

CONFERENCE

ORAL PRESENTATION: OP1 MELUR (CD)

Knowledge, Attitude, and Practice (KAP) on COVID-19 in Asia: A Systematic Review

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Abstract

Introduction: Coronavirus disease 2019 which is known as COVID-19 has spread around the world. As a result, all countries have taken various strategies to prevent the pandemic's COVID-19 pandemic. Adherence to government laws and regulations, a positive attitude among the public, sufficient knowledge, and good practice are all necessary for a community-based effort to successfully combat the COVID-19 pandemic. Therefore, this study aimed to assess the knowledge, attitude, and practice (KAP) on COVID-19 in Asia.

Methods: A literature search from electronic databases namely PubMed, Scopus, and WOS were carried out to identify articles published from January 2020 to September 2023. The review was done in line with the Preferred Reporting Items for Systematic Review and Meta-Analyses (PRISMA) checklist. Two authors independently performed the screening, study selection, data extraction, data synthesis, and quality assessment.

Results: A total of 694 articles were screened after duplicates and non-original articles were removed. Eleven scientific papers were finally eligible and included in this systematic review. Overall, the majority of the included articles that were previously published had sufficient knowledge (45% to 81%), positive attitude (57% to 95%), and good practice (47% to 95%) on COVID-19. The methodological quality assessment was of moderate to high quality.

Conclusion: The study findings revealed that the overall KAP level of the general population in Asia was relatively optimistic. This systematic review can provide information that may be useful in the development of official awareness and campaigns for society.

Keywords: COVID-19, Knowledge, Attitude, Practice, Asia

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Respiratory Syncytial Virus (RSV) Outbreak At A Remote Orang Asli Settlement In Gua Musang

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Abstract

Introduction: Kelantan was stunned by an RSV outbreak in Pos Balar, a secluded orang asli community in Gua Musang, in June 2022. It is about 100 kilometres from the city of Gua Musang and involves a four-hour off-road trek through the jungle. The goal of this study was to determine the cluster's epidemiology, the source of the outbreak, and the clusters risk factors, as well as to apply control and prevention measures.

Methods: This descriptive study employs interviews and active case detection. All children who lived in Pos Balar from 7/6/2022 onwards and experienced at least one respiratory symptom (cough, runny nose, fast breathing) with or without fever were evaluated. The data was analysed in Microsoft Excel, and nasopharyngeal swab samples were also taken

Results: A total of 32 patients were identified. 10 of them were hospitalized and another 22 cases had mild symptoms and treated as outpatient. Attack rate was 18.7% (n=171). The majority of the cases (87.5%) were under the age of five. Villagers received health education in their native language. Personal cleanliness, hand washing, cough etiquette, self-quarantine, wearing face masks, and taking immediate treatment for symptomatic patients were all part of it.

Conclusion: The source of infection was most probably from outsiders who organized a large event in SK Balar prior to the first and index case. This outbreak, however, is under control owing to rapid action taken by inter-agencies as well as solid cooperation from the villagers.

Keywords:

The Determinants of Anti-Retroviral Therapy (ART) Initiation In Newly Diagnosed HIV Cases: Study In Pahang, Malaysia 2021 - 2023

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Abstract

Introduction: Human Immunodeficiency Virus (HIV) infection is a major public health concern, requiring effective prevention and treatment strategies. Timely initiation of anti-retroviral therapy (ART) upon HIV diagnosis is crucial for effective management. ART is effective in suppressing the virus, boosting immunefunction, and improving the quality of life for people with HIV. This research aimed to determine the determinants of ART initiation in newly diagnosed HIV-positive individuals in Pahang, Malaysia, during the period 2021–2023.

Methods: This cross-sectional study includes all 2021–2023 HIV-positive cases based on the National AIDS Registry (NAR). Non-Malaysian, getting ART outside Pahang healthcare facilities, dual diagnosis (HIV and AIDS) upon diagnosis, and cases died before initiate ART were excluded. Descriptive and multiple logistic regression were used in analysing the data. A p-value of less than 0.05 indicated statistical significance for the associated determinant of ART initiation in newly diagnosed HIV-positive cases.

Results: A total of 270 cases fulfilled the study criteria. The mean age (SD) of newly diagnosed HIV-positive cases was 32.0 (9.91) years. The percentage of delays in ART initiation was 62.2%. Multiple logistic regression showed that there was a significant relationship between the age of cases, employment status, and delays in the initiation of ART. The age of newly diagnosed HIV patients increases their chances of receiving antiretroviral treatment by 2.8%, and cases with a job are 2.2 times more inclined to receive antiretroviral treatment with a delay.

Conclusion: Increasing age and having a job are the main determinants of ART initiation in newly diagnosed HIV-positive individuals in Pahang, Malaysia. The finding provides valuable insights for healthcare practitioners, policymakers, and organisations involved in HIV care and management.

Keywords: HIV, anti-retroviral therapy, Pahang

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Stigma and Discrimination Towards People Living with HIV among Clinic Healthcare Workers in Malaysia

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Abstract

Introduction: Despite on advancement in HIV/AIDS treatment and availability of free services in our public healthcare facilities, the treatment uptake among PLHIV remains low mainly due to stigma and discrimination in healthcare settings. This study aims to determine the prevalence of stigma and discrimination attitude and the associated factors among healthcare workers working in government health clinics in Selangor state of Malaysia.

Methods: An online cross-sectional study involving 300 healthcare workers was carried out. This study used a validated questionnaire measuring stigma and discriminatory level among healthcare workers.

Results: A total of 286 respondents participated giving a response rate of 95%, but only 264 had completed the questionnaire. Most of the respondents had value driven stigma (76.1%) but no discriminatory attitude towards HIV/AIDS (60.2%). Respondents without experience in treating PLHIV have 6.81 higher odds (aOR: 6.81 [95% CI 2.70-15.70]) of having stigmatizing attitude and 3.14 higher odds (aOR: 3.14 [95% CI: 1.69-5.83]) of having discriminatory attitudes towards PLHIV. Respondents reported not attending any training related to HIV/AIDS was found to have 2.40 higher odds (aOR: 2.40 [95% CI: 1.16-4.99]) of having stigmatizing attitude and 2.34 higher odds (aOR: 2.34 [95% CI: 1.13-4.83]) of having discriminatory attitude towards PLHIV.

Conclusion: This study found that even though healthcare workers' attitudes towards PLHIV were generally not discriminatory, the stigma among them is still concerning. Combating stigma by addressing the most possible modifiable associated factors is a key priority in achieving success in the AIDS epidemic control and providing quality care to PLHIV.

Keywords: PLHIV, stigma, discrimination, healthcare worker

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Development and Validation of the Attitude Towards COVID-19 Booster Dose Vaccination Questionnaire Among Healthcare Workers in Malaysia: The Malay Version

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Abstract

Introduction: The perspective and sentiments of healthcare workers (HCWs) in Malaysia regarding the COVID-19 booster dose vaccination have become a pivotal area of study. Nevertheless, a finite number of valid instruments exist to evaluate this topic. This study aims to develop and validate the attitude towards COVID-19 booster dose vaccination (AC19-BDV) among HCWs.

Methods: The AC19-BDV questionnaire was developed based on the literature reviews and expert judgment. They underwent a sequential validation process, including content, face, and construct validity for Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) and internal consistency reliability using Cronbach's alpha. Both EFA and CFA used cross-sectional methods conducted among healthcare workers in Malaysia using both face-to-face and online platforms. A total of 125 participants and 300 respondents participated in the EFA and CFA, respectively.

Results: The preliminary AC19-BDV consists of 22 items and shows a high item Content and Face Validity Index. However, the EFA result demonstrated three domains with 20 items left. The final questionnaire after CFA contains 16 items with a new three-factor model. The level of goodness of fit (comparative fit index = 0.956, Tucker-Lewis index = 0.946, incremental fit index = 0.931, chi-squared/degree of freedom = 2.669, and root mean square error of approximation = 0.075), signifying a fit model. The Cronbach's alpha of this study is 0.91.

Conclusion: AC19-BDV-M questionnaire is a valid and reliable tool for measuring attitude of COVID-19 vaccination among HCWs.

Keywords: Development, Validation, Attitude, COVID-19 Vaccination, Health care Workers

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Unprecedented Food Safety Concerns Emerge in Southeast Asia Following National-Level Foodborne Outbreak: 9th October 2023 to 16th October 2023

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Abstract

Introduction: Investigating complex food and waterborne outbreaks poses challenges due to diverse pathogens and symptoms. This study focused on a foodborne outbreak during a national-level event in Kota Bharu, aimed to describe the outbreak, identify risk factors, locate the source, and detail control measures.

Methods: Active and passive methods, interviews, record reviews, lab tests, and environmental assessments, were used. A case-control study defined cases as individuals experiencing abdominal pain, diarrhoea, dizziness, nausea, and vomiting. They were compared with a 1:2 asymptomatic control group. Demographic and food history data were collected through an online form distributed to related health district offices, involving 81 boarding schools across the country and international counterparts from Indonesia, Thailand, and China. Statistical analysis was performed using Microsoft Excel 365 and Hazard Analysis and Critical Control Point (HACCP) application.

Results: Active and passive methods, interviews, record reviews, lab tests, and environmental assessments, were used. A case-control study defined cases as individuals experiencing abdominal pain, diarrhoea, dizziness, nausea, and vomiting. They were compared with a 1:2 asymptomatic control group. Demographic and food history data were collected through an online form distributed to related health district offices, involving 81 boarding schools across the country and international counterparts from Indonesia, Thailand, and China. Statistical analysis was performed using Microsoft Excel 365 and Hazard Analysis and Critical Control Point (HACCP) application.

Conclusion: This study underscored the significance of digital tools and food safety protocols in tracing foodborne outbreak origins. These are crucial for safeguarding public health and averting future incidents.

Keywords: Foodborne outbreak, *Bacillus cereus*, Kelantan, Malaysia.

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Risk Factors Associated with Tuberculosis-Specific and Non- Tuberculosis-Specific Mortality in Manjung District, Perak, Malaysia

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Abstract

Introduction: Tuberculosis (TB) is a communicable disease which contributes a major cause of ill health. Worldwide, it is one of the leading causes of death from a single infectious agent. The study aimed to describe the epidemiology and factors associated with TB-Specific and Non-TB-Specific mortality in Manjung District, Perak, Malaysia.

Methods: All confirmed TB cases from 2015 to 2020 registered in Manjung District under Sistem Maklumat Tibi (MyTB) were included. Factors associated with TB-Specific and Non-TB-Specific mortality were analysed by using simple and multiple logistic regression analysis.

Results: A total of 742 TB cases were included in the analysis, 34 (28.1%) and 87 (71.9%) died from TB-Specific and Non-TB-Specific causes respectively. From multiple logistic regression analysis, male gender, Non-Malaysian, cases notified by government hospitals, HIV positive status and HIV testing not offered/unknown were significantly associated with TB-Specific mortality. For Non-TB-Specific mortality two factors were significant, age group 65 and above, and HIV positive status.

Conclusion: To strengthen and reduce both the TB-Specific and Non-TB-Specific mortality rate in Manjung District, targeted approaches, such as close monitoring should be practised especially among male gender, non-Malaysians, those with HIV and cases presented to Hospital.

Keywords: tuberculosis, TB mortality, risk factors

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PLHIV: Survival Rate in Kuching Division

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Abstract

Introduction: Kuching Division is one of the major administrative divisions in Sarawak, Malaysia, and is home to a diverse population, including indigenous communities, immigrants, and urban residents. The region has witnessed an increase in the number of reported HIV cases in recent years. This analysis allows researchers and healthcare providers to identify risk factors, evaluate the effectiveness of treatments, and tailor interventions to improve the overall prognosis of individuals living with HIV.

Methods: All PLHIV registered under Lampiran 13A. Data was cleaned and those registered before 2000 and after 1/10/2023 will be excluded from the data analysis. All descriptive analysis was done in Microsoft Excel 365 and a survival analysis was done in SPSS Package version 27.

Results: In a study involving 1196 clients, 100 (8%) were female, and (92%) were male. Among them, 21 (2%) had died, and 1096 (98%) were still alive. CD4 levels varied, with 151 (13%) having no CD4 count, 414 (34%) with low CD4 counts, and 631 (53%) with normal CD4 levels. A total of 1149 (96%) initiated anti-retroviral therapy, while 47 (4%) did not. Survival rates after one year varied based on CD4 levels and treatment status, ranging from 50% for low CD4 count without treatment to 99.8% for high CD4 count with anti-retroviral therapy.

Conclusion: In conclusion, individuals living with HIV (PLHIV) diagnosed with low CD4 counts face a reduced survival rate compared to those with normal CD4 counts. Additionally, PLHIV not receiving treatment exhibits lower survival rates in contrast to those who initiate treatment.

Keywords: PLHIV, Kuching, survival analysis

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Wild Allure: A Mushroom Poisoning in a Rural Pondok Institution

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Abstract

Introduction: Wild mushroom poisoning poses a significant global public health concern, with higher incidence rate in mycophilic countries such as Malaysia. This study aims to describe a mushroom poisoning outbreak that occurred at a rural pondok institution in Kuala Krai, and to identify its source and risk factors.

Methods: Epidemiological investigation was carried out incorporating active and passive case detection, food history and demographic data collection. Medical and laboratory record review was conducted at involved health facilities. Environmental risk assessment was performed at the institution. The mushroom sample was sent for analysis to the Mushroom Research Centre, University Malaya.

Results: There were five exposed individuals ranging from 11- to 14-year-olds with an attack rate of 100%. All (100%) cases had vomiting, 60% experienced abdominal pain and diarrhea and one case (20.2%) presented with tonic-clonic seizure episodes. The epidemiological curve showed a point source pattern with incubation period of one to two hours. The suspected source was wild mushrooms foraged nearby and cooked with instant noodles. The mushroom analyzed was found to be *Chlorophyllum molybdites*. Risk factors associated with this incident were misidentification, low awareness, and lack of accessibility for fresh vegetables supply. Environmental risk assessment was unremarkable.

Conclusion: This study emphasizes the importance of awareness regarding the safe consumption of wild vegetation such as mushroom especially in rural communities or institutions reliant on them.

Keywords: Mushroom poisoning, *Chlorophyllum molybdites*, food poisoning, outbreak

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Eye-Opening Crisis: Conjunctivitis Outbreak Among Inmates in a Prison in Kelantan, 06/12/2022 until 03/01/2023

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Abstract

Introduction: Despite being common and self-resolving, conjunctivitis spreads rapidly within the confines of a prison. Due to its specific limitations and constraints, unique and tailored control measures were needed to stop the transmission. This study aims to describe epidemiology of the conjunctivitis outbreak, determine the source of infection and execute effective control measures.

Methods: An outbreak investigation was conducted from 6/12/22-3/1/2023 via interview, medical records review, environmental investigation, risk factor assessment and lab investigation of five proxy eye swab samples for PCR-Adenovirus and another five for bacterial culture and sensitivity. Descriptive analysis was done using Microsoft Excel.

