

BOOK OF ABSTRACTS



THE 10TH INTERNATIONAL CONFERENCE ON PUBLIC HEALTH - ICOPH 2024

**"Advancing Healthcare Access,
Equity, and Achieving the SDGs: A Global Commitment"**

15th – 16th August 2024 | Bangkok, Thailand



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Edited by Prof. Dr. Hematram Yadav, Dr. Alene H. Gelbard and Dr. Raman Preet

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MESSAGE FROM THE CONFERENCE CO-CHAIR - ICEDU 2024

It gives me great pleasure to say a few words on the 10th International Conference on Public Health (ICOPH) organised by TIIKM to be held in Bangkok, Thailand in August 2024. It is one of the premier conferences in Global Public Health and the theme of the conference is “Advancing Health Care: Access, Equity and Achieving the SDG’s: A Global Commitment.



This conference is to create a platform for knowledge sharing, collaboration, and relationship building by bringing academia, policy and industry together. More importantly it is to deliver latest research, program implementations and workforce developments. The participants are expected to find solutions to major health challenges of the world and set health agendas worldwide and also to encourage delegates to work together to achieve better health outcomes by establishing a unique public health network.

This conference will facilitate discussions on a wide range of topics related to improving health at all levels through collaboration and open dialogue and steering tomorrow’s agenda to improve research, education, healthcare, and policy outcomes.

Public health has faced numerous challenges during the last century but it has also made much progress as well. Although the world is no longer dominated by infectious diseases but it is being dominated by non-communicable chronic diseases such as heart disease, diabetes, cancer, and mental-health conditions, which require continuous treatment but at the same time, newly emerging diseases like Covid 19, Corona virus, Zika and Ebola epidemics are still likely to pose challenges to global health security in the future.

Furthermore, extreme weather and rising sea levels, temperatures, and carbon dioxide levels could usher in a wide array of human health effects, CDC warns– from asthma to Chikungunya to mental illness. Will countries begin to make progress in curbing carbon emissions after the Paris climate accord of 2015 or will the commitments made there fall by the wayside?

The Millennium development goals (MDGs), which have led to massive worldwide improvements in health and well-being over just 25 years. Now global leaders are working towards the Sustainable Development Goals (SDGs) These new goals could unite countries on the path toward one of the international community’s most ambitious goals: universal health coverage. To achieve it, we’ll need a greater focus on the global health workforce than the world has ever seen. We as public health professionals need to address some of these issues and influence our policy makers to act.

This conference will have several plenary speakers who will provide the latest information in their field of expertise and I sincerely hope that you will learn from the conference and develop a good network to help you in your discussions and exchange of ideas in the future. Finally, I wish to thank all the plenary speakers, speakers, chairmen of the sessions and the organising committee for all the hard work in organising the conference.

Thank you

Prof Dr. Hematram Yadav
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ORAL PRESENTATIONS

A1

[01]

**COST EFFECTIVENESS ANALYSIS OF THIAMINE SUPPLEMENTATION
AMONG PREGNANT AND POST PARTUM WOMEN TO PREVENT INFANTILE
BERIBERI DEATHS**

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ABSTRACT

Thiamine deficiency in Northeast India is prevalent, with daily average intake lower than the national average of 1.15mg. Lack of available and affordable confirmatory tests contributes to preventable infant mortality. To generate policy relevant evidence, we evaluated the cost-effectiveness of a thiamine supplementation program among pregnant and postpartum women to prevent infantile beriberi deaths. We conducted a systematic review to assess the efficacy of thiamine supplementation and included expert interviews to document experiences of managing thiamine deficiency. A decision-tree was built to model the costs and outcomes resulting from implementing a 12 month thiamine supplementation program in pregnant and postpartum women in Northeast India. The primary outcome measure was life years gained based on average life expectancy at birth and prevented infant mortality due to beriberi, estimating the incremental cost per life year gained. The systematic review revealed a dearth of published evidence regarding thiamine prevalence and cost effectiveness of addressing thiamine deficiency in this population. Expert interviews revealed that infantile beriberi resulted in close to certain mortality due to lack of early detection and treatment, and preliminary trial data of antenatal and postpartum thiamine supplementation demonstrated 100% efficacy in preventing neonatal and infantile beriberi. The cost effectiveness model indicated that a routine of 6 months antenatal and 6 months postnatal thiamine supplementation via one multivitamin per day containing 10 milligrams of thiamine is likely to be highly cost effective with an ICER of INR 2386 (USD 28.79) per life year saved at a WTP threshold of INR 1,72,000 (USD 2075.17) (1 x GDP); This demonstrates that a supplementation program among pregnant and postpartum women is likely cost-effective to prevent mortality due to infantile beri beri.

Keywords: thiamine supplementation, pregnant and post-partum women, cost effectiveness analysis, Northeast India

A2

[02]

**MEDICAL NUTRITION THERAPY IN MALNOURISHED PREGNANT WOMAN
WITH PLACENTA PREVIA: A CASE REPORT**

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ABSTRACT

Malnutrition is a global health issue, significantly impacting pregnant women due to their increased nutritional demands. Chronic Energy Deficiency (CED) among pregnant women in Indonesia poses severe health risks, including anemia, low birth weight, and increased maternal mortality. Placenta previa and accreta spectrum disorders exacerbate these risks, leading to life-threatening obstetric hemorrhage. We report a 29-year-old woman, at 26 weeks gestation, presented with abdominal pain and vaginal bleeding. Diagnosed with placenta previa and suspected placenta accreta, she was also suffering from severe protein-energy malnutrition, with a 4.4% weight loss over five months due to decreased appetite, nausea, and vomiting. Initial assessments revealed normocytic normochromic anemia, immune system depletion, hypoalbuminemia, middle upper arm circumference 19cm and muscle wasting. A nutritional intervention was initiated, starting with 2100 kcal/day with protein 1.5g/kgbw/day and gradually increased based on tolerance and clinical response. Her nutritional status improved significantly, evidenced by increased hemoglobin and albumin levels. She underwent a successful cesarean section and was discharged in stable condition after 12 days of integrated care. Effective nutritional interventions in managing pregnant women with severe malnutrition and complex obstetric conditions can improve both maternal and fetal outcomes, highlighting the need for continuous monitoring and individualized nutritional support to prevent complications and enhance health outcomes in high-risk pregnancies.

Keywords: malnutrition, pregnancy, nutrition therapy, placenta previa

A3

[03]

**TOWARDS AI-DRIVEN ULTRASOUND: OVERCOMING CHALLENGES IN
BLIND SWEEP ULTRASOUND DATA COLLECTION THROUGH
RETROSPECTIVE LABELING**

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ABSTRACT

Blind sweep ultrasound offers a solution to address healthcare disparities in low-resource settings by enhancing access to prenatal care and early complication detection. Unlike a traditional ultrasound, which requires extensive operator training, blind sweep ultrasounds leverage a pre-defined probe movement protocol that can be taught in a matter of days, and can be used to identify potential abnormalities. The accurate interpretation of blind sweep ultrasound scans using deep neural networks relies on large, high-quality training datasets. However, collecting such data is often time-consuming and challenging to integrate into traditional obstetric imaging workflows. For these reasons, in the initial phase of our blind sweep model evaluation study, only 29% of participants were able to be scheduled for a traditional ultrasound exam the same day; two nurses with no prior ultrasound training collected blind sweep scans for 1,000 participants at three clinics in a large urban hospital system. To remedy this, we introduce a novel approach to develop training data and describe learnings from explorations of such approaches using a subset of ultrasound images that were retrospectively labeled by three clinicians (2 Obstetrician Gynecologists and 1 Obstetric Anesthesiologist) to assess fetal presentation. High inter-rater agreement (88%), with an average of 90.1% (std +/- 6.6) pairwise agreement demonstrates the feasibility of retrospective labeling. Retrospective labeling, while addressing data limitations, introduces the challenge of potential labeling bias. The scalability of this approach depends on factors such as data availability, labeling resources, and task difficulty. With careful implementation, retrospective labeling could enhance the utility of existing datasets and facilitate the development of AI solutions to improve prenatal care, particularly in underserved areas with limited access to trained sonographers.

