalisation of postoperative calcium levels. Documented complications included gestational hypertension and nephrocalcinosis-related renal tubular acidosis; however, no major surgical complications were reported, and all cases resulted in favorable maternal and neonatal outcomes. Ultimately, early recognition and a multidisciplinary approach permit safe surgical intervention and effective biochemical control, confirming that parathyroidectomy remains the definitive treatment to mitigate maternal-fetal risks.

Keywords: Hypercalcemia; maternal-fetal outcomes; pregnancy; primary hyperparathyroidism; parathyroidectomy

Clinical Predictors of Rheumatoid Arthritis-Associated Interstitial Lung Disease: Insights from a Multicenter Retrospective Cohort

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ABSTRACT

Early identification rheumatoid arthritis patients at risk of rheumatoid arthritis-associated interstitial lung disease (RAILD) is critical for timely intervention and improved outcomes, yet its predictors remain incompletely defined. This retrospective, multicenter, observational study evaluated 803 RA patients, of whom 115 were diagnosed with RAILD. Clinical, serological, and treatment-related variables were analysed to identify predictors of RAILD. Patients with RAILD were diagnosed with RA at an older mean age compared to those without ILD (51.8 ± 11.2 vs. 46.6 ± 12.5 years, $p < 0.001$). Longer RA duration (>10 years) significantly increased ILD risk compared to shorter disease duration (<5 years) (OR = 9.316, 95% CI: 3.335–26.021, $p < 0.001$). Eversmokers demonstrated 2.5fold higher odds of ILD, though not statistically significant (OR = 2.545, 95% CI: 0.509–12.719, $p = 0.255$). Rheumatoid factor (RF) positivity was associated with nearly twofold increased risk (OR = 1.875, 95% CI: 1.036–3.394, $p = 0.038$), while anticitrullinated protein antibody (ACPA) positivity was more frequent among RAILD patients (60.9% vs. 52.6%, $p = 0.018$). Methotrexate exposure was protective, reducing ILD risk (OR = 0.075, 95% CI: 0.026–0.215, $p < 0.001$) and delaying ILD onset (median delay 2 years vs. 1 year, $p = 0.034$). Conversely, prolonged corticosteroid therapy and biologic exposure were strongly associated with ILD development (OR = 19.966, 95% CI: 11.045–36.092, $p < 0.001$; OR = 3.029, 95% CI: 1.515–6.056, $p = 0.002$). Conclusion: Older age at RA diagnosis, longer disease duration, RF positivity, corticosteroid therapy, and biologic exposure are significant predictors of RAILD, whereas methotrexate appears protective. These findings highlight the need for vigilant monitoring in patients who are at risk for RA-ILD.

Keywords: Interstitial lung disease; rheumatoid arthritis

A Case of an Anomalous Right Coronary Artery Arising from the Left Coronary Cusp

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ABSTRACT

Anomalous origin of the right coronary artery (RCA) from the left coronary cusp with an interarterial course is a rare congenital coronary anomaly associated with myocardial ischemia and sudden cardiac death. We report the case of a 46-year-old man who presented with intermittent exertional atypical chest pain and a positive exercise stress test. Coronary angiography demonstrated failure to engage the RCA, raising suspicion of an anomalous origin. Coronary computed tomography angiography subsequently confirmed an anomalous RCA arising from the left coronary cusp with a proximal narrowing along its interarterial course between the aorta and pulmonary artery. No significant atherosclerotic stenosis was identified, while the left coronary system demonstrated only mild proximal left anterior descending artery disease. Given the patient's symptoms and high-risk coronary anatomy, he underwent coronary artery bypass grafting using a pedicled right internal mammary artery graft to the distal RCA. The procedure was uneventful, and he experienced an uncomplicated postoperative recovery with resolution of symptoms. This case highlights the importance of maintaining a high index of suspicion for congenital coronary anomalies in patients with exertional chest pain and positive ischemic testing despite minimal coronary artery disease. Coronary computed tomography angiography plays a pivotal role in defining coronary anatomy and guiding management. Early recognition and timely surgical intervention in symptomatic patients with high-risk anatomical features may reduce the risk of adverse cardiovascular events and improve long-term outcomes.