Results: A total of 97 cases were reported with an attack rate of 20% (97/477). All were male inmates and of Malaysian citizenship with mean age of 44 (SD=8.58). All had watery and red eyes. Only 9% (9/97) had swollen eyes. Clinical samples were all negative. Risk factors were overcrowding, prisoner's movement during legal proceedings and inadequate personal hygiene practices. Control and preventive measures done included daily active case detection to identify symptomatic patients. Affected individuals received symptomatic treatment and isolated in designated rooms, while contacts similarly isolated in separate rooms. Comprehensive health education emphasizing personal hygiene and reinforcement of hand hygiene practices had been imparted.

Conclusion: This conjunctivitis outbreak involved 97 cases and lasted for almost a month. Overcrowding issues involve infrastructure and can't be solved in a short time. Prioritizing public health control and prevention is therefore essential in effectively curbing the spread of conjunctivitis within the limitation of the prison environment.

Keywords: Conjunctivitis outbreak, prison, inmates

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Points from the Past for Prevention and Progress: A Scoping Review of Pertussis Outbreaks

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Abstract

Introduction: Resurgence of pertussis incidence observed globally in the recent years could be contributed by various factors. Objective of this scoping review is to probe into available methods of reporting epidemiologic findings and progress of pertussis outbreaks.

Methods: Guided by the framework proposed by Arksey and Malley, refined by Joanna Briggs Institute (JBI), literature search was conducted on four databases - PubMed, ScienceDirect, Scopus, and World Health Organization (WHO) Institutional Repository Information Sharing (IRIS). Articles included are research with primary data which describes epidemiological characteristics of pertussis outbreak and discusses issues pertaining to its control and prevention.

Results: Out of the ten articles included in this review, seven were case control, two cross-sectional and one retrospective cohort study. Vaccination history was included in all studies, however only one study delved into details of immunity level against pertussis infection. Other factors analyzed in the studies were duration between onset of symptoms and diagnosis, history of contact with confirmed case, knowledge about the disease, presence of asymptomatic transmission and ventilation rate. Issues identified were vaccine coverage, delays in detection and response, weak surveillance system and poor cold chain management. Among strategies discussed to be tailored according to the needs of local community include implementation of booster and maternal vaccination, strengthening immunization coverage and enhanced surveillance system.

Conclusion: This review has provided summary of variables utilized in reporting pertussis outbreak along with control and preventive strategies which could assist our control and preventive efforts whilst serving as a precursor to future research.

Keywords: Communicable disease, outbreak, pertussis

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The Climatic Patterns and Leptospirosis Cases in Malaysia from 2013 to 2021

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Abstract

Introduction: Leptospirosis is an emerging infectious disease exemplified by frequent outbreaks worldwide with more than one million cases and 50,000 deaths annually. A high number of cases have been reported in the Asia Pacific region specifically in Southeast Asia, including Malaysia. This study aims to identify the climatic pattern and Leptospirosis cases in Malaysia from the year 2013 to 2022.

Methods: The climatic data was obtained from the Malaysian Meteorological Department and Leptospirosis cases were obtained from the Annual Report of the Ministry of Health Malaysia. The climatic data consisted of temperature, humidity, and rainfall from 2013 to 2021. Data was gathered from five states in Malaysia which is Kelantan, Perak, Selangor, Negeri Sembilan, and Sarawak. Microsoft Excel was used to perform a descriptive analysis of the pattern of climate data and Leptospirosis cases.

Results: In general, Leptospirosis cases are declining, with a maximum number of 7806 cases in 2014 and the lowest number is 1763 cases in the year 2021. The rainfall (mm) shows a fluctuating pattern from 2013 to 2021, with the highest rainfall of 1938.5mm in 2017. Leptospirosis was recorded as 4365 cases in the year 2017. Temperature patterns varied from 2013 to 2021 with the highest temperature recorded was 27.60 degrees Celsius (°C) in 2016, with 5285 Leptospirosis cases. Temperature and Leptospirosis cases both showed persistent decreasing patterns from 2019 to 2021. The humidity fluctuated from 2013 to 2016, then increased steadily from 2017 to 2021, with the highest humidity recorded as 83.7% in 2020 with 2912 Leptospirosis cases.

Conclusion: The findings imply that the highest cases of Leptospirosis occurred in the year 2014 with the lowest temperature of 27°C, humidity of 81.6%, and average rainfall of 1585.4mm.

Keywords:

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Understanding the Value of COVID-19 Vaccines : A Cost-Effectiveness Analysis of mRNA-Based Versus Inactivated Virus COVID-19 Vaccines Against COVID-19 Infections and Intensive Care Hospitalization In Malaysia During The Pandemic

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Abstract

Introduction: Vaccination is a vital primary prevention strategy for COVID-19. The mRNA-based and inactivated virus vaccines were major COVID-19 vaccines used in Malaysian COVID-19 Vaccination Programme. This study aimed to perform a cost-effectiveness analysis (CEA) of mRNA-based versus inactivated virus vaccines used in Malaysia against COVID-19 breakthrough infection (BTI) and intensive care unit (ICU) admission.

Methods: A decision-tree model was developed to estimate the cost-effectiveness of two doses COVID-19 vaccination using the mRNA-based vaccine compared to inactivated virus vaccine from the healthcare provider perspective and time horizon of one year. Direct costs of COVID-19 vaccination and treatment were estimated using microcosting approach. Model construct and CEA calculation were done using TreeAge Pro Healthcare software.

Results: The estimated cost for mRNA-based vaccine was lower (RM 69.72/dose) than inactivated virus vaccine (RM 91.68/dose). Estimated cost for COVID-19 ICU hospitalization were RM 2172 (best-case scenario), RM 3,926 (base-case) and RM 13,341 (worst-case). The estimated costs for ICU admission were RM 6,499 (best-case scenario), RM 10,482 (base-case) and RM 12,361 (worst-case). COVID-19 vaccination of 23 million adult using mRNA-based vaccine result into estimated 3.6 million BTI averted, 79,123 ICU admission averted and RM 6.0 billion in savings compared to inactivated virus vaccine. Therefore, mRNA-based vaccination dominates the inactivated virus vaccine, a finding supported by scenario analysis.

Conclusion: In conclusion, mass COVID-19 vaccination utilizing the mRNA-based vaccine dominates the inactivated virus vaccine in Malaysia during the COVID-19 pandemic. Hence, future economic evaluation are recommended to assist policy-makers in decision-making related to future COVID-19 vaccination.

Keywords: COVID-19, cost-effectiveness, mRNA-based vaccine, inactivated virus vaccine, Malaysia

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Epidemiological Characteristics of Hand, Foot and Mouth Disease in Yichang City, China, 2020-2022 and Analyses of Pathogenetic Test Results

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Abstract

Introduction: To understand the epidemiological and aetiological characteristics of HFMD in Yichang City, Hubei Province, China, from 2020 to 2022, and to provide a basis for developing more scientific and effective HFMD prevention and control strategies.

Methods: 15916 cases of HFMD in Yichang City from 2020 to 2022 were selected through the information management system of infectious disease reporting of the Chinese Centre for Disease Control and Prevention (CDC). Faecal or pharyngeal swab samples of typical cases with clinically diagnosed HFMD were collected following the HFMD surveillance programme of Hubei Province, and the results were analysed by real-time fluorescence quantitative PCR (RTQPC).

Results: Laboratory case samples tested positive for enterovirus nucleic acid in 361 cases, including 280 cases of other types of enteroviruses, accounting for 77.6% of the total positive cases. There are differences in the composition of viruses diagnosed in 2020, 2021, and 2022, with a statistical significance ($P < 0.001$). The proportion of EV71 in 2021 and 2022 is significantly smaller than that in 2020 ($P < 0.05$), and the ratio of other enteroviruses in 2021 and 2022 is significantly higher than that in 2020 ($P < 0.05$).

Conclusion: In 2020-2022, the pathogen of HFMD in Yichang City is mainly other types of enteroviruses, and there is a rising trend year by year. 2021 has the highest total cases, with a slight downward trend in 2022.

Keywords: Hand-foot-mouth disease; Pathogenetic characteristics; Epidemiological characteristics

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Mediating Role of Self-Efficacy Between Knowledge and Attitude with Self-Management Behaviour among Older Adults with Type 2 Diabetes Mellitus in Bera, Pahang

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Abstract

Introduction: Type 2 Diabetes Mellitus (T2DM) is a chronic disease that causes increased morbidity and mortality. Participating in proper self-management is the key to successfully managing diabetes. This study aimed to determine the mediating role of self-efficacy between knowledge and attitude with self-management behaviour of T2DM among older adults attending government health clinics in Bera, Pahang in accordance with the Information Motivation Behavioural Skills (IMB) Model

Methods: This study employed a cross-sectional study design, with the inclusion criteria of older adults aged 60 and above, one month or more history of T2DM diagnosed by a certified medical officer, and at least one visit to a health clinic within one year. Stratified random sampling proportionate to size was conducted, and an interviewer-assisted questionnaire was utilised, containing six sections: sociodemographic, diabetes profile, knowledge, attitude, self-efficacy, and diabetes self-management behaviour. Descriptive and analytical analyses were performed, and the structural equation modelling was conducted to examine the proposed model.

Results: A total of 532 older adults participated in this study. The result showed that the self-management behaviour of T2DM among respondents was moderate. Being Malay, having a monthly income of RM 2500–≥ RM5000, higher knowledge and self-efficacy predicted higher self-management behaviour. Self-efficacy partially mediates the relationship between knowledge and self-management behaviour (standardised indirect effect $\beta = 0.376$, 95% CI: 0.280, 0.508, $p < 0.001$), while no mediating role of self-efficacy between attitude and self-management behaviour.

Conclusion: Self-efficacy partially mediates the relationship between knowledge and self-management behaviour. Diabetes self-management behaviour could be improved by enhancing the patient's self-efficacy.

Keywords: Type 2 diabetes mellitus, older adults, self-management behaviour

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Factors Associated with Perception on Risk of Needlestick Injury Among House Officers in Kelantan.

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Abstract

Introduction: Needlestick injuries (NSIs) pose a significant occupational hazard to healthcare workers (HCWs) and understanding the factors influencing the perception of the risk associated with NSIs is crucial for effective prevention strategies. This study aims to investigate predictors influencing House officers (HOs) perceptions on the risk of NSIs, contributing to the broader understanding of occupational safety in healthcare settings.

Objective: A cross-sectional study was conducted, involving 176 HOs. A structured questionnaire was employed to gather data on demographic factors, work experience, training received, number of postings done, history of NSI, and individual risk perception. Statistical analyses, including regression models, were utilized to identify predictors associated with varying perceptions of NSI risk among HOs.

Results: The study identified the level of perception on risk of NSI among HOs which majority of them were insufficient (52.27%). The findings revealed several key predictors influencing the perception of NSI risk. Factors such as gender ($p = 0.036$), working experience ($p = 0.01$), specific health education on NSI ($p = 0.038$), and history of NSI ($p < 0.001$) were significant determinants of how HCWs perceive the risk of NSIs.

Conclusion: This study sheds light on the predictors that shape HOs' perceptions on the risk of NSIs. The results emphasize the importance of targeted training programs, experience levels, and the implementation of safety measures in influencing risk perceptions. Understanding these predictors can guide the development of tailored interventions and educational initiatives to enhance occupational safety awareness and practices among HOs.

Keywords: Needlestick injury, perception, risk perception

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Health-promoting Lifestyle and Associated Factors Among Hypertensive Patients: A Systematic Review

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Abstract

Introduction: Hypertension is the leading metabolic risk factor for cardiovascular diseases, accounting for most non-communicable deaths globally. One of the effective approaches is through the health-promoting lifestyle which was reported to be low among hypertensive patients compared to the healthy population. This review aims to determine the level of the health-promoting lifestyle among hypertensive patients and identify the associated factors.

Methodology: This review used three indexed databases: Web of Science, Scopus, and PubMed. The timeline for inclusion criteria between the years 2013 until 2023. The articles were evaluated by two authors.

Results: A total of seven articles were selected. The health-promoting lifestyle level among hypertensive patients was either the mean dimension or the mean total score. The demonstrated mean dimension and mean total score ranged between 2.51 (SD 0.47) to 3.04 (SD 0.39) and 72.25 (SD 16.66) to 128.23 (SD 1.42) respectively. This review has identified eight significant factors associated with the health-promoting lifestyle namely a) sociodemographic (education status, economic condition, and residential area), b) knowledge, c) self-efficacy, d) perceived barriers e) perceived health status, f) social support, g) situational influences, and h) unhealthy behaviours.

Conclusion: The differences in health-promoting lifestyle scores could be due to the differing study populations. In order to improve the health-promoting lifestyle among hypertensive patients, priority interventions should target these aforementioned significant factors.

Keywords: health-promoting lifestyle, hypertension, systematic review, associated factors

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A Prospective Cohort Study on Determinants of Low Birth Weight in Peninsular Malaysia

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Abstract

Introduction: Low birth weight (LBW) is a global public health concern. Following the global target of reducing LBW prevalence to 30% by 2025, this study aims to determine the determinants of LBW among pregnant mothers attending government health clinics in Peninsular Malaysia.

Methodology: A prospective cohort study was conducted from March 2022 until March 2023. It involved 20 government health clinics in Peninsular Malaysia, randomly selected through a multistage sampling method. The study participants were Malaysian pregnant mothers aged between 18 and 49 years, recruited at 12–18 weeks of gestation. They were followed up at points 1 (24–28 weeks of gestation), 2 (36–40 weeks of gestation), and 3 (post-delivery), with data acquired from online self-administered questionnaires and maternal health records. Eight exposure factors were studied: gestational weight gain, dengue infection, urinary tract infection, COVID-19 infection, gestational hypertension, preeclampsia, maternal anaemia, and gestational diabetes mellitus (GDM).

Results: There were 467 participants included in the analysis. The incidence of LBW in Peninsular Malaysia is 14.3%. The risk of giving birth to LBW infants was higher among those with inadequate gestational weight gain (aRR = 2.86, 95% CI: 1.12, 7.37), as well as when they were diagnosed with gestational hypertension (aRR = 4.12; 95% CI: 1.66, 10.43) and GDM (aRR = 2.21; 95% CI: 1.18, 4.14) during the second and third trimesters.

Conclusion: The intervention strategies should target prevention, early detection, and treatment of gestational hypertension and GDM, as well as promote adequate weight gain during antenatal care.

Keywords:

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Diabetes Nephropathy and its Associated Factor among Type 2 Diabetes Mellitus Elderly Patients in Segamat, Johor

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Abstract

Introduction: Type 2 diabetes mellitus (T2DM) is one of the most prevalent causes of death globally and an emerging global health concern that is projected to reach pandemic proportions by 2030. Premature mortality has increased recently due to T2DM, even in countries with poorer infrastructure. This study aimed to determine the prevalence and the factors associated with diabetes nephropathy among T2DM elderly patients in Segamat, Johor.

Methodology: The study population was selected from the National Diabetic Registry database between January 2020 and September 2023, which included a total of 1000 patients. General and clinical information were retrieved from the registry. Diabetic nephropathy was categorized as present or absent. Univariable and multivariable logistic regression were performed to identify the factors associated with diabetic nephropathy among T2DM elderly patients.