Keywords: maternal health, artificial intelligence, blind sweep ultrasound, data collection

A4

[04]

A CROSS SECTIONAL STUDY TO IDENTIFY THE BARRIERS FOR BREAST, ORAL AND CERVIX CANCER AND FURTHER DIAGNOSIS & TREATMENT AMONGST THE UNDERPRIVILEGED SECTION IN DELHI-NCR REGION

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ABSTRACT

According to PBCR (Population Based Cancer Registry) 2012-2014, Breast cancer is the commonest cancer in women and accounts for 28.6% of all cancers in women in Delhi. Among the highest numbers of cancer cases recorded from Indian states, Delhi reported 27.3% of cancer prevalence. Most of the people belonging to the underprivileged section are struggling for the livelihood and cannot afford the basic diagnosis and treatment. These people are unaware of the need for screening and early detection of cancer. Even after screening, people are reluctant to undergo further diagnosis and treatment. Hence, the need of this study is to identify barriers and address them to improve their health-seeking behaviour. A cross-sectional community-based study in which 2657 people were screened for oral, breast and cervix cancer in underprivileged areas of Delhi NCR region. Free cancer screening and early detection camps were conducted where beneficiaries were provided with oral visual examination, clinical breast examination, PAP smear and mammography facilities. The follow-up of suspected cases was undertaken to identify barriers for not undergoing further diagnosis or treatment as advised by the doctor. The study reveals that the most significant barriers for health-seeking behaviour are unwillingness and unsupportive family, which can be a result of unawareness or stigma about cancer. The study found that the suspected cases were unwilling to undergo further diagnosis and treatment even after being provided with free further diagnostics. There is a need to enhance the knowledge and awareness in the community. The Government needs to make people aware about the health schemes e.g., Ayushman Bharat, hence people can avail benefits to seek healthcare facilities.

Keywords: Cancer screening, suspected cases, cancer treatment, barriers

A5

[05]

**TO EVALUATE THE EFFICACY OF SQUATTING POSITION ON THE
DURATION OF LABOR AND MATERNAL SATISFACTION WITH REGARDS TO
BIRTH OUTCOMES AMONG PRIMI GRAVIDA MOTHERS**

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ABSTRACT

Encouraging movement and alternative positions, such as squatting, could potentially enhance labor outcomes and maternal satisfaction. The study aimed to assess the impact of adopting a squatting position during the first stage of labor among primigravida mothers compared to routine care. It sought to evaluate the duration of labor, birth outcomes, and maternal satisfaction with the birthing process. A mixed-method approach was employed. A sample of 500 primigravida mothers in the first stage of labor was selected using non-probability convenient sampling. Tools included structured questionnaires to gather socio-demographic and obstetrical variables, WHO Partograph for labor duration assessment and OPAC for birth outcome evaluation. Statistical analysis involved. Qualitative data was collected through in-depth interviews with a subset of participants who expressed willingness. Open-ended questionnaires were used to explore maternal feelings and satisfaction. Data analysis followed a content analysis approach, identifying emergent themes related to the experience, effectiveness, challenges, and recommendations regarding squatting during labor. This revealed significant differences between the experimental and control groups. Primigravida mothers who adopted the squatting position experienced shorter durations of the active phase of labor, increased cervical dilation, and reduced labor pains. Birth outcomes were improved among mothers in the experimental group, with higher satisfaction levels reported. However, qualitative analysis highlighted challenges and anxieties associated with squatting, including lack of prior knowledge and initial apprehensions. This demonstrated the effectiveness of squatting in reducing the duration of labor and enhancing birth outcomes. Recommendations, educating expectant mothers about alternative birthing positions, providing support and guidance during labor, and promoting the use of squatting to improve maternal satisfaction and overall birth experiences. Midwives prioritize respectful care, informed, and supported throughout the birthing process.

Keywords: duration of labour, obstetrical parameter assessment chart, alternative birthing positions, RMC, satisfaction with squatting position

A6

[06]

**THE IMPACT OF CHILDBIRTH ASSISTED BY SKILLED BIRTH ATTENDANT
ON MATERNAL AND NEWBORN HEALTH COMPLICATIONS**

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ABSTRACT

In Bangladesh, 65% of women in rural areas receive skilled birth attendant assistance during childbirth, while 82% of women in urban areas have access to skilled birth attendants (BDHS, 2022). The government aims to elevate the proportion of childbirths attended by skilled birth attendants to 90% by the year 2030 (Nishimura et al., 2024). Ensuring delivery by skilled personnel can significantly decrease the likelihood of complications that could lead to maternal and newborn mortality or illness (Campbell & Graham, 2006) thus, reduces the risk of maternal death during childbirth (Exavery et al., 2014). However, previous literature did not find a significant impact of institutional delivery or childbirth by skilled birth attendants on neonatal mortality or quality of care (Shajarizadeh & Grepin, 2022; Nandi et al., 2022). The main objective of the study is to explore the impact of childbirth assisted by skilled birth attendants on maternal and newborn health complications in rural Bangladesh. Employing A Randomized Encouragement Design (RED) as an identification strategy, we conducted an Instrumental Variable (IV) analysis using bivariate bivariate probit model. In this research, IV is encouragement that entailed information on maternal care facilities, including the facility's name, address, phone number, ambulance contact etc. Moreover, we committed to the treatment group to provide the cost of transportation associated with hospital delivery. Out of 504 pregnant women from two subdistricts of Rangpur, 240 women were allocated to the treatment group and 264 to the control group randomly. We have investigated the Complications experienced by mothers i.e. Postpartum hemorrhage/bleeding, perineal tear, high fever, convulsions, low blood pressure, anemia and the Complications experienced by newborns i.e. perinatal asphyxia, umbilical cord prolapses, umbilical infection, and newborn infections e.g. pneumonia, high fever, jaundice within 42 days of childbirth. The findings reveal that childbirth assisted by a skilled birth attendant significantly reduces the likelihood of complexity of mother and newborn health complications

Keywords: childbirth, skilled birth attendant, instrumental variable, bivariate probit, maternal and newborn complication

A7

[07]

LONGITUDINAL INSIGHTS INTO MATERNAL BODY COMPOSITION ACROSS TRIMESTERS OF PREGNANCY

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ABSTRACT

Maternal nutrition as judged by fat and fat-free mass gains is one of the most important determinants of infant birth weight; however, there is absence of a consensus on the impact of specific body composition indicators on infant growth in India. Thus, we aimed to observe trends in body composition of pregnant women through gestation and at birth and to evaluate effect of maternal body composition changes on neonatal morphometry at birth. We analyzed data from 268 pregnant women enrolled in a prospective, observational, longitudinal cohort- MAI cohort. Pregnant women and their infants were measured for their anthropometry and body composition and women were interviewed for socio-demography, diet and physical activity. Pearson's correlation analysis and linear regression was performed to assess relationship of maternal body composition and infant's anthropometry at birth. p value <0.05 was considered statistically significant. Among underweight, normal and overweight/obese BMI mothers, GWG (%) and post-partum weight loss (%) was 27.5±9.2, 21.7±7.8, 16.9±7.5 and -10.1±4.4, -8.7±3.4, -7.3±2.5 respectively. Fat (%) increased during pregnancy and decreased at birth (Underweight: 24.6±4.0 vs. 29.7±4.0 and 26.7±3.9, normal: 32.5±3.8 vs. 37.0±3.7 and 34.3±4.2, overweight/obese: 42.0±4.1 vs. 45.5±4.0 and 44.3±4.6). High sedentary (r=0.405), light activity (r=0.334), and dietary fat (r=0.231) were correlated with fat%. Fat gain among underweight (B: 0.05, 95%CI: 0.005-0.09) and normal BMI (B:0.04, 95%CI: 0.008-0.07) mothers was significant predictor of infant birth weight. Distinct BMI categories exhibited varying trends of fat %. Increase in fat mass especially among underweight and normal BMI women was found to be associated with birth weight of the infant.

Keywords: body composition, fat mass, fat free mass, post-partum loss, pregnancy

A8

[08]

**THE ASSOCIATION BETWEEN IRON FOLIC ACID INTAKE DURING
PREGNANCY AND LOW BIRTH WEIGHT IN ASIA: A SYSTEMATIC
LITERATURE REVIEW**

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ABSTRACT

Low birth weight (LBW) is a key factor in infant mortality. Adhering to the recommended amount of iron folic acid intake of more than 90 or more than 100 tablets can decrease the risk of LBW. Iron is needed in the blood to prevent anemia, while folic acid plays an important role in the formation of one-third of erythrocytes. The research employs a systematic literature review approach, focusing on quantitative studies. This systematic literature review aims to explore the association between iron folic acid (IFA) supplement intake and low birth weight and seeks to examine previous academic papers. The article search is conducted using the PRISMA method, gathering articles from diverse sources such as PubMed, Proquest, Science Direct, Scopus, and Google Scholar published between 2019 and 2024 in Asia that are indexed by Scopus, in the English language, and open access. This process yielded a total of 14 articles that met the specified criteria. The research findings indicated that there is an association between the use of IFA supplements and low birth weight (p-value < 0.05). A finding from a study shows that pregnant women who consume IFA supplements adequately have a 0.8 (95% CI: 0.66–0.97) lower risk of low birth weight newborns compared to pregnant women who do not consume IFA supplements adequately. The findings suggest that taking at least 90 or more than 100 IFA supplements can lower the risk of low birth weight. Government support such as equal distribution of IFA supplements, increased knowledge about the benefits of consuming IFA supplements and family support are important strategies to increase appropriate IFA consumption to prevent anemia in pregnant women and LBW in newborns.