Keywords: Anomalous coronary artery; coronary artery bypass grafting; coronary computed tomography angiography; interarterial course; right coronary artery

Reactive Spindle Cell Lesion of The Mandible - A Case Report

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ABSTRACT

Spindle cell lesions are rare in the head and neck, presenting diagnostic challenges in the oral cavity due to diverse epithelial, mesenchymal, or odontogenic origins. These lesions encompass benign, malignant, and myofibroblastic types. A healthy 19-year-old woman presented with a painless pedunculated gingival lesion on the lingual aspect of tooth 47 that had been present since December 2025, associated with discomfort during mastication and bleeding on toothbrushing. Clinical examination revealed a 15 × 5 mm erythematous lesion, while radiographic assessment demonstrated localised alveolar bone loss. Initial treatment comprised complete surgical excision of the lesion and extraction of the lower right third molar under general anaesthesia in March 2026. Recurrence with mobility of tooth 47 was observed three weeks postoperatively, requiring re-excision, corticectomy, and extraction of tooth 47. No evidence of recurrence was noted at the one-month follow-up. Calcifying fibroblastic granuloma is a distinct spindle cell variant that typically manifests as a painless swelling, commonly affecting the tongue, lower lip, or gingiva. Calcifying fibroblastic granuloma is a relatively uncommon gingival overgrowth that is generally viewed as a reactive process rather than a true neoplasm. Treatment ranges from conservative surgical excision for benign lesions to radical resection for malignancies. This case report describes a calcifying fibroblastic granuloma featuring prominent spindle cell and myofibroblastic proliferation in the lower right mandible. Notably, the lesion recurred as a larger mass within weeks of the initial complete surgical resection, requiring a second, more extensive surgery. This rapid recurrence highlights the aggressive potential of this variant, underscoring the need for close post-operative monitoring and management.

Keywords: Gingival lesion; myofibroblastic proliferation; rapid recurrence; spindle cell lesion

Long-Term Overall Survival and Progression-Free Survival in Medullary Thyroid Carcinoma: A Single-Centre Retrospective Cohort Study

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ABSTRACT

Medullary thyroid carcinoma (MTC) is rare and generally indolent. We aimed to evaluate long-term overall survival (OS) alongside progression-free survival (PFS) of an index surgical cohort, in a tertiary referral centre. A 25-year institutional database was retrospectively analysed. Patients with incomplete surgical and histopathological data, or follow-up less than 6 months were excluded. A general cohort (N = 48) was evaluated for OS using left-truncated Kaplan-Meier estimation to account for delayed entry. A further subset with index or completion surgery performed at our centre (N = 32) was analysed for PFS, using repeat/salvage surgery as a surrogate for progression. In the general cohort (N = 48), 46 patients (95.8%) remained alive at last follow-up; 5- and 10-year OS were both 92.8% (95% CI 83.9-100.0%), with two deaths, both within 3.2 years of surgery. Both had distant metastasis at presentation with subsequent progression to bone metastasis. Within the surgical subset (N=32), 25 (78.1%) were sporadic vs 7 (21.9%) hereditary; 14 (43%) had advanced TNM stage (III-IV); 9 patients (28.1%) required repeat surgery over 14 years, yielding a 5-year PFS of 71.6% (95% CI 48.7-85.6%); median PFS was not reached. Log-rank tests by hereditary status ($p = 0.609$), pathological stage ($p = 0.264$) and lymph node status ($p = 0.510$) demonstrated no significant differences in PFS. MTC demonstrates excellent long-term overall survival under tertiary care. Distant metastasis at presentation seems to confer higher mortality risk but was not significant in our small cohort. Recurrence or progression occur independently of baseline clinical parameters, emphasising the need for uniform, lifelong structural surveillance.