Methodology: Diabetic nephropathy occurred in 24.6% of the patients. Overweight or obese status was present in 78.7% of the elderly. The average HbA1c was 7.4, and the average duration of diabetes was 9.4 years. While 73.5% of diabetic patients have dyslipidemia, 73.3% in those who have diabetes also have hypertension. Of individuals with diabetes who also had nephropathy, 35.2% were receiving insulin. Multiple logistic regression analysis showed that duration of diabetes, obesity, hypertension and dyslipidaemia were associated with presence of nephropathy among T2DM elderly patients.

Results: These results can give stakeholders the direction they need to identify T2DM elderly patients who are at risk of developing diabetic nephropathy and to help them receive coordinated treatment and early preventive actions.

Conclusion: The intervention strategies should target prevention, early detection, and treatment of gestational hypertension and GDM, as well as promote adequate weight gain during antenatal care.

Keywords: diabetic nephropathy, elderly, diabetes mellitus, factors

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Biopsychosocial Approach to Understanding Predictors of Depressive Symptoms among Men Who Have Sex with Men Living with HIV in Selangor: A Mixed Methods Study

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Abstract

Introduction: Depression is a common condition among men who have sex with men (MSM) living with Human Immunodeficiency Virus (HIV), resulting from biopsychosocial factors. Despite health needs, they remain understudied due to legal, ethical, and social obstacles. Therefore, the study aimed to determine and explain the predictors of depressive symptoms among MSM living with HIV using a biopsychosocial approach.

Methodology: This study applied an explanatory sequential mixed methods design. In the quantitative phase, this study used a cross-sectional design. The MSM were randomly selected from ten Primary Care Clinics in Selangor. In the qualitative study, the MSM with high depressive symptoms were purposely chosen for an interview, followed by thematic analysis.

Methodology: The response rate was 75%, where 645 out of 862 MSM responded to the survey. In the qualitative study, saturation was reached after 20 interviews. The prevalence of high depressive symptoms was 20.9%. The predictors of high depressive symptoms were age 18-25, age 26-30, Muslim, rural residence, unemployed, sexualized substance use, HIV disclosure concern, belonging, and esteem. The themes raised were sexualized substance use effects, HIV stigma contributing to the fear of HIV disclosure, poor social support from family, diminished sense of esteem, difficulties in navigating faith, return to rural residence, unemployment as a survival crisis, and younger adult responsibility.

Conclusion: Findings suggest that the biopsychosocial approach provides valuable insights for developing interventions, support systems, and policies to reduce or prevent depressive symptoms among MSM living with HIV

Keywords: MSM, HIV, biopsychosocial, depressive symptoms, mixed methods

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Systematic Review on the Prevalence and Risk Factor of Depression among the Elderly in Nursing Homes within Southeast Asian Countries

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Abstract

Introduction: Depression is a serious problem and a major public health concern among older adults. The elderly living in nursing homes were suffering from mental health issues commonly, depression. Worldwide, depression has not been adequately addressed due to a lack of awareness and the taboo in many societies to discuss openly about it as only a few countries have included depression among their priorities. This study will review on prevalence of depression of the elderly in nursing homes and the risk factors among Southeast Asian countries.

Methodology: PubMed, ScienceDirect, EBSCO and Google Scholar were searched to identify articles reported on the prevalence and risk factors of depression among the elderly in nursing homes within Southeast Asian countries. There was no time limit set as inclusion criteria for the articles. Studies conducted in the special population groups, non-primary studies, studies with findings or content irrelevant to the objective, and studies which failed to access full text were excluded. Data were extracted from published reports and any missing information was requested from authors.

Results: Thirteen studies from 4 Southeast Asian countries were included, comprising a total of 1,743 samples, which estimated the prevalence of depression among the elderly population as Malaysia 20.6%-73%, Indonesia 42.5%-65.8%, Thailand 41.4% and Myanmar 41.4%. A total of 32 risk factors were analysed and sub-grouped into 4 categories; sociodemographic factor, social factor, psychological factor and biological factor.

Conclusion: Among the included studies, Malaysia recorded the highest prevalence of depression and more psychological factors were identified as risk factors for depression among the elderly in nursing homes.

Keywords: Depression, Elderly, Nursing Homes, Southeast Asia

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Signature Serum Metabolites for Colorectal polyps and Colorectal Cancer

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Abstract

Introduction: Serum metabolites biomarker has shown high potential to distinguish between colorectal polyps and colorectal cancer (CRC) patients. Hence, this review aimed to investigate the most reported serum metabolites as a signature or biomarker for colorectal polyps and CRC.

Methodology: PA systematic search was conducted using PRISMA guidelines in three databases: PubMed, Web of Science, and Cochrane Library. Nine studies were selected based on the inclusion and exclusion criteria and were analyzed using QUADOMICS. All signature serum metabolites reported from these studies were enriched into pathways analysis using MetaboAnalyst 5.0.

Results: Several potential signature metabolites overlapped between studies including Lysine, Cystine, Arabinose, Tyrosine, and Lactate for CRC, and Lactate and Glutamate for polyps. The most affected pathways related to polyps were glutathione metabolism, glutamate metabolism, urea cycle, arginine and proline metabolism, and carnitine synthesis. Meanwhile, urea cycle, glutamate metabolism, purine metabolism, glutathione metabolism, and ammonia recycling were found to be affected in the CRC.

Conclusion: Further experiment is needed to investigate the effects of altered pathways on the regulation level of each signature metabolite, and identify their sensitivity, and specificity in detecting the disease in clinical settings.

Keywords: Serum, metabolites biomarker, colorectal carcinoma; adenoma, screening tool

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Evaluation of Risk to Develop All-cause Mortality, Retinopathy, and Nephropathy at Different Levels of HbA1c: Evidence from Southern Region of Malaysia

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Abstract

Introduction: This research evaluated the risk of all-cause mortality, retinopathy, and nephropathy in Type 2 Diabetes (T2DM) patients in southern Malaysia, correlating it with various HbA1c levels, an essential marker of glycaemic control. The study aimed to fill the evidence gap on this topic from middle-income countries like Malaysia.

Methodology: In this retrospective cohort study, secondary data from the Malaysian National Diabetes Registry and national mortality data (2011-2021) were analysed. T2DM patients treated in public health clinics in southern Malaysia were included. HbA1c levels were divided into relevant quantiles, and Cox proportional hazard regression was employed to compare the risk of the three complications across these quantiles. The quantile with the lowest risk became the reference for adjusted hazard ratio (HR) and 95% confidence interval (CI) estimation.

Results: A total of 90933, 83602, and 80876 patients were analysed for all-cause mortality, retinopathy, and nephropathy, respectively. The risk for diabetes complications follows a 'J-shape' pattern as HbA1c levels increase. The lowest risk groups for all-cause mortality, retinopathy, and nephropathy were in the fourth, third, and second quantiles, respectively. For all-cause mortality, HRs were 1.11 (CI: 1.03-1.09) and 1.51 (CI: 1.40-1.63) in the first and final quantiles, respectively. For retinopathy, these were 1.05 (CI: 0.89-1.24) and 1.76 (CI: 1.50-2.06), and for nephropathy, 1.03 (CI: 0.91-1.17) and 1.55 (CI: 1.37-1.76).

Conclusion: This study highlights a 'J-shaped' association between HbA1c levels and risks of all-cause mortality, retinopathy, and nephropathy in T2DM patients, suggesting optimal HbA1c ranges for minimising these risks in a Malaysian cohort.

Keywords: HbA1c, all-cause mortality, retinopathy, nephropathy

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Association Between Parental Feeding Practices and Feeding Problem Among Children with Autism Spectrum Disorder in Kelantan

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Abstract

Introduction: Feeding problems in children can lead to malnutrition, failure to thrive, impaired cognitive development, and even fatalities. Children with autism spectrum disorder (ASD) are often comorbid with feeding problems. This study aimed to determine the prevalence of feeding problems among children with ASD in Kelantan and identify associated factors.

Methodology: This cross-sectional study involved children between 4 and 12 years old diagnosed with ASD, who were attending the Kelantan Autism Care Centre (KACC) and primary schools with special education integration programs (SEIP) in Kelantan. A total of 95 parents of children with ASD participated in the study and completed three questionnaires: a sociodemographic questionnaire, the Comprehensive Feeding Practice Questionnaire (CFPQ), and the Brief Autism Meal Behaviour Inventory (BAMBI). Data analysis was performed using simple and multiple linear regression.

Results: The prevalence of feeding problems among children with ASD in this study was 93.7%. Age ($B = -0.195$, 95% CI $[-0.145, -0.001]$, $p = 0.047$) and parental feeding practice such as emotional regulation ($B = 0.258$, 95% CI $[0.220, 1.859]$, $p = 0.014$) were identified as the only predictors of feeding problems in children with ASD.

Conclusion: The incidence of feeding problems among children with ASD in Kelantan is significant, underscoring the importance of conducting screening for these issues during their medical appointments. It is advisable to introduce health and nutrition interventions for parents of children with ASD to tackle the issues.

Keywords: Autism, Feeding problem, Parental feeding practice

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Knowledge About Cervical Cancer and Its Prevention Among Female Students from a Private University in Perak, Malaysia

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Abstract

Introduction: Cervical cancer is a significant global health problem being the fourth most common malignancy among females after breast cancer, colorectal cancer, and lung cancer (Arbyn et al., 2020) and fourth most common cause of cancer deaths among women. A vast majority of women in Malaysia are reluctant to do the test due to lack of knowledge about the importance of screening (Subramaniam, 2019; Wong, 2009).

Methodology: This cross-sectional study was carried out to assess the knowledge about cervical cancer and its preventive measures among 161 female students from Quest International University, Malaysia for a period from June 2020 to February 2021 using a validated Cervical-Cancer-Knowledge-Prevention-64 (CCKP-64) questionnaire.

Results: General awareness about cervical cancer (68 -86%), correct knowledge about risk factors (54 – 68%) and knowledge about primary prevention and vaccination was good (56 – 65%) among the participants while Knowledge about free availability of Human Papilloma Virus (HPV) vaccine was low (36%). Around 49.1% were vaccinated and 44.7% were aware of the correct age of vaccination. Knowledge levels about symptoms was good (50.9 – 74.5%) while knowledge about cytological examination was low (7.5 – 28.6%). Knowledge levels were significantly higher among students from Faculty of Medicine, those having health science background and those with high income.

Conclusion: More health education sessions are recommended among university students.

Keywords: Knowledge, Awareness, Cervical cancer, Prevention, Female University students, Malaysia

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Validity and Reliability of The Nurse's Perceived Knowledge in Clinical Decision-making Instrument

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Abstract

Introduction: Nurses' clinical decision-making skills are pivotal in delivering effective patient care. It is imperative to explore the robustness of instruments assessing nurses' perceived knowledge regarding clinical decision-making. This paper delves into the validity and reliability of the tool, which is vital for enhancing healthcare quality.

Methodology: Data were gathered during 2022 within cross-sectional study, self-administered questionnaires. A pool of items was submitted for evaluation by the nursing expert professionals to obtain content validity. Next, validation was carried out with a total of 340 registered nurses from a teaching hospital in Malaysia. Data were analyzed by using lavaan package in R programming. Descriptive analysis, exploratory factor analysis and confirmatory factor analysis were performed in this study.

Results: Overall, judgement from the experts showed that 17 items with CVR value 1.00 with the mean I-CVI level for relevance and ambiguity scale were 0.95, respectively, and for the clarity and simplicity scale were 0.99, respectively. Additionally, the face validity showed good comprehensibility and feasibility. The EFA and CFA procedure has reduced the items from 17 to 9. Meanwhile, the CFA procedure has confirmed the construct validity through the fitness indexes. The Cronbach's alpha was 0.95 for factor 1 and 0.94 for factor 2.

Conclusion: Two factors produced by EFA consist of nine items were named as factor 1 and factor 2. The CFA proved that the two factor models fit very well. Conclusively, this scale was concluded to be a reliable and validated instrument.

Keywords: Clinical Decision-making, Exploratory factor analysis, Confirmatory factor analysis

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Consumption Pattern Of Fast Food & Drinks Among University Students In Baghdad City

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Abstract

Introduction: Over the last three decades, the percentage of caloric intake from fast foods has increased fivefold among adolescents. Furthermore, obesity has become one of the most important public health issues in the twenty-first century, particularly among children and adolescents. The current study aimed to assess fast food consumption among university students in Baghdad city.

Methodology: A cross-sectional study was conducted among 252 respondents from different Iraqi universities in Baghdad city using online administered questionnaires regarding their fast food and drink consumption habits.

Results: A total of (55.5%) of the respondents were females, 98.8% were from private universities and their mean Body Mass Index (BMI) was $20.59 \pm 3.98 \text{ kg/m}^2$. 21.5% reported that they drink carbonated drinks 1-2 times per week, the majority 75.9% never or rarely drink energy drinks, 43.4% drink 3-4 glasses of water daily, 31.7% reported having food delivery 1-2 times per week, and 40.0% they went to dine in a restaurant 1-2 times per week during the last month.

Conclusion: In conclusion, the majority of university students in Baghdad city had acceptable fast food consumption habits but more nutritional education is required regarding healthy foods and lifestyle habits.

Keywords: Consumption, fast food, drinks, University Students, Baghdad

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Prevalence of Substance Use and Its Predictors Among Malaysian school-going Adolescents at Drug Based Hot-Spot Areas

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Abstract

Introduction: Adolescents represent a nation's future, if they're harmed by substance misuse, especially in drug hot-spot areas due to high availability and cultural changes, it might cripple the nation's growth. However, this topic was less explored, therefore this study evaluates Malaysian school-going-adolescents' substance use and determinants in drug-based hot-spot areas.

Methodology: This study was a secondary data analysis of the Study-of-Social-Issues-of- Youths in Malaysia 2023, a cross-sectional survey of 3382 Malaysian school-going- adolescents aged 13 to 19. Alcohol-Smoking-and-Substance-Involvement-Screening-Test measured substance use, while the Youth- Self-Report, Self-problem-test, Self- Reporting-Coping-scale plus knowledge and attitudes towards abuse substances were utilized to evaluate the study's predictor via logistic-regression-models.

Results: The prevalence of substance usage is 33 %, with adolescents' main substance of abuse for mono-substance being tobacco whereas polysubstance is tobacco and drugs. Tobacco has always been the dominant substance for both current and ever users. The risk factor of an individual was male and rule-breaking behavior, followed by the domain of family with the loss of either parent and finally the community of race and East-Malaysian. Adolescents in communities under 10 years with high depression/anxiety, withdrawal, and academic issues reduced substance use by 35%, 8%, 5%, and 2%. Girls with high academic achievements are 6% less likely to take substances while boys, it increases substance use by 6%.

Conclusion: 3 in 10 Malaysian school-going-adolescents use substances in drug hot-spot areas. Being a male with a loss of family pillars plus a bigger image of indigenous-East-Malaysian adolescents are at risk, hence intervention involving culturally-sensitive, gender and family-based adolescents is the key solution.