Keywords: iron supplement, consumption, pregnancy, low birth weight

A9

[09]

INCREASING THE UPTAKE OF SKILLED CARE THROUGH TRADITIONAL BIRTH ATTENDANTS IN NIGERIA: A SCOPING REVIEWMohammed H^{1*}, Archibong U² and Itua I³¹*Faculty of Health Studies, University of Bradford, Bradford, UK*²*Center for Equality, Diversity and Inclusion, EDI, University of Bradford, Bradford, UK*³*Faculty of Health Studies, University of Bradford, Bradford, UK***hmohamme@bradford.ac.uk***ABSTRACT**

Maternal mortality is still unacceptably high, particularly in developing countries, where constant advocacy for the use of skilled care practices and resources has been ongoing for centuries. Increasing the accessibility of antenatal care is seen as one key approach to reducing the death of pregnant women across regions that suffer such challenges. Traditional Birth Attendants (TBAs) have been part of the fight against maternal mortality where they formally reside through developed training programs meant to change and cultivate their knowledge and skills into modern medical practices. The aim of this review is to identify gaps relevant to the formal training programs conducted in Nigeria towards understanding ways to further integrate TBAs into the healthcare system. Using a scoping review approach, the literature was searched specifically from several databases including CINAHL, MEDLINE, PubMed, Scopus, Web of Science and Psyche App. Based on Amanda Briggs Protocol guidelines, an active research protocol was generated to assist in the process of paper selection using inclusion and exclusion criteria. A final 17 articles were mapped and reviewed to vigorously identify gaps. Findings were both summarized and analyzed using developed themes. The findings suggest that implemented strategies on formal training are not uniform or generalized. Although guidelines relevant to TBAs training are available, these are not regulated sufficiently. Moreover, methods of assessment post-training period are not equal due to independent agencies having control over training sessions and majority of research conducted used quantitative inquiry to evaluate overall effectiveness of intervention without reviewing TBAs first-hand experiences and opinions on the intervention. Therefore, future recommendations are focused on understanding TBAs perceptions towards sustainability of the training programs and increasing skilled care services.

Keywords: traditional birth attendants (TBAs), Nigeria, training, skilled care

A10

[10]

**COMPLEX INTERPLAY OF PARENTAL INFLUENCES ON LATER LIFE
OBESITY AND GLUCOSE INTOLERANCE IN OFFSPRING BORN IN
PREGNANCIES WITH AND WITHOUT DIABETES**

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ABSTRACT

In Western populations, maternal diabetes is reported to increase the risk of obesity and glucose intolerance in the offspring. There are only a few studies in India where pregnancy diabetes is increasing and diabetes and obesity are rapidly rising among the young. We investigated determinants of body size and composition, and glucose tolerance in offspring born to Indian diabetic mothers (ODM) and to non-diabetic mothers (ONDM). As part of the hospital based case control study [InDiaGDM (Intergenerational programming of Diabetes in offspring of women with Gestational Diabetes Mellitus)], we compared the body size (body mass index, BMI, waist circumference and skinfolds), body composition (dual-energy X-ray absorptiometry, DXA) and glycemia of ODMs and matched ONDMs. Overweight-obesity was defined using WHO SD score $>+1$ SD for 2-18 years and World Health Organization (WHO) criteria for >18 years (BMI > 25 kg/m²). Glycemic measures included capillary blood glucose measurement in children <10 years of age and a 1.75g/kg glucose OGTT in those ≥ 10 years. We studied the association of maternal and paternal body size and glycemia with offspring obesity-adiposity and glucose intolerance. We studied 200 ODMs (2-26 years, 120 male) born in pregnancies with diabetes, and 177 ONDMs at an average of 9.7 years after delivery. ODMs were heavier, more adipose, and more glucose intolerant than ONDMs, differences were more prominent in males. Predicted curves for body size measurements in ODM showed a catch-down in infancy and earlier adiposity-rebound in childhood, compared to the ONDMs. ODMs had a higher prevalence of glucose intolerance compared to ONDMs, both in the younger and the older groups. Multiple linear regression analysis showed that offspring obesity-adiposity was associated with bi-parental overweight-obesity; parental diabetes had no association. Maternal diabetes in pregnancy was the major driver for offspring glucose intolerance with minor contributions from paternal hyperglycemia and no association with parental overweight-obesity. Offspring birthweight was associated with both the outcomes. ODMs were more overweight-obese and glucose intolerant compared to ONDMs. Our findings suggest that these two outcomes in the ODMs are independently programmed by respective parental phenotypes. These results offer insight into possible interventions for prevention. Control of maternal hyperglycemia during pregnancy could prevent neonatal obesity-adiposity and offspring glucose intolerance. Post-natal obesity-adiposity may be prevented by controlling the family environment notwithstanding genetic effects.

Keywords: obesity-adiposity, diabetes in pregnancy, glucose intolerance, offspring, bi-parental overweight-obesity

A11

[11]

**UNDERSTANDING IMMUNIZATION PERSPECTIVES: EXPLORING
MATERNAL KNOWLEDGE, ATTITUDES, PRACTICE AND STAKEHOLDER
PERCEPTIONS ON BARRIERS AND CHALLENGES IN UNITED ARAB
EMIRATES: A MIXED METHODS STUDY**

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ABSTRACT

Vaccination is crucial as it protects individuals and communities from infectious diseases, reducing the spread and potential for outbreaks. As mothers are often the primary caregivers of children, mothers must be well educated from authentic sources about childhood vaccinations. The current study was conducted to investigate the disparities in knowledge, attitude and practice (KAP) regarding immunization among local Emirati mothers and expatriate mothers residing in Ras Al Khaimah and to identify the main barriers and challenges to immunization in UAE as perceived by different stakeholders. A mixed-method study involving Quantitative and Qualitative components was conducted. 207 mothers were interviewed by using consecutive sampling at the PHCs and hospitals using a validated structured questionnaire. 14 stakeholders (mothers, doctors, nurses, and pharmacists) were interviewed using an In-depth interview technique to understand the challenges and barriers to vaccination. In the study, 30 % of the participants were Emiratis. 55 % of children received vaccination from PHCs. No statistical difference in vaccination rates was observed between locals and expats. Significant differences were observed in efficacy, safety scores of the knowledge component, reasons, and hesitancy scores of the attitude component between locals and expats. Around 25 % of mothers reported delays in receiving one or more vaccines. Themes generated after qualitative data analysis were beliefs and misconceptions, cultural and societal influences, systemic issues and challenges, healthcare system related issues and recommendations for improvement.

Keywords: Immunization, KAP, mixed methods study, vaccination

B1

[12]

THE DRIVERS FOR MENTAL HEALTH SERVICE UTILISATION AMONG HEALTHCARE WORKERS IN DISTRICT HEALTH OFFICES

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ABSTRACT

Healthcare workers (HCWs) in district health offices face various psychosocial risks at workplace that can impact their mental health. However, little is known about mental health service utilisation (MHSU) among them. This study aimed to determine the prevalence and predictors of MHSU among HCWs in Negeri Sembilan's District Health Offices, using the Anderson Behavioural Model of Health Service Use. A cross-sectional study was conducted among 352 eligible respondents, recruited through proportionate stratified random sampling based on job category. Data were collected using a validated self-administered questionnaire from December 2022 to April 2023 and analysed using Multiple Logistic Regression in SPSS version 26. The response rate was 83.5%. The 12-month prevalence of MHSU was 45.6%. Among those who used mental health services, the majority used them for screening purposes (96.3%), primarily accessed through health clinics (85.1%), and involved interaction with paramedics (44.0%) and medical officers (38.8%). Significant predictors for MHSU include lower household income (aOR=3.426, 95% CI: 1.588, 7.393, p-value=0.002) and middle household income (aOR=3.781, 95% CI: 1.916, 7.460, p-value<0.001), low supervisor support (aOR=2.302, 95% CI: 1.206, 4.392, p-value=0.011), received mental health training (aOR=2.058, 95% CI: 1.221, 3.469, p-value=0.007) and high co-worker support (aOR=1.701, 95% CI: 1.034, 2.798, p-value=0.036). This study highlights that nearly half of respondents utilised mental health services. Factors driving MHSU included lower and middle household income, low supervisor support, received mental health training and high co-worker support. To sustain high MHSU, it is essential to implement regular mental health training, targeting those in middle and lower household income and robust co-worker support systems.