Keywords: Medullary thyroid carcinoma; overall survival; progression-free survival; RET; thyroid neoplasms

Special write up of Basic Mentoring Program Implementation at Jabatan Kesihatan Wilayah Persekutuan Kuala Lumpur & Putrajaya in 2025

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ABSTRACT

The 2025 Basic Mentoring Program at the Kuala Lumpur Federal Territory Health Department was implemented in accordance with the Human Resource Services Circular (MyPPSM Pengurusan Psikologi, version 1,2022) Ceraian PO.3.1.4. This program aims to guide officers in enhancing their career and psychosocial performance. Its primary focus is to evaluate and improve four core competencies: Professional, Cultural, Personal, and Social. The program was conducted over a 6 month period across three implementation phases, involving 34 participants comprising mentors, mentees, and Heads of Departments or supervisors. The effectiveness evaluation was conducted using interviews and assessment forms completed during the initial, final, and post-implementation phases. Initial feedback indicated that 100% of mentor-mentee participants were at moderate and good levels. However, the final evaluation recorded a 100% improvement to good and excellent levels. Furthermore, 100% of supervisors and participants strongly agreed that the program yielded a positive impact on competencies, the organisation, and mentoring relationships. Overall, this structured program successfully achieved its objectives in driving organisational effectiveness and personal development among participants. Nevertheless, several challenges were encountered, including difficulties in selecting suitable candidates, a lack of interest, and commitment issues leading to participant dropouts. As a measure for future improvement, it is recommended to expand the program's scope beyond the department through more interactive group activities, backed by strong support from management.

Keywords: Competencies; health department; mentoring; mentor-mentee; organisational effectiveness

Beyond Birth Trauma: Neonatal Clavicle Injury as an Early Biochemical Marker of Maternal-Fetal Vitamin D Deficiency

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ABSTRACT

Neonatal clavicle fracture is frequently dismissed as inevitable mechanical delivery complication. Vitamin D deficiency may impair fetal bone mineralisation, increasing fracture susceptibility even in uncomplicated births. Despite Malaysia's equatorial location, vitamin D deficiency affects approximately 64% of general population. Maternal hypovitaminosis D remains prevalent and routine antenatal screening is not standard practice. We report a case highlighting potential contribution of maternal-fetal vitamin D deficiency to neonatal clavicle fracture in the absence of significant mechanical risk factors. A term neonate weighing 3150 g was born vigorous via emergency lower segment caesarean section for failed induction of labour. Postnatally, reduced left upper limb movement prompted evaluation. Chest radiography demonstrated un-displaced fracture of left clavicle. Given low-risk delivery, metabolic workup was performed. It revealed low serum 25-hydroxyvitamin D (26.99 nmol/L), mildly elevated intact parathyroid hormone (23.5 pmol/L), normal serum calcium, phosphate and alkaline phosphatase level. Maternal testing demonstrated concurrent vitamin D deficiency level (22.46 nmol/L). There was no clinical or radiological evidence of skeletal dysplasia or osteogenesis imperfecta. Fetal bone mineralisation depends on third trimester transplacental calcium transfer, regulated by maternal Vitamin D status. This case suggests that neonatal clavicle fracture may reflect underlying fragility rather than solely birth trauma. In low-risk deliveries, neonatal clavicle fracture may represent as sentinel biochemical indicator of maternal-fetal Vitamin D deficiency. Targeted metabolic evaluation and improved antenatal Vitamin D optimisation may reduce preventable neonatal clavicle fracture while avoiding premature attribution of neonatal clavicle fracture solely to delivery-related trauma, thereby reducing potential medicolegal implications.

Keywords: Clavicle fracture; vitamin D deficiency

The Great Masquerader: Catastrophic Aortic Pathology Masquerading as Renal Colic in the Emergency Department

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ABSTRACT

Catastrophic aortic pathologies are diagnostic chameleons. In the absence of classical tearing chest pain, renal colic serves as a dangerous diagnostic pitfall. Recognising this mimicry early while patient remains hemodynamically stable, is a critical window to avert catastrophic collapse. We present two cases of lethal aortic pathology presenting with renal colic. The first involved a 75-year-old man presented with recurrent left iliac fossa pain previously discharged as renal colic. Re-presentation with profound shock prompted computed tomography angiography (CTA), demonstrating a leaking infrarenal dissecting abdominal aortic aneurysm with a large retroperitoneal hematoma. Extensive disease burden precluded definitive intervention. Second case is a 74-year-old man presented with acute left flank pain. Hydronephrosis seen in bedside ultrasound supporting renal colic diagnosis. Subsequent hemodynamic collapse prompted CTA, revealing Stanford Type A aortic dissection with active hemorrhage. The patient succumbed despite resuscitation. These cases highlight the dangerous diagnostic overlap between aortic catastrophes and renal colic. Retroperitoneal hemorrhage or expanding dissection may irritate periureteric structures, producing flank-to-groin pain and even hydronephrosis, creating a misleading presentation. Red flags include sudden maximal pain at onset, unexplained diaphoresis, cardiovascular risk factors, and evolving hemodynamic instability. In elderly patients with apparent renal colic, Point-of-Care Ultrasound assessment of the abdominal aorta should complement renal evaluation. Early diagnosis enables timely blood pressure control, avoidance of potentially harmful therapies, and expedited definitive management. Aortic pathology must remain a critical differential diagnosis in elderly patients presenting with renal colic-like symptoms. Early recognition may transform an otherwise fatal condition into a potentially salvageable one.