Keywords: Occurrence; Factors; Tobacco; Alcohol; Drug; Adolescent; Drug-Infested Regions

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Research Trend On Caregivers' Quality Of Life, A Bibliometric Analysis

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Abstract

Introduction: As the global population ages and the prevalence of chronic illnesses rises, the demand for caregivers has grown substantially. This has prompted an increased interest in understanding the caregivers' quality of life. This study aimed to determine the characteristics of the publications on caregivers' quality of life research in terms of the number of publications, citations, countries, collaboration, author's productivity, trending keywords and relevant themes by bibliometric analysis.

Methodology: Relevant bibliographic data were extracted from the Scopus database using search terms such as "caregivers" and "quality of life". The analysis only includes original articles or reviews written in English up until August 2023. The 'bibliometrix' package in RStudio software was used to analyse and visualise the bibliographic data.

Results: A total of 1859 original research articles and reviews have been published since 1989. The annual percentage growth rate of publications is 15.52%. The USA is the leading country in this field of research, with the most publications (n=327), the most total citations (9993) and the most collaboration activity. Carlozzi NE was the most productive author with 17 articles. The most relevant keywords used in the publications include "depression", "anxiety", "stroke", "dementia", "cancer" and "burden". Clusters for "depression", "anxiety", "cancer" and "family caregivers" became the main research domains in this field while the cluster for "dementia" and "Alzheimer's disease" are important topics for future research.

Conclusion: These bibliometric findings should aid researchers in better understanding the caregivers' quality of life globally and serve as a resource for potential collaborators.

Keywords: Caregiver, quality of life, bibliometric, research productivity, trending keywords, thematic map

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Factors Associated with Psychological Stress Among Primary School Teacher in Kuching, Sarawak

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Abstract

Introduction: Background: Primary school teachers was known to be a stressful occupation and the Pandemic Covid –19 become the added stressor. Uncontrolled prolonged psychological stress affected the physical, emotional, and social wellbeing of the teachers. Unfortunately, there were minimal study done among primary school especially in Borneo Island. Thus, this study aims to determine the prevalence of psychological stress and its associated factors among primary school teachers in Kuching district, Sarawak.

Methodology: It is a cross-sectional study, administered by using self-administered questionnaires that adapted Perceived Stress Score 10 items, Teachers Stress Inventory and BRIEF-COPE. Independent t-test, and One Way ANOVA was conducted to analyse the difference between dependent variable and independent variable and Pearson's moment correlation test were performed to determine association between the dependent and independent variable. On top of that, multiple linear regression was done to examine the contribution of independent variables towards dependent variables.

Results: The prevalence of psychological stress was 74.9%. The predictors of psychological stress were bad time management (Beta = 0.36, $p < 0.001$), fitness level (Beta = -0.14, $p = 0.003$), planning (Beta = -0.26, $p < 0.001$), students' discipline (Beta = 0.12, $p = 0.029$), venting (Beta = 0.14, $p = 0.007$) and denial (Beta = 0.13, $p = 0.013$).

Conclusion: In Kuching, Sarawak, 74.9% of primary school teachers experience psychological stress, with factors like time management and coping strategies, particularly planning, playing a significant role. A systematic intervention targeting these factors can help teachers manage stress, enhance productivity, and ultimately boost student achievement.

Keywords: Psychological Stress, Teachers, Primary School

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Sharp Injuries Among Health Care Workers in Terengganu: An Analysis From 2019 to 2022

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Abstract

Introduction: Sharp injury is the most common occupational injury among healthcare workers (HCW) in Terengganu other than work related COVID-19 infections, amidst COVID-19 pandemic. HCW with postexposure prophylaxis (PEP) have higher risk of getting bloodborne viral infections than others who are not started. The objectives of this study are to determine the incidence of sharp injuries, the sociodemographic characteristics and the risk factors associated with PEP indication.

Methodology: A descriptive study was conducted in Terengganu among healthcare workers based on retrospective record review. The inclusion criteria were HCW employed by KKM to deliver health care services, including trainees, medical students and health facilities support service workers from 1st January 2019 until 30th June 2022. Descriptive statistics and logistical regression were used to determine the incidence, sociodemographic and analyze the risk factors for PEP indication.

Results: The highest incidence rate was in the year 2020, 8.47 cases per 1000 HCW. A total of 227 HCW had sustained a sharp injury and reported it. Among them, 76.2% (173) were female with mean age was 31.1 (SD:5.78). More than half occurred among doctors, 145 (64.0%) including medical officer, house officer, dental officer and specialist. Incidence mostly occurred in hospital with 167 cases (73.6%) and the most popular place was in ward (46.3%). Causes of the incidence was non-compliance to SOP 116 cases (51.1%). The significant associated factor with PEP indication was gender, crude OR (95%CI) 2.8 (1.23,6.38).

Conclusion: Recommended measure included emphasize on standard precaution, widespread promotion, periodic monitoring by the supervisor and training to new staff especially HOs and MOs must be strengthened.

Keywords: Sharp injury, Healthcare workers, needle stick injury, Terengganu, Malaysia.

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Prevalence and Socio-ecological Predictors of Psychological Resilience Among Undergraduate Students

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Abstract

Introduction: Psychological resilience is the process with capability to “bounce back” from adversity due to various psychological factors. Significantly, it can shield people from negative outcomes when dealing with life stressors. This study is to determine the prevalence and socio-ecological predictors of psychological resilience among local undergraduate students.

Methodology: A cross-sectional study was conducted randomly among 361 undergraduate students from ten consented faculties of a public university in Selangor, using a probability proportional to size method. A validated self-administered questionnaire with questions on individual, interpersonal, organisational, and community characteristics was employed. Psychological resilience was measured by Brief ResilienceScale (BRS). The factors associated with psychological resilience were identified using chi-square and simple logistic regression tests, significant p-value set up at $p < 0.05$. Eventually, multiple logistic regression was performed to identify the predictors.

Results: The prevalence of psychological resilience among undergraduate students was 68.7% for normal to high resilience level and 31.3% for low resilience level. Factors associated with psychological resilience were self-esteem ($p < 0.001$), self-efficacy ($p < 0.001$), coping style ($p < 0.031$), satisfaction with life ($p < 0.001$), and campus connectedness ($p < 0.023$). The predictors of psychological resilience among undergraduate students were high self-efficacy, (AOR 3.2, 95% CI: 1.906-5.522, $p < 0.001$) and high self-esteem (AOR 2.9, 95% CI: 1.406-5.772, $p < 0.004$).

Conclusion: About one-third of undergraduate students had low psychological resilience level. Self-esteem and self-efficacy emerged as predictors of psychological resilience. Thus, appropriate intervention on how to improve and enhance one's self-efficacy and self-esteem would boost students' psychological resilience.

Keywords: Psychological resilience, undergraduate students, prevalence, predictors

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Patterns and Perspectives: Breast Cancer Dynamics in Samarahan (2017-2023)

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Abstract

Introduction: Breast cancer, affecting 2.3 million women worldwide in 2020, poses a significant health challenge. In Malaysia, ethnic groups have different breast cancer rates, emphasising the need for tailored interventions. Early detection improves outcomes, with many treatment options. This study aims to determine the characteristics of breast cancer cases in Samarahan Division. Specific objectives include assessing trends, socio-demographic characteristics, risk factors, symptoms, stages, and treatment types of breast cancer cases from 2017 to 2023.

Methodology: An observational cross-sectional study was conducted in Samarahan Division, involving the female population aged 20 and above. Universal sampling was employed, including all eligible individuals diagnosed with breast cancer. Secondary data from the MCH Unit Samarahan Divisional Health Office facilitated descriptive analysis.

Results: The analysis revealed a notable surge in breast cancer cases in 2022, particularly in Asajaya district (48%). The majority of cases occurred in women aged 40-59 (32%), with Malays experiencing the highest cases (72%). Early menarche, lack of breastfeeding, and positive family history emerged as significant risk factors. Common symptoms included breast lumps (64%), while a considerable proportion of patients were diagnosed at later stages (Stage 2 and Stage 3).

Conclusion: The study highlights the need for targeted interventions in the Samarahan Division for breast cancer, emphasizing culturally sensitive prevention, heightened awareness and early detection campaigns for late-stage diagnoses, and genetic counselling for familial risk factors. It recommends lifestyle promotion, healthcare access improvements, and ongoing research for effective management.

Keywords: Breast cancer, Samarahan Division, risk factors, early detection, Malaysia.

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Factors Influencing the Decision to Forgo Necessary Health Care among Adult Individuals in Rural Sabah, Malaysia

Adilius Manual¹, Mohd Yusof Ibrahim², Ho Chong Mun³, Norazah Mohd Suki⁴

Abstract

Introduction: A person with forgone health care needs does not use healthcare, despite knowing they need it. Such behaviour may aggravate illnesses, especially in rural Sabah, where health services are scarcer than in urban areas. This study examined the factors influencing foregone care among people with health conditions.

Methods: Face-to-face interviews were conducted between February and May 2019 in 25 villages, and 237 respondents were selected at random in Nabawan district. The participants were asked about any instances in which they had been informed of health problems by healthcare professionals. Descriptive statistics were used to assess respondent characteristics, while multiple logistic regression analysis was utilised to investigate the relationship between the factors and the failure to seek necessary health treatment.

Results: 99 (41.8%) said they had been formally diagnosed with a health problem at some point. 81.8% (8) reported needing care in the last 12 months, but 17.3% (14) did not go get it. The results of the multiple logistic regression analysis indicated a significant association between education, socio-economic level, and the decision to not seek necessary healthcare services. Individuals who had a higher education exhibited the highest likelihood of refraining from obtaining medical treatment (OR = 37.91, 95% CI 1.78-807.21). Likewise, individuals belonging to the third quintile of socioeconomic status exhibited a significant odds ratio of 25.24 (95% CI: 2.14-297.61) with respect to failing to obtain medical attention.

Conclusion: A health condition that is wrongly perceived as not serious can have severe consequences if not addressed with caution.

Keywords: Health seeking behaviour, forgone care, rural population

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Psychological First Aid: A Way to Support Mental Health in Community

Asraf Ahmad Qamruddin

Abstract

Introduction: Mental health problems in Malaysia have been showing an upward trend, especially due to the effect of the COVID-19 pandemic. The COVID-19 pandemic was a catastrophic occurrence that led to unprecedented public health measures that has led to numerous social, financial, and familial difficulties. Combined with fear and anxiety toward COVID-19, this has overwhelmed and heightened the mental stress of society.

Challenges: Despite good interaction between primary, secondary, and tertiary care, and the availability of community-based mental services such as psychosocial rehabilitation, there remains to be a lack of social support for mental health in the Malaysian community. Stigma toward mental health problems remains high. This is worsened by the shortage of resources for mental health and inadequate intersectoral collaboration among stakeholders. Mental health encompasses many social factors and cannot be tackled by the Ministry of Health (MOH) alone.

Opportunities: Psychological First Aid (PFA) is a vital tool in delivering psychological intervention and support to those in mental distress. It can be delivered by non-professionals. We already have various successful volunteer programs in the community in Malaysia. Training of the volunteers with PFA allows the mobilization of societal resources and increases universal health coverage for mental health.

Conclusions: There are structures/programs that are available in governments and communities that could be utilized to improve the mental health services of the country. However, this requires reliable commitment from all the stakeholders involved.

Keywords: Community volunteer; mental health; psychological first aid

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The Influence of Household Factors and Cleaning Habits on the Detection of Polychlorinated Biphenyls in the Plasma of Adults with Metabolic Syndrome at the UiTM PCM Clinic

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Abstract

Introduction: The application of PCBs in construction materials has exposed the occupant to inhalation exposure. This study assessed the prevalence of selected PCB congeners in the plasma and its potential association between occupant behavior and house factors.

Methodology: A cross-sectional study evaluated house conditions and cleaning habits among 129 MetS patients at the UiTM PCM clinic.

Results: The mean age of the respondents was 59.81 ± 0.81 years, and 51.2% were female. PCB 206 was the most prevalent congener in the plasma, followed by PCB 180, 209, 153, and 194. The house age (AOR: 1.052, 95% CI: 1.004 – 1.102), applying carpet (AOR: 3.158, 95% CI: 1.103 – 9.041), and weekly mopping (AOR: 0.378, 95% CI: 0.207 – 0.882) influenced the detection of PCB 206 in the plasma. PCB 153 detection was associated with exposure to indoor smoke (AOR: 3.225, 95% CI: 2.061 – 5.825) and using a gas stove (AOR: 8.065, 95% CI: 1.463 – 44.472). The detection of PCB 180 in the plasma was associated with using a fan (AOR: 3.948, 95% CI: 1.099 – 14.183) and its duration (AOR: 1.079, 95% CI: 1.009 – 1.154). The determinants for the PCB 209 detection in the plasma included the installation of an exhaust fan (AOR: 0.407, 95% CI: 0.186 – 0.893) and weekly mopping (AOR: 0.422, 95% CI: 0.307 – 0.698).

Conclusion: The PCB threat is still prevalent in the population. Efforts to minimize PCB exposure in indoor environments should be considered, which will aid in achieving the objective of SC to eliminate PCBs in Malaysia

Keywords: Inhalation, POP, Indoor, Human Exposure

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Alcohol Use and Its Relation with Demographic, Environmental and Psychological Factors among Adolescents in Nabawan, Sabah

Selly Jaimon¹, Pravina A/P Deligannu¹ and Freddie Robinson¹

Abstract

Introduction: Adolescence is an essential stage of a child's development, transitioning them into adulthood. During this time, they are vulnerable to various social issues, experimenting with alcohol among others. Although alcohol consumption was proven to be detrimental to physical and cognitive development toward adulthood, and almost 1 in 10 of Malaysian adolescents aged 13 years and above are current drinkers, studies concerning the driving factors are still scarce. This study aimed to determine alcohol use among 244 adolescents aged 10-19 years old in one of the districts in Sabah Malaysia, namely Nabawan.

Methodology: This cross-sectional study assessed the associations between alcohol use, and three potential factors: demographic, environmental, and psychological. The respondents who were selected through stratified proportionate random sampling, answered a set of assessment tool on demographic, environmental, alcohol use, perceived stress, generalized anxiety and depression.

Results: Study results showed that 30.7% (95% CI 24.91 – 36.48) of Nabawan adolescents use alcohol. This analysis revealed that older age adolescents (OR = 3.9 (95% CI 1.22 – 12.61, OR = 5.3, 95% CI 1.76 – 16.35), having parents (OR = 4.1, 95% CI 1.77 – 9.53) and peers (OR = 11.6, 95% CI 4.11 – 32.51) who consume alcohol, good parental monitoring (OR = 2.5, 95% CI 1.16 – 5.20) and discussing serious problems with parents (OR = 3.9, 95% CI 1.72 – 8.67) are the significant predictors of alcohol use among these adolescents' group.

Conclusion: Policies on alcohol-related harm reduction and prevention should be developed for adolescents especially school-based programmes, programmes addressing family functioning, parent-child communication among others should be further looked into. Future research on school environment, adolescents' drinking motives and development of practical adolescents' friendly alcohol screening tools are recommendations for improvements. Both policy and future research should take account the appropriateness to local population settings.