Keywords: mental health service utilisation (MHSU), healthcare workers (HCWs), district health offices (DHOs)

B2

[13]

**EFFICIENT CONVERSION OF ORGANIC KITCHEN WASTE INTO LIQUID ORGANIC
FERTILIZER THROUGH SIMPLE COMPOSTING METHODS**

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ABSTRACT

The improper handling of kitchen organic waste can lead to significant disturbances, resulting in waste accumulation, foul odors, and various environmental and health issues. This study aimed to convert kitchen organic waste into liquid organic fertilizer (LOF) through simple composting methods. Objectives included ensuring compliance with green hospital standards, effectively managing organic waste to reduce odor complaints, preventing health risks, replacing chemical fertilizers, and reducing waste volume. The research followed a quasi-experimental design, with the population comprising all organic waste generated by the hospital's food service. Three treatments (20 cc activator, 30 cc activator, and 40 cc activator) and one control (10 cc activator) were used. Data collection occurred at Hermina Hospital Wonogiri from November 2023 to January 2024. Researchers conducted daily observations on four variables: pH (measured with a pH meter), humidity (measured with a hygrometer), temperature (measured with a thermometer), and odor (measured with a questionnaire). Results showed that a 20 cc activator dose was most effective in converting waste into LOF within 15 days, achieving the desired pH, humidity, temperature, and odor standards compared to other treatments. This treatment was also optimal in terms of the quality and quantity of LOF produced and was more cost-effective than the other treatments. Additionally, LOF utilization reduced odor complaints, decreased waste volume by 10% (8 kg), and potentially replaced chemical fertilizers, offering economic benefits. Suggestions for future research include LOF quality testing for commercialization and exploring solid composting for economic value. This study contributes to green hospital initiatives and efficient organic waste management in healthcare facilities.

Keywords: organic liquid fertilizer, kitchen waste, composting

B3

[14]

AREAS REQUIRING SPECIAL ATTENTION DURING ONSITE DISASTER RELIEF: PERSPECTIVES OF EMERGENCY MEDICAL TEAM MEMBERS

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ABSTRACT

To ensure the smooth operation of onsite disaster relief, emergency medical team (EMT) members are required to recognize matters that pose risks either to the team, collaborative workers, and the affected population. Experienced EMT members are in the optimal position to identify focused areas and provide practical recommendations on precautionary measures to minimize the occurrence of adverse events during onsite disaster relief. This study aimed to identify focused areas and effective precautionary measures that could be taken during onsite disaster relief from the perspectives of EMT members. Twenty-nine EMT members from three national EMTs from Sichuan province, China were invited to describe matters requiring special attention. Subjects had an average of nine years of clinical experience and had been to multiple local, national and international relief operations. Interview data were audio-recorded and transcribed verbatim. Content analysis was performed by two researchers independently. Six focused areas were identified from the data: (1) Putting safety first: EMT members unanimously stressed the importance of putting safety first; (2) Make the most of everything: including medical supplies, daily necessities, and tools for transfer should be properly allocated and managed; (3) Make the best of human resources: each team member should take up multi-tasks flexibly and strive to reach their fullest potential; (4) Situational awareness: continuous and dynamic assessment of the disaster situation and its impact, and recognizing potential hazards; (5) Humanistic concern: satisfying personal needs and providing psychological first aid if needed; (6) Be prepared for the unexpected: both physically and psychologically, including communicating risks and having backup plans. Based on the risk areas requiring special attention, EMTs can formulate safety checklists to enhance adherence and best practices.

Keywords: emergency medical team (EMT), disaster relief, precautionary measures

B4

[15]

VALIDITY AND RELIABILITY STUDY OF THE FATIGUE RISK ASSESSMENT AND MANAGEMENT IN HIGH-RISK ENVIRONMENTS (FRAME) SURVEY AT NICKEL MINING PROJECTS IN INDONESIA

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ABSTRACT

Worker fatigue significantly influences performance, safety, and productivity in high-risk industry sectors. In 2019, Shortz et al. developed the Fatigue Risk Assessment and Management in High-risk Environments (FRAME) survey, designed to provide a thorough, dependable, and relevant subjective assessment of fatigue among oil and gas industry workers. Similar issues of weariness in mining construction projects have also been linked to severe and fatal accidents. Subjective questionnaires are frequently selected as tools for evaluating fatigue. However, these instruments are still considered unsuitable for use in the mining sector, which is also considered a high-risk work environment. This study evaluates the validity and reliability of the FRAME Survey translated into Bahasa, as the original version was untested in the mining context and in comparison, with other fatigue assessment tools. The adaptation process involved translating the 26-item questionnaire from English to Bahasa, followed by extensive validation steps, including Pearson correlation tests with data from Indonesian mining workers at the research site. Additional data were gathered from questionnaire responses and reaction time assessments using the Lakassidaya L-77 instrument, and then a suitability study was conducted using bivariate correlation tests. Results from translation adaptations, an expert panel, cognitive debriefing, reliability testing, and validity assessments using Pearson bivariate correlation with samples from at least 130 respondents indicate the tool's effectiveness. Correlation coefficient values (ρ) and Cronbach's alpha demonstrate the survey's reliability and validity. Conformity tests, through bivariate correlation, reveal a significance levels and correlation strength when compared to fatigue measurements based on reaction time with the L-77 instrument. The successful validation of the Bahasa version of the FRAME questionnaire highlights its potential to enhance safety, health, and productivity in the mining industry by integrating it into routine safety management systems.

Keywords: FRAME questionnaire, Lakassidaya-77, Mine-workers, Validity & Reliability Test, Work-Fatigue

B5

[16]

**OCCUPATIONAL RISK FACTORS FOR CORONARY ARTERY DISEASE IN
ENERGY INDUSTRY WORKERS: A SYSTEMATIC REVIEW REVEALING
CRITICAL RESEARCH GAPS**

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ABSTRACT

Workers in the energy industry are exposed to a range of occupational hazards, including heat, shift work, noise, ergonomic stress, and chemical exposures, which are all associated with an increased risk of coronary artery disease (CAD). Despite these recognized risks, comprehensive evaluations within this sector have remained limited. This study systematically reviewed 784 records to assess the association between these occupational risk factors and the incidence of CAD among energy industry workers, aiming to identify critical research gaps. Using PRISMA guidelines, the review included cohort, case-control, and cross-sectional studies, ultimately narrowing to 21 studies that met the inclusion criteria. The analysis revealed that heat exposure led to a 1.8-fold increase in the risk of heat-related illness, while noise exposure correlated with a 43.2% prevalence of hypertension and significant associations with CAD compared to non-exposed workers. Chemical exposures, particularly to volatile hydrocarbons, showed hazard ratios (HR) for CAD ranging from 1.14 to 1.81, depending on the level of exposure. However, the review identified significant research gaps, particularly regarding PM_{2.5} exposure, job strain, and rotational work, as these factors are understudied. The findings highlight the urgent need for targeted interventions and enhanced regulatory measures to mitigate CAD risk among energy workers. Addressing these gaps through further research and comprehensive policies may lead to substantial improvements in worker health outcomes.

Keywords: coronary artery disease, energy workers, occupational risk factor

B6

[17]

**FATIGUE ASSESSMENT AND INTEGRATIVE RISK MANAGEMENT IN THE
MINING INDUSTRY: A SYSTEMATIC REVIEW FOLLOWING PRISMA
GUIDELINES**

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ABSTRACT

There is a growing concern in the mining industry regarding risk assessment and management, not only from a human factor perspective but also from strategic and operational dimensions such as occupational safety and sustainability. Specifically, fatigue has emerged as a significant health risk in the Indonesian mining sector, exacerbated by demanding shift patterns and roster schedules. This comprehensive systematic review aims to integrate these risks' analysis, assessment, and management, employing a system framework and adhering to Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. A multifaceted literature search utilizing databases like PubMed, Scopus, WoS, Google Scholar, and others, including grey literature. The initial broad search is expected to refine the most pertinent studies through stringent inclusion and exclusion criteria, targeting only English publications from the last six years (2019 - 2024). The review categorizes the selected papers to identify prevailing research gaps, particularly in the practical implementation of fatigue risk management strategies in the mining industry. This endeavor will focus on work schedules, sleep management, organizational culture, employee health, and integrative risk management, aiming to delineate the relationship between non-standard work schedules and increased fatigue risks. By spotlighting these occupational factors, the study seeks to foster a detailed understanding of fatigue risks, which is crucial for crafting effective management strategies and policies tailored to the unique conditions of the sector. Collaborative efforts from industry stakeholders, academic researchers, and policymakers will address this multilevel risk, enhance worker safety, and improve overall productivity. The outcomes of this review are anticipated to offer valuable insights for future inquiries into fatigue risk management in the mining industry and across other high-risk industries.