Keywords: Acute aortic syndrome; aortic dissection; renal colic

The Smear That Would Not Clear: Recurrent Acid-fast Bacilli Positivity in Advanced HIV Ultimately Attributed to Non-Tuberculous Mycobacterial Disease

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ABSTRACT

Non-tuberculous mycobacterial pulmonary disease (NTM-PD) can mimic pulmonary tuberculosis (PTB), particularly in people living with HIV, where impaired cellular immunity increases susceptibility and recurrent acid-fast bacilli (AFB) smear positivity may be attributed to tuberculosis. We report a 39-year-old man with HIV infection and previous PTB who presented in May 2026 with cough, reduced effort tolerance, fever and lethargy. He had previously received anti-tuberculosis therapy for recurrent smear-positive PTB, with initial smear conversion followed by recurrent AFB positivity despite clinical improvement. Sputum cultures subsequently isolated *Mycobacterium abscessus* and *Mycobacterium chelonae*, while GeneXpert and later Xpert MTB/RIF Ultra did not detect *Mycobacterium tuberculosis*. Bronchoscopy showed no endobronchial abnormality, but culture again isolated *Mycobacterium abscessus* complex. On readmission, chest radiography demonstrated worsening cavitory nodular opacities with patchy consolidation and sputum AFB was 2+. Given repeated NTM isolation, persistent smear positivity and advanced HIV, pulmonary NTM disease was strongly suspected and treatment with intravenous amikacin, intravenous imipenem, azithromycin, ciprofloxacin and doxycycline was commenced. This case highlights the diagnostic challenge of recurrent smear-positive pulmonary disease in patients with HIV. Persistent AFB positivity should prompt consideration of treatment failure, relapse, reinfection, drug resistance and NTM disease. Comprehensive microbiological evaluation, including mycobacterial culture and molecular assays, is essential to distinguish NTM infection from recurrent tuberculosis and guide appropriate management.

Keywords: HIV; *Mycobacterium abscessus*; non-tuberculous mycobacterial pulmonary disease; pulmonary tuberculosis; recurrent AFB positivity

Empowering Communities through Mental Health Education: Evaluation of the K-Mindset Intervention

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ABSTRACT

Mental health is an increasing public health concern in Malaysia, while stigma and limited mental health literacy may hinder early recognition and appropriate support for individuals experiencing mental health difficulties. The K-Mindset module was developed as a community-based educational intervention to improve mental health knowledge, recognition of warning signs, preventive strategies, and helping skills. This study aimed to evaluate the effectiveness of the K-Mindset programme in improving mental health knowledge among participants. A pre-post interventional study was conducted among students of a private university who voluntarily attended the programme using convenience sampling. The intervention comprised interactive online educational sessions addressing common mental health issues, symptom recognition, preventive strategies, and helping skills. Participants completed pre-test and post-test questionnaires developed by the Ministry of Health Malaysia, and scores were analysed using a paired t-test. Among 56 participants who completed both assessments, the mean score increased from 8.61 (SD = 1.45) before the intervention to 9.38 (SD = 1.05) after the intervention. The improvement was statistically significant ($t(55) = -4.95$, $p < 0.001$), indicating enhanced mental health knowledge following the programme. The findings demonstrate that the K-Mindset programme was effective in improving mental health knowledge among participants. Structured community-based mental health education may strengthen early recognition, promote appropriate support, and contribute to reducing stigma. Scaling up similar interventions could strengthen community support systems and contribute to improved population mental health outcomes.

Keywords: Community mental health; health education; K-Mindset; mental health literacy; stigma