Keywords: Adolescents, Alcohol Use, Demographic, Environment, Psychological

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Unintentional Nicotine Ingestion In Pediatric Population: A Case Report And Public Health Implications

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Abstract

Introduction: Introduction: This case report highlights a significant occurrence of nicotine poisoning in a 2-year-old Malay girl, who suffered an Apparent Life-Threatening Event (ALTE) following unintentional nicotine ingestion from a mixed berry-flavored e-cigarette device. The child, initially presenting with respiratory distress, seizures, and loss of consciousness, required immediate cardiopulmonary resuscitation and subsequent intensive care.

Methodology: Methods employed included a thorough field investigation, clinical assessments, toxicology screenings, and device analysis. The suspected e-cigarette device, found to contain 23mg/ml of nicotine, highlighted the inherent danger in these products. Preventive measures involved multi-faceted strategies, encompassing healthcare professional education, community awareness campaigns, and stringent enforcement of tobacco control regulations.

Results: Results revealed the child's progression from severe neurological impairment to gradual recovery through neuro-rehabilitation. The variability in nicotine content within e-cigarette devices, exemplified by the analyzed product, underscored the challenges in assessing and preventing unintentional ingestions. The case's weight (10kg) and the device's nicotine concentration suggested a potentially fatal dose if exceeded.

Conclusion: This case emphasizes the urgent need for heightened awareness regarding the dangers of nicotine toxicity in pediatric populations resulting from e-cigarette use. The variable nicotine concentrations within e-cigarette products pose a significant risk, especially in young children prone to unintentional ingestions. The study emphasizes the importance of comprehensive preventive measures, ranging from healthcare professional education to community-wide initiatives, to mitigate the growing threat of nicotine poisoning in children.

Keywords: Nicotine poisoning, pediatric, e-cigarette, implications

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Exploring Intention to Engage in Premarital Sex Among Pre- University Students: A Survey in a Malaysian Public University

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Abstract

Background: Premarital sex among adolescents is associated with various negative consequences, including increased risk of unsafe sex, multiple sexual partners, limited use of contraception, and lack of knowledge about HIV/AIDS and other sexually transmitted infections (STIs).

Materials and Methods: A cross-sectional study was conducted involving 118 randomly selected pre- university students from a public university. Respondents who were not consented or married were excluded. A self-administered questionnaire consisting of sections on socio-demographic profiles, high-risk behaviour, and the Youth Sexual Intention Questionnaire (YSI-Q) was used. The collected data were analysed using IBM SPSS version 28.0.

Result: The study found a 100% response rate, with the majority of respondents being female (75.4%), Malay (87.3%), and Muslim (89.0%). Most respondents came from a high socio- economic background and two-parent household. The prevalence of intention to engage in premarital sex in this study was 24.6%. The prevalence of high-risk behaviours such as smoking, drug use, and alcohol consumption were relatively low, while 15.3% of respondents reported currently dating. There were significant associations between mother education (AOR = 0.003, 95% CI: 0.001-0.011, $p = 0.003$), permissive attitude (AOR = 2.476, 95% CI: 1.321-4.642, $p = 0.005$), and perceived social norms (AOR = 1.486, 95% CI: 1.183-1.866, $p < 0.001$) with intention.

Conclusion: Mother education was protective against intention to engage in premarital sex while permissive attitude and high perceived social norms supporting premarital sex were risk factors for having intention towards premarital sex. Sexual health promotion and education should emphasize on positive parental relationships, addressing permissive attitudes and the impact of social norms towards intention to engage in premarital sex to encourage responsible and informed sexual decision-making among adolescents.

Keywords: Premarital sex, intention, prevalence, factors associated

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Knowledge And Perception About Climate Change Among Students In Iraq: A Cross-Sectional Study

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Abstract

Introduction: Long-term changes in temperature and weather patterns are referred to as climate change. These fluctuations may be caused by significant volcanic eruptions or variations in the sun's activity. However, human activity has been the primary cause of climate change since the 1800s, mostly due to the combustion of fossil fuels like coal, oil, and gas. The current study aims to examine the knowledge level regarding climate change among medical students in Iraq.

Methods: An internet-based cross-sectional study was conducted among 320 students from different universities including medical, dentistry, pharmacy, and nursing students. A non-probability convenience sampling method was used to select participants. Knowledge questionnaires were adopted from previous studies and consisted of 12 questions. Respondents answering more than 50% of questions correctly were considered to have good knowledge about climate change.

Results: In total, 75.9% of the students had good knowledge about climate change. About 98.8% heard of climate change before and mainly from the internet (48.4%). About 17.8% of the respondents knew about global warming during their study. Only 2.2% answered correctly about the average temperature of the earth. The majority agreed that global warming has an impact on animal and human health (98.4%, 99.4%) respectively. Around 80.3% think that health professionals can contribute to reducing climate change's impact. There was a significant association between course of study and knowledge (p value=0.010).

Conclusion: In conclusion, students doing medical courses had a good knowledge of climate change but more health education and promotion are needed to address specific issues like waste reduction and energy saving.

Keywords: Knowledge, climate change, health professionals, students, Iraq

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Factors Associated with Self-Reported Adverse Symptoms Related to Formaldehyde Exposure Among Students and Lab Assistants in University Laboratories of Kota Kinabalu, Sabah

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Abstract

Introduction: Formaldehyde exposure in university laboratories, primarily from the use of formalin for specimen preservation, poses significant health risks to staff and students. Understanding the prevalence of adverse symptoms and associated factors is crucial for implementing effective control measures and promoting occupational health.

Methods: A cross-sectional study was conducted through purposive sampling among lab assistants, first-year medical students, fourth-year and master's marine science students at the University of Malaysia Sabah. Participants completed a self-reported questionnaire, providing information on sociodemographic factors, medical and allergy history, occupational history, formaldehyde exposure source, and control measures practiced in the laboratory. Data were analysed using descriptive statistics and simple logistic regression.

Results: Among 157 respondents, a prevalence of 34.4% (95% CI 23.5% - 37.3%) was found for having formaldehyde-related adverse symptoms. The three most reported symptoms were headaches/dizziness (26.1%), unusual tiredness, fatigue, or drowsiness (12.1%), and stress or irritability (7.0%), indicative of neuropsychiatric effects. Factors associated with adverse symptoms included the presence of allergies (OR = 2.2, 95% CI 1.11 - 4.37), preexisting illnesses (OR = 2.12, 95% CI 1.02 - 4.43), and female gender (OR = 2.5, 95% CI 1.21 - 5.13). Longer average duration (OR = 1.66, 95% CI 1.23-5.71 and OR = 5.23, 95% CI 1.82, 15.06) and higher frequency of exposure (OR = 3.63, 95% CI 1.60-8.25 and OR = 2.475, 95% CI 1.0-, 5.79) increased the likelihood of experiencing symptoms. Engineering controls such as exhaust fans (OR = 0.5, 95% CI 0.255 - 0.975) and the use of personal protective equipment (PPE) such as masks (OR = 0.07, 95% CI 0.03-0.16) and gloves (OR = 0.11, 95% CI 0.05-0.24) showed a protective effect against adverse symptoms.

Conclusions: This study reveals a significant prevalence of formaldehyde-related adverse symptoms among staff and students in University Malaysia Sabah primarily linked to formaldehyde exposure from formalin use. Adherence to engineering controls and the proper use of PPE can play a crucial role in mitigating the health effects associated with formaldehyde exposure.

Keywords: Formaldehyde Exposure, Adverse Symptoms, Medical Students, Marine Science Students, Lab Assistants, University Laboratory.

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Unlocking the Spectrum: Exploring the Diversity of Thalassemia Carrier Types Among Secondary School Students Involved in the Thalassemia School Screening Programme in Tawau (2021–2022)

A. [Abidin](#)¹, H. Sajali¹, Mustafa AN², Mohd Faiz G.¹

Abstract

Introduction: Thalassemia, including α - and β -thalassemia, is a global health issue and Malaysia's most common single-gene disorder. Mutations in genes cause reduced levels or malfunctioning proteins or the absence of α and β globin proteins, causing these conditions. In 2018, Sabah recorded the highest number of thalassemia cases in Malaysia, with 1,814 cases. (Malaysia Thalassemia Registry Report 2018)

Methods: To ascertain the prevalence and types of thalassemia carriers, we examined the data from the screening programme that was carried out on Form 4 students in Tawau between June 2022 and June 2023, analysing 3,686 students for cohort 2021 and 3,632 students for cohort 2022. Screening includes a complete blood count and Hb electrophoresis test to prove carrier status. Further molecular testing by DNA analysis was done to classify the carrier state, particularly for alpha-thalassemia. Descriptive analysis was done using SPSS v.29.0.1.0 (171).

Results: The prevalence of thalassemia in Form 4 students was 2.9% (2021) and 4.2% (2022). HbE- thalassemia carriers were the most common subtype (1.33%, 2021; 1.8%, 2022), followed by alpha and beta carriers (0.9% and 0.7%, respectively). The Bugis subethnicity had the most thalassemia carriers of all subtypes, and female students had the highest prevalence.

Conclusion: In 2021 and 2022, 2.9% and 4.2% of Form 4 students were thalassemia carriers. The long- term clinical and economic benefits of screening outweigh those of managing thalassemia major patients. Assessing thalassemia carrier prevalence will help us improve the control and prevention programme in Tawau, Sabah.

Keywords: Thalassemia trait, Haemoglobinopathies screening, School health.

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Epidemiology of Poor Glycaemic Control and Its Risk Factors among Type 2 Diabetes Mellitus Patients in Bagan Datuk, Perak

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Abstract

Introduction: Diabetes is a progressive disease that evolved into a substantial public health crisis and stands as a prominent contributor to global mortality and morbidity. The prevalence has been rising rapidly in low-middle-income countries including Malaysia resulting in enduring and severe complications. Therefore, there is a critical need to formulate optimal prevention and control strategies to enhance better glycaemic control among Type 2 Diabetes Mellitus (T2DM) patients. This study aimed to determine the epidemiology of poor glycaemic control and its associated risk factors among T2DM patients in Bagan Datuk, Perak.

Methodology: A cross-sectional study was conducted in Bagan Datuk, Perak involving registered T2DM patients from five health clinics. Data were randomly selected from the Malaysia National Diabetic Registry (NDR) between January to November 2023. Sociodemographic, behavioural and clinical data were retrieved from the registry. The cut-off good glycaemic control was set according to the guidelines, $\leq 6.5\%$. The risk factors associated to the glycaemic control were further assessed using multiple linear regression analysis. Analyses were mainly performed using R software.

Results: Of 542 T2DM patients, 65.1% were women and predominantly among Malay, 59.8% followed by Indian, 29.0% and Chinese, 11.1%. The mean age was 62.2 (SD: 10.98) and the mean years of having diabetes was 8.75 (SD: 6.02). The mean glycated haemoglobin (HbA1c) was poor, 7.95% (SD: 2.08) while near half of the patients (43.9%) has developed at least a complication; retinopathy, ischaemic heart disease (IHD), cerebrovascular disease, nephropathy or diabetic foot ulcer. The multiple linear regression indicated the age, gender, ethnicity and duration of having diabetes are the predictors explained 9.58% of the variation in the level of HbA1c, [F-statistic (7,410) = 7.04, $p = <0.001$].

Conclusion: Malay and Indian women who are being diagnosed with T2DM in early age potential to have poor glycaemic control compared to the different groups of the same characteristics. This finding will provide right and necessary guidance in identifying T2DM patients at risk of poor glycaemic control for the prompt preventive measures and adherence to the behaviour and clinical management.

Keywords: Diabetes mellitus, glycated haemoglobin, risk factors, non-communicable disease, elderly.

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Investigation of Food Poisoning Outbreak at a Primary School in Bau, Sarawak

Christina Lee YH¹ & Dennes Sigon²

Abstract

Introduction: On 25 May 2023, Bau District Health Office received an information regarding the numbers of AGE cases at a primary school in Bau. This school have no canteen and everybody including teachers bring their own food. An epidemiological investigation was conducted to describe the outbreak, identify related factors and recommend control measures.

Methodology: Cases were defined as any student or staff member who attended teacher's day gathering at a primary school in Bau District and had any symptom of diarrhoea or vomiting or nausea, with or without fever starting from 23 May 2023. Epidemiological and environmental investigations were performed. Data were analysed using SPSS software version 27.0.

Results: A total of 41 cases were identified. The attack rate was 17%, and cases ranged in age from 6 to 43 years, with a median age of 10 years. A total of 41 (100%) cases had diarrhoea, 40 (97.56%) had vomiting, and 35 (85.36%) had fever. Environmental investigations found out students consuming cooked food that holds more than 4 hours which left at room temperature and three out of six hand washing facilities does not have hand soap. Prepared food (OR=11.022, p-value<0.001, 95%CI: 3.946–30.785) and wiping hands with their cloth after handwashing (OR=55.8, p-value<0.05, 95%CI: 11.353–274.266) was found to be significantly associated with developing illness.

Conclusion: The outbreak at this school was probably caused by prepared food got contaminated due to long holding time and unsafe hygiene practices. Health education on the temperature danger zone being provided to prevent future outbreaks.

Keywords: Outbreak, Food poisoning, Primary school.

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Outreaching For Leprosy In Bera District, Pahang: A Case Report

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Abstract

Introduction: Leprosy is showing an increasing trend in Malaysia. In Pahang, new pockets of endemicity were detected in recent years. A two-day program of Latih-Kesan-Analisa-Rawa&Rujuk (LAKAR) was recently held in Bera District, Pahang particularly focused on community in Kampung Ibam, Bera.

Methodology: The Tuberculosis and Leprosy Unit, in collaboration with the Pahang Health Department, conducted a field program. The first day involved a leprosy briefing and hands-on training in Slit Skin Smear (SSS). Approximately 100 participants were divided into static and field groups. The static team, stationed at a community hall, established a screening clinic, while the Active Case Detection (ACD) team conducted house-to-house screening. Those with suspected skin lesions were directed to the community hall for further evaluation, and eligible contacts were given prophylaxis.

Results: A total of 320 people were examined at which 90% of it comes from ACD. Among 16 individuals underwent SSS, 5 of them were positive of leprosy (detection rate 31.25%). A total of 241 individuals (73.5%) received SDR during the program.

Conclusion: In marginal group, an outreach program stand as the best method for early detection and treatment of leprosy. High detection rate in this program showed that leprosy still a concern in Malaysia particularly in certain areas. Hence, multi-agency collaboration among stakeholders will play a significant role if similar program were to be planned in the future.

Keywords: Outbreak, Food poisoning, Primary school.

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A Five-year Epidemiological Review of Tuberculosis in Tawau, Sabah

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Abstract

Introduction: Located on the island of Borneo, Sabah is a state with high tuberculosis (TB) burden in Malaysia. As a district neighbouring to high TB burden countries like Indonesia and Philippines, TB in Tawau, Sabah is of high public health importance. This study intended to describe the epidemiology of TB in Tawau, Sabah to identify risk groups and trends of TB transmission.