Keywords: fatigue assessment, integrative risk management, mining industry, PRISMA, Systematic literature review, work fatigue

B7

[18]

**COUGH, ITCHY SKIN AND SNEEZE; A CASE OF WORK-EXACERBATED
ASTHMA**

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ABSTRACT

A case of a scientific officer in a government healthcare centre experienced worsening cough, respiratory and dermatological symptoms exacerbated by specific environments leading to poor work productivity and leave absence. The complexity arises from worker's underlying bronchial asthma with good Asthma Control Test (ACT) scores, history of COVID-19 infection and bromide-induced asthma at previous workplace. Workplace assessments revealed whitish mold growth at multiple surfaces; perceived stuffy odour; along with increased indoor air humidity levels in her workstation and other three problem areas, all likely contributing to her symptoms and those of her colleagues. A limited indoor air quality assessment was conducted using TSI Quest Environmental Device 7 (EVM7) and a self-reported online questionnaire was distributed to personnels in the area. The results of the questionnaire were compared to an initial survey done a year before. The patient's serial PEFr record, and chest X-ray were reviewed in follow-up clinics. Case was diagnosed as work-exacerbated asthma and rhinitis and then referred as well for lung function test. She was advised for proper N95 mask and workstation relocation to a safer area. Challenges include accurate diagnosis in workers with underlying asthma and cold-induced rhinitis, effective case management, and addressing workplace hazards within the restrictions of a consignment-based hospital. Recommendations include targeted medical evaluation and multi-prong strategy for workplace improvement and future considerations for specific inhalation challenge (SIC) for the worker. This case also underscores the importance of integrating environmental health and occupational medicine practices to identify and mitigate workplace health risks effectively.

Keywords: occupational asthma, environmental factors, mold, indoor air quality, healthcare centre

B8

[19]

REDUCTION OF NEEDLE STICK INJURIES IN HEALTHCARE WORKERS IN A TERTIARY CARE ONCOLOGY HOSPITAL IN INDIA

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ABSTRACT

Needle stick injuries (NSI) are serious occupational hazard among healthcare workers. Injuries with contaminated needle are an important concern posing risk of transmission of blood-borne viruses. In Tata Medical Center, the average number of NSI varied between 5-6 cases per month, with an increasing trend. This study aimed to identify root causes of these injuries and develop high impact strategies targeting reduction of incidence. The study intended to identify key drivers leading to injury & devise targeted interventions to reduce number of incidents. 253 incidents obtained from staff health database were analysed using descriptive statistics. Detailed process mapping and root cause analysis identified potential failure modes leading to NSI. Semi-structured interviews were conducted on random sample of staff and analyzed for themes on root causes. It was evident that needle stick injury sustained by nurses were highest, (53%), followed by clinicians, (19%). Major NSI occurred during procedures like suturing, cannulation, (35%), during recapping (11%), process of discarding sharps (10%), process of administering drugs (8%), handling waste (8%), drawing blood (7%). Major root causes identified were behavioural factors related to anxiety, attentiveness; ignorance about risks of recapping, protocol deviation, environmental factors as distance of sharp bin and unuse of safety device. Interventions identified as having high feasibility and impact were piloted and implemented to reduce the incidents through re-strengthening of training, environmental modifications such as providing bed-side sharp bins, safety device like closed system cannula and behavioral modifications in terms of safety culture leadership, nomination of champions to observe & modify practice, display of safe handling poster. The interventions were tracked for sustainance over three months and cases of NSI reduced from average 5 to 3 per month. Complex interplay of factors lead to NSI in healthcare workers, thorough understanding of these factors and targeted interventions are crucial to sustain improvement.

B9

[20]

HAS SIKA TRAINING BEEN EFFECTIVE IN IMPROVING UNDERSTANDING OF WORK SAFETY?

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ABSTRACT

One approach that can be applied to reduce the number of accidents is through safe work permit system (SIKA) training. This research adopts an intervention method by providing training designed to evaluate the effectiveness of training in improving participants' understanding of work safety. It is expected that the effectiveness of SIKA training can improve participants' experience to positively contribute to minimizing the risk of accidents in the workplace. A quantitative approach was used to conduct a statistical analysis of the data collected involving 237 participants divided into 11 training batches. The statistical test used for this research is *the Paired T-test*. Safe work permit system training has a significant impact on increasing understanding of work safety. The pre-test average value of 45.3 increased after the training to 65.3. The percentage of respondents who had an understanding level above 60% before training was only 17.3%, and after training, it increased significantly to 62.4%. The majority of respondents, 52.7%, experienced an increase in understanding in the 0-50% range. The effectiveness of SIKA training can be seen in two ways, namely monitoring and evaluation of the application of SIKA as a whole and individual evaluation. Monitoring and evaluation at PT X is carried out in general on the implementation of SIKA through inspections, weekly audits monthly reviews, and Annual Audits. Monitoring and evaluation of individual trainees has not been carried out and needs to be noted.

Keywords: SIKA, safety, accident, understanding, prevention

B10

[21]

VALIDITY AND RELIABILITY STUDY OF THE FATIGUE RISK ASSESSMENT AND MANAGEMENT IN HIGH-RISK ENVIRONMENTS (FRAME) SURVEY AT NICKEL MINING PROJECTS IN INDONESIA

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ABSTRACT

Worker fatigue significantly influences performance, safety, and productivity in high-risk industry sectors. In 2019, Shortz et al. developed the Fatigue Risk Assessment and Management in High-risk Environments (FRAME) survey, designed to provide a thorough, dependable, and relevant subjective assessment of fatigue among oil and gas industry workers. Similar issues of weariness in mining construction projects have also been linked to severe and fatal accidents. Subjective questionnaires are frequently selected as tools for evaluating fatigue. However, these instruments are still considered unsuitable for use in the mining sector, which is also considered a high-risk work environment. This study evaluates the validity and reliability of the FRAME Survey translated into Bahasa, as the original version was untested in the mining context and in comparison, with other fatigue assessment tools. The adaptation process involved translating the 26-item questionnaire from English to Bahasa, followed by extensive validation steps, including Pearson correlation tests with data from Indonesian mining workers at the research site. Additional data were gathered from questionnaire responses and reaction time assessments using the Lakassidaya L-77 instrument, and then a suitability study was conducted using bivariate correlation tests. Results from translation adaptations, an expert panel, cognitive debriefing, reliability testing, and validity assessments using Pearson bivariate correlation with samples from at least 130 respondents indicate the tool's effectiveness. Correlation coefficient values (ρ) and Cronbach's alpha demonstrate the survey's reliability and validity. Conformity tests, through bivariate correlation, reveal a significance levels and correlation strength when compared to fatigue measurements based on reaction time with the L-77 instrument. The successful validation of the Bahasa version of the FRAME questionnaire highlights its potential to enhance safety, health, and productivity in the mining industry by integrating it into routine safety management systems.

Keywords: FRAME questionnaire, Lakassidaya-77, Mine-workers, validity & reliability test, work-fatigue

C1

[22]

**SECTOR-INTEGRATED APPROACH FOR ZOOONOTIC DISEASE CONTROL: A
HOLISTIC FRAMEWORK ENHANCED BY COLLABORATIVE TRAINING
PROGRAMS**

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ABSTRACT

Zoonotic diseases represent a complex intersection of human and animal health, demanding multifaceted strategies for effective control. This abstract introduces a sector-integrated approach to combatting zoonoses, bolstered by collaborative training initiatives led by the National Centre for Disease Control (NCDC) and the Centers for Disease Control and Prevention (CDC), in partnership with Gujarat, India. The inaugural phase of the Field Epidemiology Programs for One Health was initiated in Gujarat, marking the first such endeavor in India. This innovative program engaged key stakeholders from various sectors including Health, Veterinary, Water, Wildlife, and Agriculture. Over a period of nine days per session, participants underwent comprehensive training emphasizing teamwork and presentation skills, focusing on analyzing and addressing zoonotic outbreak data within their respective districts or corporation areas. Upon successful completion, participants were granted certification, enhancing their ability to respond promptly to zoonotic outbreaks. Presently, training has been successfully conducted in 17 out of Gujarat's 41 districts, with the remainder scheduled for completion within the next three months. This collaborative initiative has led to the establishment of rapid response teams equipped to handle zoonotic outbreaks efficiently. Furthermore, these teams are poised to carry out routine surveillance activities, contributing to proactive disease management efforts. By integrating expertise from diverse sectors and promoting a culture of shared responsibility, this approach exemplifies a holistic framework adaptable to the myriad challenges posed by zoonotic diseases. The success of this pilot program in Gujarat serves as a catalyst for its nationwide expansion. With the backing of governmental and non-governmental stakeholders, this initiative aims to be implemented across India, reinforcing the nation's defenses against zoonotic diseases and safeguarding the health and well-being of its populace.