Methodology: This is a five-year retrospective study of TB cases that were reported in Tawau, Sabah, between 2018 and 2022. Using information from the district "myTB" notification database, we calculated the case notification rate and discussed about trends, risk groups, and treatment outcomes of TB in Tawau throughout this period.

Results: There were 2,584 cases of TB reported in Tawau between 2018 and 2022 (136 cases per 100,000 population). Majority of the cases (86.1%) were identified by passive case detection. Seventy seven percent of non-citizens with pulmonary TB were sputum smear positive at diagnosis, significantly higher than the proportion of Malaysian citizens (65%) who were smear positive at diagnosis ($\chi^2 = 78.94$, $P < 0.001$). When compared to non-citizens (43%) on chest X-rays at diagnosis, Malaysian citizens had a significantly lower probability of having moderate or advanced lesion (30%) ($\chi^2 = 67.27$, $P < 0.001$). Multi-drug resistant (MDR) TB was only 0.5% of the cases. Treatment success was 78% in those with drug-sensitive TB and 53% in cases of MDR-TB.

Conclusion: We found the evidence of late presentation and diagnosis of TB particularly among the non-citizens. Ensuring universal health coverage and removal of barriers to early diagnosis and treatment should be prioritised in line with the End TB Strategy.

Keywords:

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Prevalence and Factors Associated with Long COVID and Effect of Long COVID on Mental Health of Healthcare Workers in Miri Division, Sarawak

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Abstract

Introduction: The COVID-19 pandemic has given rise to Long COVID, posing a unique threat to healthcare workers (HCWs). In low to middle-income nations like Malaysia, limited research on Long COVID among HCWs necessitates comprehensive exploration. This study defines Long Covid according to the NICE guideline, aligning with WHO and CDC, and is supported by clinical data showing symptoms as early as four weeks. This pioneering study aims to assess Long COVID prevalence, associated factors, and mental health impact among HCWs infected with COVID-19, providing vital evidence-based insights for better support and policy interventions in this vulnerable population.

Methodology: A 10-month cross-sectional study in Miri Division, Sarawak, examined HCWs who tested positive for COVID-19. Universal sampling from healthcare facilities was conducted from November 2022 to August 2023. Data, collected online in June-July 2023, utilized a bilingual questionnaire for Long COVID symptoms and DASS-21 for mental health. IBM SPSS Statistics analyzed the data, contributing valuable insights into Long COVID prevalence, mental health impact, and associated factors among HCWs in Miri Division.

Results: Of 400 invited HCWs, 165 responded (41%). Notably, 89.1% reported Long COVID symptoms, with fatigue (75.8%) being predominant, followed by cough (72.1%) and feeling sick (62.4%). Stage 2 COVID-19 HCWs had a significantly higher Long COVID risk (OR 5.22, 95% CI: 1.85, 14.72). However, no significant association was found between Long COVID and mental health outcomes in this Miri Division study.

Conclusion: Tailored support and preventive strategies are crucial, with a focus on mental health programs for this vulnerable population.

Keywords: Healthcare workers, Mental health

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A Cross – Sectional Study on Determinants Associated with Dengue Fever Outbreak in Perlis

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Abstract

Introduction: Dengue fever incidence has been increasing after the COVID-19 pandemic era. The end of restriction movement after pandemic COVID-19 and the cyclic dengue pattern are factors that associated with dengue fever outbreak.

Methodology: This study used retrospective data obtained from the e-Dengue database for Perlis from January 2022 to November 2023. Descriptive statistics were applied for incidence rates and other variables.

Results: There were a total of 931 dengue cases and 92 dengue outbreak localities (81 WT, 2 WTK, and 9 Hotspot). The incidence rate (IR) was highest in 2023 at 256.7 per 100,000 population. The Kuala Perlis commune had the highest number of cases, totalling 169 (18.1%). The majority were Malays (81%) with a male-to-female ratio of 1:1. The mean age was 34.65 years (SD 20.249), with the highest age group being 18-40 years old (40%). A total of 116,639 premises were inspected, with 3.1% of premises positive for Aedes breeding. Law enforcement resulted in 406 fines issued, 532 orders to examine premises, and 396 cleaning orders. Sixty-nine percent (69%) of dengue cases were diagnosed within three days of onset, with a mean of 2.83 days (SD 1.759, range 0-10 days). Meanwhile, the mean time from onset to fogging control activity carried out was 4.18 days (SD 1.880, range 0-12 days).

Conclusion: Dengue fever has been a constant threat to public health problems. High population density, human mobility, access to reliable water source and water storage practices are among the environment factors contributing to increase vector densities.

Keywords: Dengue, outbreak, control activity

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Rabies Unleashed: Tracing Patterns and Tackling Transmission in Samarahan

Zulaikha Abdul Razak¹, Euphrasia Anak Bari²

Abstract

Introduction: Global alarm rises as human dog bites surge amid escalating stray dog populations and known rabies outbreaks. The lingering, unsolved Sarawak rabies crisis since July 2017 heightens concerns in Samarahan District, demanding urgent intervention. This study aims to uncover the characteristics of dog bite cases in Samarahan District. Specific objectives involve unraveling trends, exploring sociodemographic profiles, pinpointing risk factors linked to rabies transmission, and gauging the incidence rate of human rabies cases.

Methodology: A cross-sectional study design was employed, focusing on notified dog bite cases in Samarahan District (EW1 2021-EW40 2023) using I-Bite system and also confirmed human rabies cases in Samarahan District. Employing universal sampling, the research integrated surveillance data review and laboratory-based confirmation. Descriptive statistics and SWOT analysis were utilized for data analysis.

Results: The study uncovered a troubling surge in human rabies cases in Samarahan District with cumulative incidence of 1.47 per 100,000 population. Noteworthy patterns emerged, indicating geographical clustering in specific locales, a predominance of cases among males, age group of 20-39, and a notable involvement of pet mixed strays in dog bite incidents. Identifying risk factors, notably the absence of provocation in many cases, underscores the imperative for comprehensive vaccination strategies.

Conclusion: The escalating human dog bites and human rabies cases in Samarahan District underscore an urgent need for comprehensive intervention. Strategies should include targeted vaccination campaigns, community engagement, and One Health collaboration.

Keywords: Rabies, Samarahan District, human cases, incidence rate, dog bites, risk factors, public health.

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Melioidosis in Sandakan: A Situational Analysis, 2017-2023

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Abstract

Introduction: Melioidosis is endemic in Malaysia and is associated with significant mortality. However, The epidemiological characteristics of this disease remained limited. Epidemiological description of this disease may identify possible high-risk groups and areas which will aid in subsequent preventive and control measures. This study aimed to identify the epidemiology of melioidosis in Sandakan among registered melioidosis patients in Sandakan from January 2017 until June 2023.

Methodology: A descriptive study was done on data recorded in the Sandakan District Health Office Registry from January 2017 until June 2023. All melioidosis patients diagnosed were notified through administrative notifications and subsequently investigated using standardized investigation forms. Among the variables included in the description include socio-demographic information, underlying medical conditions, clinical presentations, anatomical location, laboratory investigation results, occupational exposures as well as environmental sampling findings.

Results: 75 cases of Melioidosis were reported in Sandakan from January 2017 until June 2023. Among the 75 cases reported, 63(84%) were Malaysian. An increasing trend of incidence rate was seen throughout the years with 0.49/ 10,000 populations in 2023. Cases were registered from 11 division areas of Sandakan with the majority of the cases reported from the areas of Sentosa, Beatrice, and Sibuga. Among the cases reported, the majority had a risk of being exposed to the pathogen via work-related activities such as farming, forestry, fishing (n=30, 40%), and gardening (n=16, 21.33%). Mortality among those cases was also reported to be high (CFR: 26.67%) and 65% of the mortality cases had pre-existing Diabetes Mellitus. Numerous clinical presentations manifested with the most of them was Pneumonia (n=42, 56.00%) followed by Soft Tissue Abscess (n=11, 14.67%). Blood culture and sensitivity from clinical specimen remains the gold standard for diagnosing Melioidosis. The most common clinical specimen yielded *Burkholderia Pseudomallei* was Blood (n=65, 86.67%), followed by Pus (n=6, 8.00%), Sputum (n=2, 2.67%), Fluid (Pericardial) (n=1, 1.33%), Tissue (n=1, 1.33%). Challenges yet lie ahead in determining the source of infection. Pipe water (n=2, 0.70%) was the only environmental sample taken, which yielded *Burkholderia pseudomallei*.

Conclusion: Following the increasing burden of the disease, future studies directed toward identifying risk factors are timely. Health promotional activities targeted toward high-risk groups are required to reduce the morbidity and mortality associated with this disease.

Keyword: Sandakan, melioidosis, epidemiology

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Development and Validation of the Perceptions Towards COVID-19 Vaccination Questionnaire Among Healthcare Workers in Malaysia: The Malay Version

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Abstract

Introduction: Healthcare workers (HCWs) are crucial in facilitating COVID-19 vaccination as they are the primary and reliable providers of vaccine-related information for the population. Nevertheless, there are a few reliable instruments available for gauging their views on this issue. This study aims to develop and validate the perceptions regarding the COVID-19 vaccination (PC19-V) questionnaire among HCWs.

Methodology: The PC19-V questionnaire was developed and designed using extensive literature reviews, and the panel of experts' judgement underwent a sequential validation process, including content, face, and construct validity for Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). The construct validity comprised a cross-sectional study conducted among healthcare workers in Malaysia using both face-to-face and online platforms. A total of 125 and 300 HCWs participated in the EFA and CFA, respectively. The Cronbach's alpha is used to test the reliability.

Results: Preliminary PC19-V demonstrated a high item Content Validity Index and Face Validity Index. The EFA of the initial 12 items of the PC19-V questionnaire revealed two domains with seven items remaining. Similar results were achieved in CFA; a new two-factor model of 7 items demonstrated a fit model with an acceptable level of goodness of fit (comparative fit index = 0.999, Tucker-Lewis index = 0.999, incremental fit index = 0.987, chi-squared/degree of freedom = 1.039, and root mean square error of approximation = 0.011). Consequently, this study found that the Cronbach's alpha is 0.87.

Conclusion: PC19-V questionnaire is a valid and reliable tool for measuring perceptions of COVID-19 vaccination among HCWs.

Keywords: Validity, Reliability, Perceptions, COVID-19 Vaccination, Healthcare Workers

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Predictors Of Mortality In Patients With Melioidosis In Kota Kinabalu: A 5-Year Retrospective Study

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Abstract

Introduction: Melioidosis, a severe and fatal infectious disease caused by *Burkholderia pseudomallei*, has diverse clinical presentations. This study aims to identify the predictors of mortality among melioidosis patients in Kota Kinabalu from 2018 to 2022.

Methods: A total of 148 patients with culture-confirmed melioidosis and notified to Kota Kinabalu Health Office, were retrospectively included in this study. Multivariable logistic regression was used to obtain the final model of predictors of mortality from melioidosis. The analysis was performed using SPSS ver.28.

Results: A total of 31.1% (42/148) of the patients died at the hospital, and a majority (138/148, or 93.2%) of cases were bacteremic. The logistic regression estimated that diabetes mellitus and shortness of breath were predictors of mortality. The results showed that patients who have diabetes mellitus have a 67% reduced odds of dying from melioidosis (aOR 0.335; 95% CI 0.160 – 0.703, $P = 0.004$) compared to those not having diabetes mellitus. Based on clinical presentation, the adjusted OR from the final model showed that the presence of shortness of breath was the associated factor of mortality for the disease (aOR 2.683; 95% CI 1.227 – 5.869, $P = 0.013$).

Conclusion: Melioidosis is not uncommon in Sabah, especially in the Kota Kinabalu area. The burden of this disease is likely to grow in this region unless better-informed interventions targeted at high-risk groups and associated diseases are urgently implemented. Further study should include blood investigation during hospital admission and antibacterial therapy.

Keywords: Melioidosis, infectious disease, mortality, predictors, Kota Kinabalu

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Completeness and Timeliness of the Online Disease Surveillance System in Tawau, Malaysian Borneo: A Quinquennial Analysis

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Abstract

Introduction: In public health, early detection of epidemics and monitoring of trends requires efficient and dependable disease surveillance. Completeness and timeliness are indispensable characteristics of surveillance systems. Despite the lack of research on infectious disease surveillance in Malaysia, our study evaluates the completeness and timeliness of the Communicable Disease Control Information System (CDCIS) in Tawau District from 2018 to 2022.

Methods: Our analysis included a five-year data set containing 16,519 notifications. Diseases were categorised by notification urgency, from 24 hours to 7 days. Completeness was determined by the percentage of surveillance form responses. In the meantime, time lags were used to measure timeliness, such as diagnostic delay (symptom onset to diagnosis) and notification time (diagnosis to notification).

Results: On-time reporting was lower for 24-hour-notification diseases (93.6%) than for 7-day-notification illnesses (96.6%). Diagnostic delays ranged from 0 to 31 days, and notification delays ranged from 0 to 10. Notably, diagnostic delays were the primary cause of reporting delays. Timeliness and completeness varied across diseases and surveillance stages, with government hospitals demonstrating the highest median completeness (78.8%).

Conclusion: This study is a ground-breaking evaluation of Malaysia infectious disease surveillance system and provides a valuable reference for future research. It is essential to note that the analysis is limited to the district level. It highlights the need for additional higher administrative-level investigations to evaluate the surveillance system comprehensively.

Keywords: Disease notification, Surveillance system, Completeness

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Tuberculosis Infection Among Diabetic Patients in Kota Tinggi District and Its Determinants: A Case-Control Study

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Abstract

Introduction: Tuberculosis (TB) is one of the public health concerns that has received the world's attention. The World Health Organization estimated that up to 15% of tuberculosis globally is related to diabetes mellitus. We aimed to determine the sociodemographic characteristics and associated factors for tuberculosis infection among diabetic patients in Kota Tinggi, Johor.

Methods: This case-control study was conducted with diabetic patients in Kota Tinggi district of Johor. Cases were diabetes patients and confirmed tuberculosis diagnosed from 2015 to 2022 registered in the National Tuberculosis Registry (NTBR). Controls were diabetes patients identified from the National Diabetes Registry. A total of 105 cases and 105 controls were matched based on the clinic in which they were registered at a ratio of 1:1. Patient demographic and clinical characteristics were collected using proforma forms. Multivariate analysis was used to identify factors associated with tuberculosis.

Results: Multiple logistic regression showed that patients had increased odds of having tuberculosis if they were male patients (AdjOR 2.62, 95% CI: 1.44, 4.81 $p=0.002$), had prolonged duration of diabetes (AdjOR 2.85, 95% CI: 1.41, 5.74, $p=0.001$), higher HbA1c level (AdjOR 1.3, 95% CI: 1.11, 1.51 $p=0.001$) or nephropathy (AdjOR 2.18, 95% CI: 1.1, 4.33 $p=0.026$).

Conclusion: This study indicates that the duration of diabetes, glycemic control (HbA1c), presence of nephropathy, and patient gender should be considered while conducting routine tuberculosis screening in diabetic patients.

Keywords: Tuberculosis, Diabetes Mellitus, case-control, determinants

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Identification Of High-Risk Areas for Tuberculosis Infection in Perlis: A Spatial Decision Support System on Assisting Tuberculosis Case Detection At Primary Care

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Abstract

Introduction: Tuberculosis remains a global public health concern. By assisting healthcare providers in Perlis to identify high risk population in detecting tuberculosis infection, this approach may improve case detection at early stage and reducing the incidence of severe tuberculosis infection. We describe the development of a GIS-based material for healthcare providers in Perlis to identify high-risk areas with tuberculosis infection and support their decision making and strategy in case detection and control of this disease.

Methodology: The development of this output was conducted using registered tuberculosis cases in Perlis in the National Tuberculosis Registry from year 2019 until 2023 (up to epid week 43) via R software version 4.3.2. The spatial intensity of the cases was estimated using kernel density estimation via 'spatstat' package and visualized using 'tmap' and 'leaflet' packages. The material was generated after the analysis in R software and rendered into html format.

Results: This output enables the healthcare provider to identify the areas with higher burden of tuberculosis cases through an interactive map. It guides the user in implementing targeted interventions and case detection in the area with higher disease occurrence across a geographical area. In term of disease surveillance, the healthcare provider can identify hotspots, monitor the spread of the disease, and help them to allocate resources more effectively.

Conclusion: Currently, this output has been deployed to all health clinics in Perlis to support their decision making in improving the case detection and control of tuberculosis infection in their targeted population.

Keywords: Spatial analysis, Spatial intensity, Tuberculosis, Perlis

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Field Validation of a New Brugia Rapid Test (BT+) for the Detection of Lymphatic Filariasis in Malaysia: A Study Protocol

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Abstract

Background: Lymphatic filariasis (LF) is a vector-borne disease caused by the parasitic nematodes *Wuchereria bancrofti*, *Brugia malayi*, and *Brugia timori*. A sensitive point-of-care rapid test is essential for LF surveillance to monitor infection, recrudescence and interrupt disease transmission in endemic localities. Currently, the Brugia Rapid test (BRT) is used for detecting LF in Malaysia. This study aims to validate and assess the performance of a new rapid test (BT+) for the same purpose.

Methods: A cross-sectional study will be conducted in eight LF endemic localities in Beluran and Pitas in Sabah. It will include all eligible residents aged 5 years old residing in selected study areas for at least six months. Pregnant women, breastfeeding mothers, and immunocompromised individuals will be excluded. Venous blood (3 ml) in EDTA tubes will be used for real-time PCR, BT+ and BRT. BT+ will also be tested using eluted dried blood spots and plasma samples. Finger-prick capillary blood will be taken for microscopic examination by thick blood smear and on-site BT+ testing. The BT+ diagnostic sensitivity will be calculated and compared with BRT, using the results of real-time PCR and/or TBS as reference. Kappa statistics will be used to determine the agreement between BT+ and BRT.

Results: A total sample of 1125 is required to detect adequate positive cases at 10% prevalence to demonstrate any statistical difference between the expected sensitivities of BRT and BT+.

Conclusion: The study findings will be used as evidence for future use of BT+ in the national LFEP program.

Keywords: *Brugia malayi*; Lymphatic Filariasis; Rapid Diagnostic Test

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Giant Lethal Sticky Ovitrap (GLSO): An Economical Tool for Dengue Control and Surveillance in Tawau

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Abstract

Introduction: This study reviews the usage of Giant Lethal Sticky Ovitrap (GLSO) to control Aedes mosquitoes, which spread dengue fever in tropical Malaysia, particularly in Tawau District in Sabah. Dengue outbreaks have plagued Tawau in recent years. The study will assess GLSOs' Aedes mosquito-reduction effects in dengue hotspots.

Methods: Our study focused on implementing GLSOs in PPR Taman Sri Apas, Tawau. The area was chosen due to the previous high incidence and multiple outbreaks. Between February and July 2023, 30 GLSOs were strategically placed across the PPR. These traps underwent biweekly inspections, removing adhesive strips for subsequent counting, identifying specimens in the laboratory, and replacing new adhesive strips. The first data analysis examined Aedes breeding distribution using the Ovitrap Positivity Index (OPI), Egg Density Index (EDI), and Mean Eggs per Trap. The second part looked at the number of dengue cases and outbreaks recorded by the eDengue system and GLSO costs compared to thermal spraying before and after deployment.

Results: Over 24 weeks, the biweekly Ovitrap Positivity Index (OPI) ranged from 45.8% to 75%. The total number of days with dengue outbreaks was dramatically reduced from 87 days to 19 days following the deployment of GLSOs. The local dengue incidence rate dropped from 422.2 to 155.5 cases per 100,000 population.

Conclusion: Our findings generally indicate that GLSOs effectively and affordably depicted the Aedes infestation pattern in PPR Taman Sri Apas. After implementing GLSOs, dengue rates decreased, proving that these traps are a reliable vector control method.

Keywords: Sticky ovitraps, Vector surveillance, Aedes aegypti

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The Clonal Outbreak of Melioidosis from Contaminated Water : The Aftermath of Massive Construction Work

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Abstract

Introduction: Sarawak is endemic for melioidosis. The average annual incidence of adult melioidosis was 12.3 per 100,000 people, with significant variation between districts. Prior to 2022, there was no case notified in Samarahan Division. However, the increasing cases drastically in 2022 warrant investigation to curb the infection. To determine the epidemiology of melioidosis cases in Samarahan District. Secondary data from 2022 to 2023 were obtained from registered cases.

Methods: Cases are all culture-confirmed melioidosis cases and IFAT results >1:80. Epidemiology investigation, environmental assessment, water and soil samples were taken, and genotyping was conducted on the cases.

Results: A total of 39 cases were notified from epidemiology week (EW) 42, 2022, to epidemiology week 10, 2023. An outbreak pattern was detected from EW45 in 2022 to EW 1 in 2023. The cases involved mainly children below 12 years old (56.4%), unemployed and students (71.8%). 26.7% of cases experienced muddy water supply and 36.7% of cases experienced interrupted water supply before the onset of symptoms. Five soil samples were positive. The fingerprint using pulsed-field gel electrophoresis (PFGE) revealed that all 16 isolates from cases in Samarahan showed 100% genetic similarities (A1 pattern).

Conclusion: This clonal outbreak (multiple cases caused by one strain) has occurred in Samarahan District, possibly due to contaminated potable water and exposure to outdoor activity. Raising public awareness and strengthening the surveillance system is important to detect early cases.

Keywords: Melioidosis, Samarahan District, epidemiology, clonal outbreak.

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Characteristics And Epidemiology of Melioidosis In Penang State: A Retrospective 5-Year Review

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Abstract

Introduction: Melioidosis is a tropical infection caused by the soil bacterium *Burkholderia pseudomallei*. Globally, more than 35,000 human melioidosis cases have been reported since 1911. Humans may become infected by this pathogen through direct contact with contaminated soil and/or water. Melioidosis commonly occurs in patients with diabetes mellitus, who increase the occurrence of melioidosis in a population. Melioidosis, an under-diagnosis and under-reporting disease, had been a major issue and global burden worldwide.

Methodology: A 5-year retrospective study was carried out on patients admitted with culture-confirmed for melioidosis from year 2019 till epidemiological week 44 of 2023 (4th November 2023) in five districts in Penang.

Results: The highest calculated annual incidence of melioidosis in Penang for the period from 2019 to 2023 was 1.27 per 100,000 population per year recorded in 2023. There was a total of 67 confirmed cases of melioidosis. Malay was reported as the highest ethnicity (70.1%), male predominant (82.1%) and majority of cases aged 25-54 years old (56.7%) acquiring melioidosis infection. The result showed that 37.3% of culture-confirmed melioidosis works in agricultural and farming sector. Diabetes mellitus constituted the predominant risk factors for developing melioidosis (77.6%). An average of 10.1 days from the onset of symptoms was needed to confirm the diagnosis via positive culture. The intensive care unit (ICU) admission rate for melioidosis was 35.8% and the crude mortality rate among the study population was 16.4%.

Conclusion: Promoting awareness regarding melioidosis among physician, healthcare personnel and general public is vital through health promotion, education, and/or training focusing on disease symptoms and risk factors. Furthermore, an improved diagnostic method is required to facilitate initiating early treatment for patient. Melioidosis should be classified as a notifiable disease, and a national melioidosis registry should be established to ensure well-curated incidence data is available. A robust study regarding Melioidosis cases in Malaysia involving all states should be done in the future. This would need better funding, collaboration and optimum duration to ensure useful quality data and analysis.

Keywords: melioidosis, *Burkholderia pseudomallei*, Diabetes Mellitus

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Factors Associated with Treatment Success among Tuberculosis Cases in Kluang Johor: A Registry-based Study for the Year 2018-2022

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Abstract

Introduction: Tuberculosis is an infectious disease caused by mycobacterium Tuberculosis bacteria with 1.3 million death in 2022. In 2019 the estimate for TB Mortality rate is 4 cases per 100000 population per year. The aim of this study is to describe the sociodemographic, clinical characteristics and to examine the determinants of success TB treatment among TB cases in Kluang Johor from 2018 to 2022.

Methodology: Sociodemographic and clinical data from the national TB registry, registered under Kluang district health office from January 1, 2018, to December 31, 2022, were retrieved and analysed. Descriptive analysis, univariate analysis (using Chi-Square test), and multiple logistic regression analysis were conducted to identify determinants of successful TB treatment. The successful (favourable) TB treatment was defined as the sum of cured patients and those who completed the treatment. The unsuccessful (non-favourable) treatment was defined as the sum of treatment failed, died, and default.

Results: A total of 812 TB cases were included in the study. The study indicated that female TB patient, (OR 1.84, 95% CI: 1.03-3.29), newly diagnosed TB cases (OR 2.69, 95% CI: 1.48-4.87), TB cases diagnosed at health clinic (OR 1.90, 95% CI: 1.24-2.91), Positive RVD status (OR 0.319, 95% CI: 0.182-0.548), Unknown RVD status (OR 0.459, 95% CI: 0.190-1.11), and non- MDRTB status (OR 8.26, 95% CI: 1.80 – 37.8) are the factors significantly associated with the success of treatment among TB cases in Kluang Johor.

Conclusion: Overall, for the year 2018 to 2022, Kluang did not achieved the target of 90% success rate for TB treatment. The success of TB treatment can be increased by early TB detection through intensified TB contact tracing activities.

Keywords: tuberculosis, factors, treatment success

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Beyond Antibiotic Resistance: A Descriptive Study On Extended-Spectrum Beta-Lactamase (ESBL)-Producing Bacteria Among Urinary Tract Infection (UTI) Outpatients In Kelantan, Malaysia

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Abstract

Introduction: Antimicrobial resistance (AMR) is a growing threat to human health globally. The major mechanism of AMR is the production of Extended-Spectrum Beta-Lactamase (ESBL) enzymes, which confer resistance to penicillins, cephalosporins, and monobactams, leaving limited therapeutic options for AMR infections. This study focused on determining the prevalence of ESBL producing bacteria among UTI outpatients in Kelantan state.

Methodology: Urine specimens from 61 healthcare facilities in Kelantan were transported under cold-chain conditions (2–8°C) to Kota Bharu's Public Health Laboratory. The samples were cultured on Cystine Lactose Electrolyte Deficient (CLED) and MacConkey No. 3 agar and incubated under aerobic conditions for 18–24 hours. Significant colonies

Results: Between 2017 and 2022, 53,964 urine samples were analysed, revealing a 11.1% positivity rate (n=5981). *Escherichia coli* (*E. coli*) dominated at 53.5%, followed by *Klebsiella* sp at 30.2%. Females exhibited the highest UTI rate (43.2%), surpassing males (19.3%), with infants of undeclared gender at 18.1%. Notably, 5.1% of UTIs were ESBL-producing *E. coli*, and 12.7% were ESBL-producing *Klebsiella* sp. Age distribution revealed that 60% of ESBL-producing *E. coli* cases occurred in individuals aged 20–59, and 18.4% in infants under 30 days. Meanwhile, 70.3% of ESBL-producing *Klebsiella* sp were isolated in infants under 30 days.

Conclusion: These findings highlight a concerning prevalence of ESBL-producing bacteria, particularly among infants with UTIs in Kelantan. Therefore, it is crucial to implement continuous national surveillance system for comprehensive understanding of their occurrence and resistance patterns and optimize UTI management in the community.

Keywords: UTI, outpatients, urine, ESBL *E. coli*, ESBL *Klebsiella* s

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Animal Bite Risk Assessment in Sri Aman, Sarawak during Epidemiology Weeks 1 to 38, 2023: An Applied Epidemiological Study

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Abstract

Introduction: Animal bites, often underestimated in public health, require thorough investigation to mitigate community impact. They result in physical injuries and zoonotic disease transmission, posing significant healthcare challenges. This study aims to analyze risk factors in Sri Aman, Sarawak.

Method: A multifaceted methodology was employed to compile data in I-bite system records to gather extensive details on incident specifics, including animal types, geographic coordinates, and case demographics. Comprehensive analysis was conducted using Statistical Package for the Social Sciences (SPSS version 26) and the open-source software QGIS, facilitating a comprehensive exploration of this vital information.

Result: In this study involving 275 cases, 145 were male and 130 were female, with 1.1%, 19.8%, 65.1%, 13.5%, 1.1%, and 0.4% representing Bidayuh, Chinese, Iban, Malay, other bumiputra, and other ethnicities, respectively. Animal-related incidents showed that 49.5% were cat-related, 49.1% were dog-related, and 1.5% involved other mammals. The Sri Aman District had the highest infection risk. There was a significant correlation between ethnicity and the type of animal involved ($\chi^2 = 32.888$, $p < 0.001$). Age also had a significant effect on the type of animal involved ($F_{2, 272} = 9.225$, $p < 0.001$). The logistic regression model was significant ($p < 0.001$), explaining 18.3% of the variance, and age minimally affected the likelihood of being bitten ($\text{Exp(B)} = 1.021$).

Conclusion: This study offers pivotal insights into the epidemiology of animal bite occurrences within the Sri Aman District, highlighting the pivotal role of ethnicity and age in unraveling bite incident patterns.

Keywords: Animal bites, Ethnicity, Age, Risk factor

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Unravelling the Resurgence: Investigating the Epidemiological Determinants and Shifting Dynamics of Pertussis Infection in Tawau (2017–2023)

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Abstract

Introduction: The alarming resurgence of pertussis infections worldwide, including in Malaysia, is cause for concern. Even though vaccination is effective, pertussis remains endemic in Malaysia, especially Sabah, where cases have increased post-pandemic. Little is known about the risk factors and dynamics of the disease.

Methods: This case-control study examined all eNotifikasi-reported and lab-confirmed pertussis cases from 2017 to 2023 and their investigation forms. Laboratories confirmed pertussis cases, while controls were drawn from negative cases. The study excluded incompletely investigated patients. After comparing cases and controls using a chi-square test, multivariable analysis by stepwise logistic regression identified significant risk factors. A significance level of $p < 0.05$ was used to calculate odds ratios (OR) for each independent variable using logistic regression coefficients. GeoDa v.1.20.0.36 and QGIS v.3.26.0 were used for spatial autocorrelation analysis and visualisation.