Keywords: zoonotic diseases, sector-integrated approach, collaborative training programs, One Health, Gujarat, India

C2

[23]

EXPLORING THE IMPACT OF AI VOICE CHARACTERISTICS ON ADOLESCENT SEXUAL AND REPRODUCTIVE HEALTH COMMUNICATION

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ABSTRACT

Improving sexual and reproductive health (SRH) among adolescents is a crucial global health priority that significantly affects the lives of teenagers and their parents. The effective conveyance of SRH information to this demographic is critical. This research focuses on evaluating the best use of artificial intelligence (AI) voice tools, which are increasingly utilized in health information dissemination. The objective is to identify preferred voice traits and understand factors that shape perceived reliability and preference. This cross-sectional study examined AI voice preferences and trust perceptions within two learning modules (general and SRH communication) among teenagers (11-18) and their parents/guardians in Northern California. Study participants were asked to evaluate eight AI voices across the two modules, rating four aspects, including intelligibility, naturalness, prosody, and social impression. They were also asked to choose their preferred voice for each module. The study included data from 104 participants (63 teenagers and 41 adult guardians), with an average age of 14.9 for teenagers (54% male) and 41.9 for parents/guardians (12% male). The study found that mature female voices were the most favored. Beyond mere preferences, the research delved into factors that shaped perceived reliability. These four aspects accounted for 54 to 68% of the variance. Naturalness and social impression were the most significant contributors to trustworthiness and auditory appeal in both modules, with intelligibility also a crucial factor in the general communication module. By ensuring that AI voices align with the preferences of both teens and their parents, we can enhance engagement and trust, ultimately leading to improved SRH and decision-making.

Keywords: sexual health communication, adolescent, artificial intelligence, trust, naturalness, social impression

C3

[24]

GERMIS (GUJARAT EPIDEMIC RESPONSE MANAGEMENT INFORMATION SYSTEM): REVOLUTIONIZING PANDEMIC RESOURCE MANAGEMENT IN GUJARAT

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ABSTRACT

Background: The COVID-19 pandemic exposed critical challenges in healthcare resource management, prompting the Government of Gujarat to develop GERMIS (Gujarat Epidemic Response Management Information System). This collaborative effort aimed to streamline resource allocation by providing real-time monitoring and analysis of bed availability, RTPCR testing, oxygen supply, and ambulance services. **Method:** GERMIS, developed by the Department of Health and Family Welfare, Department of Science and Technology, and Directorate of ICT & e-Governance, integrates data from over 4500 government and private hospitals across 33 districts and 8 corporations in Gujarat. Hospitals update bed availability daily, allowing citizens to access real-time information through the GERMIS mobile application. Additionally, GERMIS informs citizens about testing facilities, including public and private options, and offers insights into government health initiatives such as Dhanvantari Rath and contact tracing. The system also provides up-to-date information on active cases, recoveries, laboratory tests, and health resources like oxygen supply and vaccination. **Results:** The implementation of GERMIS has significantly enhanced pandemic resource management in Gujarat. With access to comprehensive healthcare data, citizens can make informed decisions about healthcare utilization. The system's real-time updates ensure timely allocation of resources, contributing to improved transparency and trust in the healthcare system. **Conclusions:** GERMIS represents a milestone in pandemic response and resource management. By providing a unified platform for real-time monitoring, the system empowers citizens to navigate healthcare services effectively. The widespread adoption of GERMIS across Gujarat demonstrates its efficacy and sets a precedent for other regions facing similar challenges. Looking ahead, GERMIS offers a scalable solution for enhancing healthcare delivery beyond the COVID-19 pandemic, with implications for future emergency response systems.

Keywords: GERMIS, pandemic resource management, real-time monitoring, decision-making, Gujarat, COVID-19

C4

[25]

EFFECT OF FLOOD DISASTER EDUCATION ON PERCEIVED THREAT AND EFFICACY AMONG ADOLESCENT IN SELANGOR, MALAYSIA: CLUSTER-RANDOMIZED CONTROLLED STUDY

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ABSTRACT

Effective disaster education for adolescents, one of vulnerable group, can avert flood disasters and reduce their severity through risk communication. This study aimed at evaluating the impact of designated disaster education based the Extended Parallel Pathway Model, a communicative psychological theory on perceived threat and efficacy among adolescents, using a two-parallel arm, single-blind cluster-randomized controlled trial conducted at eight selected secondary school in Selangor, Malaysia. The intervention group received in-person flood disaster education once, while the control group placed on a waitlist. The study, targeting Malaysian adolescents aged 13 to 15, employed a designated 'flood disaster education module' and the modified Risk Behavioral Diagnosis (RBD) scale to assess outcomes at three different timelines. A total of 287 participants recruited, with 140 in the intervention group and 147 in the control group. The effect of intervention analyzed using the Generalized Estimation Equation after controlling the significance covariates at baseline. The intervention group demonstrated a statistically significant increase in perceived efficacy post-study ($\square = 0.6$, 95% CI= 0.36,0.83, p-value=0.001) and sustained effect at three months ($\square = 0.75$, 95% CI= 0.51,0.99, p-value <0.001) as compared with control group. However, there was not statistically significant increased in perceived threat scores in the intervention group post immediate study ($\square = 0.11$, 95% CI= -0.08,0.31, p-value=0.256) and decrease at three months ($\square = -0.1$, 95% CI= -0.31,0.1, p-value =0.32) compared to the control group. However, it unable to significantly predict the danger control behaviour based on the RBD scales post immediates study ($\square = 1.27$, 95% CI= 0.70,2.3, p-value =0.4) and at three months ($\square = 1.2$, 95% CI=0.33,0.7, p-value =0.57) in intervention group as compared to control group. Emphasizing efficacy messaging in disaster education can be a useful strategy for promoting proactive action and risk communication tools for adolescents. Designing effective risk communications that address perceived threat and efficacy and demographic-specific can help stakeholders improve communication and reduce disaster risk and severity.

Keywords: perceived threat, perceived efficacy, disaster education, risk communication

C5

[26]

STANDARDIZATION OF SAMPLE SELECTION PROCEDURE FOR DISTRICT LEVEL VACCINATION COVERAGE SURVEYS IN INDIA THROUGH A WEB-BASED APPLICATION

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ABSTRACT

Vaccination coverage surveys are essential for evaluating immunization program effectiveness. District medical officials often face difficulties with sampling strategy design due to limited statistical expertise, complex online sampling tools and incompletely updated sampling frame, leading to inconsistent sampling methods and unreliable estimates. We aim to address these challenges through an application designed to streamline the process of sampling, ensuring standardized and efficient surveys. Our objective was to establish a standard sampling strategy, develop a sampling frame and develop a user-friendly web-based application for calculation of sample size and selection of Primary Sampling Units (PSUs). We based our sampling strategy on the WHO's Vaccination Coverage Cluster Surveys Methodology, incorporating factors like expected threshold, desired precision, design effect, and non-response rate. Using data from Polio micro-plans of Supplementary Immunization Activities (SIAs) in India, we constructed the sampling frame, with each daily-visited area by immunization teams designated as a PSU. PSUs were selected using the Probability Proportional to Size (PPS) Sampling Method. Bootstrap-4 and JQuery were utilized for front-end and Codeigniter for back-end development of the application. The application, hosted on a local WHO server in India, accurately calculates desired sample sizes and selects PSUs. It generates an Excel file listing selected PSUs with unique IDs, PSU locations, and the number of households to survey, aiding in survey implementation. Informative i-buttons clarify statistical terms for users. Standardization of sampling strategy allows for more accurate and reliable survey data, which is a significant advancement in India's vaccination coverage assessments and presents a model for global public health monitoring system enhancement. The application addresses challenges faced by district officials in sampling strategy design, ensuring consistency and efficiency in survey methodologies.

Keywords: vaccination coverage surveys, sampling, web-based application

C6

[27]

FUTURE OF HEALTHCARE: IMPLEMENTATION OF UNIVERSAL HEALTH CARE

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ABSTRACT

The push for universal health care (UHC) is crucial for creating fairer health systems, improving quality of life, and fostering sustainable development, especially in the Global South. This abstract delves into the progress made, the hurdles faced, and the opportunities that lie ahead in the journey toward better health outcomes in these regions. Universal health care aims to ensure that everyone receives the health services they need without being burdened by costs. It encompasses a wide range of services, from preventive measures and treatments to rehabilitation and palliative care. UHC is key to achieving the Sustainable Development Goals (SDGs), particularly those related to health, ending poverty, and reducing inequality. In the Global South, significant improvements have been made in access to health care and overall health outcomes. Countries are adopting creative approaches, such as innovative health financing, better infrastructure, and strengthening their health workforces. Initiatives like community health worker programs, national health insurance schemes, and mobile health technologies are reaching even the most remote areas, making health care more accessible and effective. However, despite these strides, significant gaps remain. Many rural and marginalized communities still struggle to access the health care they need due to geographical, financial, and social barriers. Addressing these issues requires targeted strategies to make health services available, affordable, and suitable for everyone. This involves reducing out-of-pocket expenses, boosting health literacy, and reinforcing primary health care systems to ensure equity. Achieving UHC is also closely tied to broader sustainable development goals. Healthier populations contribute to stronger economies, reduced poverty, and more stable societies. Investments in health care not only improve individual health but also enhance national productivity and resilience. Integrating UHC into national development plans and securing adequate funding for health systems are essential steps toward these goals. Implementing UHC in the Global South comes with challenges, including a lack of financial resources, insufficient health infrastructure, and a shortage of health workers. However, these challenges also present opportunities for innovation and collaboration. Leveraging technology, forming public-private partnerships, and involving communities in health decisions can lead to significant progress. Additionally, international support and knowledge sharing can help build strong health systems capable of delivering UHC. In conclusion, the drive to implement universal health care in the Global South is a transformative goal that requires ongoing commitment and innovative strategies. By focusing on health equity, aligning with sustainable development goals, and addressing systemic challenges, countries can build robust health systems that ensure everyone has access to the care they need. Continued investment, policy reforms, and international cooperation are crucial to achieving the vision of UHC and fostering sustainable development.

Keywords: universal health care, sustainable development goals, health equity, global south, health systems, health financing

C7

[28]

**DIGITAL HEALTH AND AI USE IN HEALTH CARE FOR UNIVERSAL HEALTH
COVERAGE- A SYSTEMATIC REVIEW**

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ABSTRACT

This systematic review explores the intersection of digital health (DH), artificial intelligence (AI), and universal health coverage (UHC), and examines their roles, challenges, and contributions to global health equity. DH initiatives, driven by information and communication technologies (ICT), offer unprecedented opportunities to advance UHC goals by transforming healthcare delivery and improving access, efficiency, and quality of care. AI-driven solutions, including disease detection, diagnostics, process optimization, and patient-facing applications, revolutionize healthcare delivery and improve the process of making healthcare decisions and get better results for patients. This review is focused on leveraging AI for healthcare, exemplified by initiatives on Digital Mission, demonstrates a commitment to harness technology to bridge healthcare gaps and improve health outcomes nationwide. Despite challenges, such as data privacy and algorithm bias, India's proactive approach to responsible AI implementation positions it as a frontrunner in the global DH landscape. In general, the incorporation of artificial intelligence (AI) into digital health (DH) projects is a substantial advancement towards attaining universal health coverage (UHC) on a worldwide scale. Collaborative efforts between governments, private sector entities, academia, and civil society organizations are crucial for driving the adoption and scaling of DH solutions and fostering an ecosystem of innovation and sustainability. By harnessing the power of digital innovation, countries can accelerate progress towards achieving UHC and improving health outcomes for populations worldwide.

Keywords: digital health, universal health coverage, artificial intelligence, Telemedicine, chatbots

C8

[29]

**BLOOD BANK INFORMATION SYSTEM (SIBADAR): DASHBOARD FOR BLOOD
AVAILABILITY AND ADMINISTRATION AT HERMINA SUKABUMI
HOSPITAL'S BLOOD BANK UNIT**

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ABSTRACT

The provision of safe and timely blood transfusions is essential in healthcare, yet challenges persist in bloodstock monitoring and administrative integration. Hermina Sukabumi Hospital faces obstacles in implementing blood banking services, including the absence of a blood availability dashboard, leading to repeated confirmations from blood bank officers. Additionally, manual administrative recording processes and non-integrated worksheets prolong administrative tasks, risking incomplete documentation. This research aimed to address these challenges by developing SIBADAR (Sistem Informasi Bank Darah/Blood Bank Information Sistem) and optimizing the Hospital Blood Bank Service at Hermina Sukabumi Hospital. The Waterfall method guided software development, ensuring systematic progress. Utilizing the Nielsen usability model, SIBADAR underwent rigorous testing, achieving a commendable final percentage of 79,30% that indicates user satisfaction through SIBADAR. Its user-friendly interface facilitates efficient operations for doctors, nurses, analysts, and hospital staff. SIBADAR serves as a comprehensive solution, enhancing coordination and mitigating risks associated with manual processes. In conclusion, SIBADAR emerges as a transformative tool, streamlining blood management and administrative tasks at Hermina Sukabumi Hospital. Its success signifies a paradigm shift in healthcare operations, exemplifying the potential for innovative solutions to revolutionize patient care. SIBADAR's implementation heralds a new era of efficiency and safety in blood service provision, setting a benchmark for excellence in healthcare institutions nationwide.

Keywords: blood bank, blood bank monitoring dashboard, Nielsen models, waterfall method

C9

[30]

EVALUATION OF THE MOBILE HEALTH APPLICATION (OBAT-KU) AS A REMINDER TO TAKE MEDICATION IN OUTPATIENT CARE AT HERMINA SAMARINDA HOSPITAL USING THE SYSTEM USABILITY SCALE (SUS) METHOD

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ABSTRACT

Optimal medication compliance is essential for enhancing patient outcomes; however, a significant portion of patients, ranging from 20% to 50%, demonstrate suboptimal adherence to prescribed regimens within home settings. Addressing this challenge, the Mobile Health Obat-Ku application emerges as a promising solution, tailored to promote medication regimen adherence through personalized reminders. Particularly relevant for individuals requiring ongoing therapeutic interventions, such as those managing chronic ailments, tuberculosis, geriatric populations, and antibiotic regimens, the application exemplifies the integration of mobile health technologies within the healthcare domain. Utilizing the System Usability Scale (SUS) methodology, this research aims to assess the acceptability and usability of the Mobile Health Obat-Ku application among patient cohorts. Employing a research and development (R&D) framework enhanced by quantitative data analysis, this study was conducted at Hermina Samarinda Hospital from December 2023 to January 2024. Thirty respondents, selected via simple random sampling from the hospital's outpatient department, were administered questionnaires to gather relevant insights. Analysis of the data revealed a SUS Score of 77.83%, indicating favorable perceptions towards the Mobile Health Obat-Ku application. This highlights its suitability for integration into patient care paradigms, where it can facilitate improved medication adherence and hastened recovery among individuals undergoing treatment regimens.

Keywords: *Obat-Ku*, medication compliance, mobile health, system usability scale

C10

[31]

**AN EVALUATION OF ANTIBIOTIC UTILIZATION THROUGH AN ONLINE
ANTIMICROBIAL MANAGEMENT APPLICATION AMONG INPATIENTS AT
HERMINA TANGKUBANPRAHU HOSPITAL**

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ABSTRACT

Antimicrobial Resistance (AMR) poses a significant threat to global public health, exacerbated by inappropriate antibiotic utilization. With Southeast Asia reporting the highest incidence of AMR-related mortality and Indonesia's prevalence reaching 60%, combating AMR becomes imperative for global development. The ramifications extend beyond healthcare, impacting socio-economic sectors through prolonged hospitalization and escalated treatment expenses. Global initiatives prioritize community-centered interventions, advocating a One Health approach to AMR management. This study aims to provide an overview of the implementation of an online-based antibiotic stewardship program at Hermina Tangkubanprahu Hospital, Indonesia. Employing a quantitative analysis with a descriptive approach, this research assessed the efficacy of the online antimicrobial stewardship system. The sampling method involved collecting data manually before implementation and online afterward, comparing adherence to Antibiotic Use Guidelines (PPAB) stratification and AWaRe criteria. The sample consisted of all inpatients prescribed empirical or prophylactic antibiotics, totaling 149 samples in May 2023 and 262 samples in December 2023. Results revealed promising outcomes, with the Access category surpassing its target (>65%) notably in December, reaching 82.13%. The Watch category also achieved its target, recording a value of 13.42% in December. Additionally, the Reserve category met its target (<5%) in December with a percentage of 4.45%, despite falling short in the preceding months. Integration of the online antimicrobial stewardship system significantly improved antibiotic utilization at Hermina Tangkubanprahu Hospital. However, disparities in adherence and AWaRe achievement highlight the necessity for ongoing standardization efforts and periodic guideline revisions. This study offers valuable insights into enhancing antimicrobial resistance management within the Indonesian healthcare context, contributing to the global endeavor against AMR.