Results: In 2017–2023, Tawau had 61 laboratory-confirmed pertussis cases, ranging from 0.48 to 4.77 per 100,000 population. Multivariate analysis showed that non-Malaysian children with paroxysmal cough and cyanosis had higher odds of pertussis (aOR 4.807; 95%CI 1.806, 12.796). The local indicators of spatial autocorrelation analysis showed that hotspots were mainly in the Apas constituency's coastal area.

Conclusions: Pertussis is strongly linked to non-Malaysians, especially those with paroxysmal cough and cyanosis. The pertussis epidemic in Tawau is spatially clustered, with a concentration in immigrant-majority illegal squatter areas. Herd immunity and epidemic control are often hindered by deliberately excluding undocumented communities. A more effective strategy must be devised to improve the accessibility of undocumented migrants to immunisation.

Keywords: Pertussis, Resurgence, Whooping cough

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Spatiotemporal Pattern of HFMD Transmission in Kota Bharu, Kelantan, January 2018 - October 2023

Ahmad Zulfahmi Bin Sha'Ari¹, Mohamad Afiq Amsyar Bin Hamedin², Wan Soliha Binti Wan Mohd Hanafi¹, Sharina Binti Dir¹

Abstract

Introduction: Hand, Foot, and Mouth Disease (HFMD), an endemic disease with pandemic potential, required an understanding of its local patterns. Through spatial autocorrelation and hotspot analysis, a better understanding of spatial distribution of HFMD cases could be obtained, which was vital for effective public health planning, intervention strategies, and outbreak control. Objective: To assess the spatial patterns of HFMD in Kota Bharu, Kelantan, from January 2018 to October 2023.

Methods: A cross-sectional study employed HFMD data and census tract data to map the disease's incidence at the subdistrict level using R software. Spatial autocorrelation analysis was done with Moran's I statistic, further decomposed into Local Indicator of Spatial Autocorrelation (LISA) and Getis-Ord Gi* for local hotspot detection.

Results: In Kota Bharu district, HFMD infection incidence increased in 2022, followed by 2023, with the highest cases reported in year 2022 ($n = 3206$). Spatial autocorrelation showed clustering in all studied years (Global Moran's I 0.11 to 0.47, $p\text{-values} < 0.05$). High-high (H-H) hotspots were concentrated in the northern Kota Bharu in subdistrict Panji, Kubang Kerian, and Kota Bharu. While low-low (L-L) areas, were consistent in the east, particularly in Banggu, Limbat, Kota and Peringat. Some L-L areas shifted to high-low (H-L) areas, especially in Badang and Ketereh, indicating rising HFMD risk.

Conclusions: This study informed targeted interventions for HFMD in Kota Bharu, emphasizing preventive actions in Panji, Kubang Kerian, and Kota Bharu. Special attention was needed for H-L areas like Badang and Ketereh, which had the potential to transition to H-H areas.

Keywords: HFMD, Spatial Autocorrelation, Hotspot Analysis, Kota Bharu, Kelantan.

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Theory of Planned Behaviour Constructs: Reliability And Validity For Assessing Sexual Intention Among Adolescent Boys

Nazrie Saini¹, Rosalia Saimon¹ and Razitasham Safii¹

Abstract

Introduction: The newly devised Sexual Intention Questionnaire for Adolescent Boys (SIQ-AB) is an improvised tool from the Youth Sexual Intention Questionnaire (YSI-Q) and Theory of Planned Behaviour, aiming to assess the influence of permissive attitude, social norms, and self-efficacy toward the sexual intention.

Methods: This study determines the reliability and validity of the SIQ-AB. It was conducted on a total sample of 252 (Exploratory Factor Analysis, n=126 and Confirmatory Factor Analysis, n=126) among adolescent boys from Serian and Kota Samarahan, Sarawak. The exploratory factor analysis (EFA) assesses three constructs of sexual intention that include attitude, social norms and self-efficacy with a 4-point Likert scale with a total of 19 items. The confirmatory factor analysis (CFA) assesses the TPB constructs of sexual intention, attitude, self-efficacy, and social norms with a 4-point Likert scale with a total of 19 items adopted from YSI-Q.

Results: The EFA supported the four-factor structures, with 19 items that explained 65.79 percent of the total variance. EFA supported the four-factor structure, but four items were removed due to incorrect placement or low factor loading (<0.50). Internal reliability using Cronbach's alpha ranged from 0.77 and 0.89. The CFA further confirmed the construct, convergent and composite validity of the SIQ-AB with $\chi^2 = 199.0$, $df = 129$, $p < 0.001$, $\chi^2/df = 1.54$, CFI = 0.98 and TLI = 0.98 and RMSEA = 0.06.

Conclusions: The result proved that the SIQ-AB instrument has high reliability and valid tool to be used to measure the sexual intention of adolescent boys.

Keywords: Sexual Intention Questionnaire for Adolescent Boys (SIQ-AB); Factor analysis; Theory of Planned Behaviour

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Characteristics and Determinants of Unsuccessful TB Treatment Outcome Among Tuberculosis (TB) Patients in Kuala Nerus District: A Registry-based Study of the Years 2016-2022

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Abstract

Introduction: Tuberculosis (TB) remains a disease of public health importance in Malaysia, where an estimated 4.9 per 100000 population died due to TB. This study aimed to determine factors associated with unsuccessful TB treatment outcomes among patients in Kuala Nerus district.

Methods: This is a retrospective cohort study conducted among all registered TB patients in the National Tuberculosis Registry (NTBR) database in Kuala Nerus district from year 2016 until 2022. Patients' sociodemographic profiles, clinical disease data and treatment outcomes were included for analysis. Logistic regression was used to identify determinants of unsuccessful treatment outcomes among TB patients.

Results: A total of 424 TB cases were included for analysis. Overall, 87.0% of TB patients have successful treatment outcomes. Out of 13% of cases with unsuccessful treatment outcomes, 11.8% died, 0.7% lost to follow-up and 0.5% had outcomes not evaluated. Determinants for unsuccessful treatment outcome were increasing age (AOR 1.05; 95%CI 1.02,1.07), non-Malaysian (AOR 12.69; 95%CI 2.36,68.22), human immunodeficiency virus (HIV) infection (AOR 23.91; 95%CI 9.23,61.93) and smoking (AOR 2.01; 1.02,3.89). This regression model accurately predicts 83% of the unsuccessful TB outcome with AUC=0.83 (95%CI 0.77,0.89).

Conclusions: Targeted intervention based on identified risk factors from this study is imperative to achieve the 90% successful TB treatment outcome rate recommended by the WHO. Continued emphasis should be directed towards the preventable risk factors such as smoking behaviour and HIV co-infection through joint TB-tobacco and TB-HIV management.

Keywords: Tuberculosis, treatment outcome, unsuccessful outcome, poor outcome.

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Decoding The Culprits: Unravelling The Key Factors Behind Colorectal Cancer In Asian Populations

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Abstract

This narrative review comprehensively explores the pivotal factors driving colorectal cancer (CRC) in Asian populations, drawing insights from 10 meticulously selected studies out of 50 identified through PubMed and Google Scholar (2013–2023). Although the overall incidence of CRC in Asia is comparatively lower than in Western nations, it constitutes a significant public health concern. Genetic factors, particularly mutations in the Adenomatous Polyposis Coli (APC) gene and DNA repair genes, such as those associated with Lynch syndrome, contribute significantly to CRC risk across diverse populations.

Of note, there is a discernible shift in age-specific incidence rates towards younger age groups in Asian populations, underscoring the imperative for heightened vigilance and early detection among the younger demographic. Dietary habits emerge as influential, with traditional Asian diets, rich in fruits and vegetables, exhibiting protective effects against CRC. Lifestyle factors, including physical inactivity, obesity, smoking, and the escalating prevalence of Inflammatory Bowel Disease (IBD) in Asia, further contribute to CRC risk.

This review underscores the paramount importance of organized screening programs, particularly faecal occult blood tests and colonoscopy, in significantly impacting early detection and subsequent treatment outcomes. In conclusion, understanding genetic predisposition and implementing targeted lifestyle modifications are deemed crucial for effective CRC risk reduction in Asian populations. The findings stress the need for tailored screening guidelines and heightened early detection efforts, especially among younger age groups with strong family histories, to effectively decode and mitigate the increasing burden of CRC in Asian populations.

Keywords: Colorectal cancer, Asian populations, genetic predisposition, early-onset CRC, diet, lifestyle factors.

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Situational Analysis Of Tuberculosis (TB) Cases In Seberang Perai Tengah (Spt) District, Pulau Pinang, 2018-2022

Rusydi bin Rusli¹, Mohammad Aiman Hazim bin Zamri¹, Chiew Wye Lee²

Abstract

Introduction: The increasing number of TB poses a great challenge to control and reduce TB transmission in Malaysia. Sociodemographic factors such as age, gender, race, country of origin, employment status, healthcare worker status, residency, HIV status, Diabetes status and Smoking status played an important role that affecting development of TB cases and site of tuberculosis

Methods: Using Seberang Perai Tengah district in Penang, Malaysia as a locality study, number of TB cases including sociodemographic factors, risk factors and site of tuberculosis (pulmonary and extrapulmonary tuberculosis) variables across five years period (2018-2022) were extracted from the Malaysia Tuberculosis registry (MyTB). The trend of TB cases in those 5 year period was analysed and compared with other countries. For association of sociodemographic and risk factors with site of tuberculosis, Pearson's chi-square test was used to find the significant association between these variables. The Medical Research and Ethics Committee (MREC), Ministry of Health Malaysia (MOH) has provided ethical approval for this study.

Results: There were 1487 tuberculosis cases diagnosed clinically and microbiologically during those periods in SPT district. The trend in Seberang Perai Tengah district across 5 years period (2018-2022) showed similar trend with other southeast asia countries such as Cambodia, Vietnam and Thailand. The association of sociodemographic and risk factors with site of tuberculosis was tested Pearson's chi-square test which, p-value < 0.005 show significant association between two variables. The results showed age, race, diabetes status, smoking status and HIV status were significantly associated with site of tuberculosis (p < 0.05).

Conclusion: The need TB screening in Seberang Perai Tengah district, Penang need to focus on teenage and middle age adult Malay patients even with no risk factors (HIV/smoking/diabetes).

Keywords: Tuberculosis, sociodemographic, trend, risk factor, site of tuberculosis

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Overview of Conjunctivitis Outbreaks in Wilayah Persekutuan Kuala Lumpur and Putrajaya (WPKL &P) from Epidemiological Week (EW) 1 to 44 Year 2023

Nurrihnan Husna Hamzah^{1*}, Rosvinder Singh¹

Abstract

Introduction: Conjunctivitis is the inflammation of the conjunctiva caused by pathogens, chemicals, or allergies. In 2023, till EW 44 Malaysia reported 210 conjunctivitis outbreaks a rise of 238% as compared to 2022. Due to its contagiousness, and potentially debilitating morbidities, its public health impacts include increased healthcare costs, improper treatment, and population missing from work or school. This study aims to describe the characteristics of conjunctivitis outbreaks reported in WPKL & P till EW44 Year 2023.

Methods: A descriptive analysis was performed on the data collected from the outbreak reports by the district health offices (DHO). We included all verified conjunctivitis outbreaks reported by the DHO in WPKL & P from EW 1 to 44 Year 2023.

Results: A total of 13 conjunctivitis outbreaks were reported in WPKL&P during this period. These comprise 808 cases with attack rates ranging from 0.37% to 35.82%. The majority of these outbreaks (54%) were reported in Putrajaya. Of which 92% of outbreaks were reported in educational institutions and two-thirds of them involved boarding schools. Common symptoms among all cases were eye redness (94.18%), watery discharge (67.08%), and eye itchiness (34.53%). Up to 46% of the conjunctivitis outbreaks in WPKL & P were caused by Coxsackie A24 Virus.

Conclusion: Conjunctivitis is highly contagious among the school-aged population with an increasing trend among boarding school pupils. The pathogen identified in these outbreaks caused by Coxsackie A24 is a concern. Health education and control measures should be emphasized in schools to prevent future outbreaks.

Keywords: Conjunctivitis outbreak, Coxsackie A24, Pink eye, Kuala Lumpur, Putrajaya

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World Oldest Disease, Leprosy -Active Case Detection (ACD) in Kampung Orang Asli Pasir Intan, Kota Tinggi District

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Abstract

Introduction: Kampung Orang Asli Pasir Intan is one of the village for indigenous people (orang asli) situated in Kota Tinggi district in Johor. There is estimated about 200 people from 50 families living among the 40 houses in this village. Index case, Hafiz bin Singa was diagnosed for Multibacillary Leprosy in 30th August 2023 and was then notified to Kota Tinggi District Health Office.

Methods: Kota Tinggi District health office team has planned for leprosy active case detection with the aim to screen the community of Kampung Orang Asli Pasir Intan. The screening was done by door- to - door approach, clinical dermatological examination is performed under sunlight to everyone as well as peripheral nerve examination is performed and those with suspicious skin lesion were referred for slit skin smear . Prophylaxis treatment of single dose rifampicin (SDR) were prescribed to them afterwards.

Results: 80 out of 2000 Orang Asli was screened and prophylaxis of single dose rifampicin was given to 48 Orang Asli and 14 of them was referred for slit skin smear examination.

Conclusion: Active Case Detection program helped reached the high risk population and promotes early treatment. Despite some of the orang asli fled the village due to fear during the program

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Navigating HFMD in Samarahan Landscape: Epidemiological Revelations

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Abstract

Introduction: Hand, Foot, and Mouth Disease (HFMD) is emerges as a significant public health concern, known for its contagious nature and its tendency to cause large outbreak and a predilection for affecting young children. It has become endemic in Sarawak, Malaysia, with the state maintaining the highest recorded cases of HFMD since the initial outbreak in 1997, surpassing other regions in Malaysia. The primary objectives of this research are to unravel the epidemiological patterns of HFMD in Samarahan District, specifically examining trends in reported cases, exploring sociodemographic characteristics, and identifying potential risk factors contributing to the transmission of HFMD.

Methodology: A cross-sectional research approach is employed, utilizing data from the Masterlist of HFMD notifications to ensure comprehensive coverage. The sampling method adopts a universal strategy, aiming to encompass all notified HFMD cases within Samarahan District. The analysis primarily relies on descriptive statistical methods, presenting findings in terms of frequency and percentage distributions.

Results: The study reveals fluctuating trends in HFMD cases, with noticeable peaks suggesting possible seasonal variations or localized outbreaks during specific periods. Disparities are observed among ethnic groups with highest percentage in Malays (58.0-63.9%), male gender (53.4-57.5%), and pre-schooled age categories (72.5-77.8%), emphasizing the importance of a nuanced understanding of HFMD's impact.

Conclusion: The findings underscore the necessity for vigilant surveillance to monitor and manage HFMD effectively in Samarahan District. Additionally, the study provides insights into the significance of culturally sensitive campaigns and the implementation of targeted preventive measures, especially in occupations with higher risk profiles.

Keywords: HFMD, epidemiology, trends, risk factors, prevention, surveillance.

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