Keywords: Antimicrobial Resistance (AMR), antibiotic stewardship, online implementation, hospital, antibiotic utilization, one health approach

D1

[32]

ROLE OF FOLIC ACID IN GUILLAIN BARRE SYNDROM WITH MODERATE PROTEIN ENERGY AND HYPOALBUMINEMIA: A CASE REPORT

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ABSTRACT

Guillain Barre syndrome is a major cause of acute neuromuscular weakness in developing Countries with a mortality rate of 5-15%. There is strong evidence that high homocysteine (Hcy) can cause sensory and motor peripheral nerve dysfunction. Several explanations. Low levels of Vitamin B12 and folic acid can increase homocysteine levels. Elevated Hcy significantly increases the risk of GBS, high homocysteine may be associated with GBS. After being diagnosed with GBS, therapy with intravenous immunoglobulin other than methotrexate 15mg/week, folic acid 5mg/week, pregabalin (600mg/day), the patient recovered gradually over 3 weeks with muscle strength of 5 in the lower limbs. case report in a 52- year-old male patient with Guillain Barre syndrome with moderate protein energy malnutrition. On physical examination, there was weight loss, decreased muscle strength (handgrip values 2.1 kg), minimal loss of subcutaneous fat. Blood laboratory results showed leukocytosis 14000 μl^{-1} , increased of Neutrophil Lymphocyte Ratio 5.8, increased C-Reactive Protein 64 $\text{mg}\cdot\text{l}^{-1}$, albumin 3.1 $\text{g}\cdot\text{dl}^{-1}$, negative nitrogen balance -9.94. Medical Nutrition therapy is given enteral and oral with a total energy requirement of 2200 kcal, protein is given 1.5 to 1.7 g per kilogram of body weight per day, with folic acid 1 mg per day and zinc supplementation, multivitamins, curcuma and snakehead fish extract capsules, after 14 days Nutritional care, The patients was discharge with adequate nutrition and improved functional capacity (handgrip values 2,1 kg to 16.5kg), Blood laboratory result showed improved of leukocytosis 14000 to 11900 μl^{-1} . Neutrophil lymphocyte Ratio 5.8 to 3.2. CRP levels 64 to 31 $\text{mg}\cdot\text{l}^{-1}$ Albumin levels 3.1 to 3.3 $\text{g}\cdot\text{dl}^{-1}$. Nitrogen balance (-9.94 to 0.92). Conclusion: providing medical nutrition therapy with folic acid supplementation as anti-hyper homocysteine was potentially improve functional status, metabolic status and clinical outcomes in Guillain Barre syndrome patients.

Keywords: folic acid, Guillain Barre syndrome, functional capacity, malnutrition

D2

[33]

**NUTRITIONAL THERAPY IN DIABETIC GASTROPATHY WITH SEVERE
PROTEIN ENERGY MALNUTRITION, HYPOALBUMINEMIA AND
ELECTROLYTE IMBALANCE: A CASE REPORT**

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ABSTRACT

Gastric emptying is abnormally delayed in 30–50% of outpatients with long-standing type 1 or type 2 diabetes, with potential consequences of gastrointestinal symptoms, impaired nutrition, poor glycemic control, and delayed absorption of oral medications. A population-based study in the United States recently reported a prevalence of gastroparesis of 4.3% in type diabetes, 1.3% in type 2 diabetes, and 0.16% in the general population. Malnutrition is a common complication of diabetic gastroparesis. Patients with gastroparesis may experience a lack of appetite, which can lead to malnutrition. Gastroparesis can also cause nausea, vomiting, bloating, abdominal pain, and early satiety. However, it is believed that poor glycemic control, vagal and/or autonomic neuropathy, and abnormalities in gastric compliance may contribute to delayed gastric emptying. In addition, serum glucose levels have a direct relationship with gastric emptying. Case report on a 48-year-old female patient with non-obese type 2 diabetes mellitus and diabetic gastropathy with severe protein energy with complaints of nausea, vomiting during meals and early satiety. On physical examination there was weight loss and decreased muscle strength. Blood laboratory results showed leukocytosis $13300 \mu\text{l}^{-1}$, moderate depletion of the immune system $1047.6 \mu\text{l}$, hypoalbuminemia 2.2 g dl^{-1} , hypernatremia 158 mmol/l . Nutritional therapy was given via oral gradually with a total energy requirement of 1400 kcal, protein 1.2 g per kilogram body weight per day, with zinc supplementation, multivitamins and snakehead fish extract capsules. After 14 days of nutritional care, the patient went home with adequate nutrition, blood test result improved such as leukocytes (13300 to $7100 \mu\text{l}^{-1}$) moderate depletion of the immune system $1047.6 \mu\text{l}$ to $1459.2 \mu\text{l}$, hypoalbuminemia 2.2 g dl^{-1} to 2.6 g dl^{-1} , hypernatremia 158 mmol l^{-1} to 141 mmol l^{-1} and improved complaints. There were no gastrointestinal symptoms such as nausea, vomiting and early satiety. In conclusion, providing appropriate nutrition with small and frequent portions, avoiding fatty and high-fiber foods that are difficult to digest can improve symptoms of nausea, vomiting, and early satiety in patients with diabetic gastropathy.

Keywords: early satiety, gastrointestinal symptoms, diabetic gastropathy, malnutrition

D3

[34]

FLUID MANAGEMENT IN CHRONIC KIDNEY DISEASE ON DIALYSIS: A CASE REPORT

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ABSTRACT

In 2018, the incidence of chronic kidney disease (CKD) worldwide reached 10% of the population, with an estimated 1.5 million people on dialysis. This condition results in reduced kidney function and fluid and electrolyte imbalances, leading to fluid overload and pulmonary edema. Fluid therapy is an important aspect of the management of CKD on dialysis with pulmonary edema. Effective fluid therapy management includes careful adjustment of fluid volume, close monitoring of hydration status, and regulation of ultrafiltration during dialysis sessions. Case report of a 46-year-old man with CKD, acute pulmonary edema, hypertensive heart disease, and severe protein-energy malnutrition with clinical systemic swelling and shortness of breath. Physical examination revealed anemic conjunctiva, bilateral mediobasal rhonchi, and generalized swelling. Hand grip strength (HGS) was difficult to assess. Laboratory findings included leukocytosis, anemia, renal dysfunction, and mild hyponatremia. Nutritional management provided via enteral with 2,200 kcal total energy consist of 12.6% protein, 50% carbohydrate, and 37.4% fat. Correction of hyponatremia with daily intake and fluid restriction. Additional supplementation was also given in the form of zinc, multivitamins, and curcuma. Following 14 days of nutritional care, the patient's functional capacity had improved (HGS 14.2 kg). The blood test results also improved, including leukocytes (31,600 to 6,800/ μ L), hemoglobin (7.8 to 10 g/dL), ureum (258 to 30 mg/dL), creatinine (5.93 to 2.98 mg/dL), albumin (2.2 to 2.6 g/dL), sodium (133 to 138 mmol/l), and potassium (4.7 to 3.6 mmol/l). In conclusion, the provision of optimal medical nutrition therapy and fluid management can improve the functional status and clinical outcomes of CKD on dialysis patients with pulmonary edema.

Keywords: chronic kidney disease, dialysis, fluid management, nutritional medical therapy

D4

[35]

**MEDICAL NUTRITION THERAPY IN RHEUMATIC HEART DISEASE IN
UNDERNOURISHED PATIENT WITH COMPLICATION OF CEREBRAL
INFARCTION: A CASE REPORT**

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ABSTRACT

Undernourished condition is frequently encountered in cardiovascular disease patients including rheumatic heart disease with stroke as one of the complications. Medical nutrition therapy plays an important role in rheumatic heart disease patients with complications who were hospitalized. We report a Case of a 37year-old female with moderate malnutrition (Subjective Global Assessment Score B), rheumatic heart disease and cerebral infarction. She has loss of appetite, and her oral intake was decreased 75% of her normal intake. She had unintentional weight loss of 7.7% within the last 5 months. She had decrease functional capacity of handgrip strength dynamometry by 5 kg, an increase in the NLR value of 11.7, and mild hypoalbuminemia at 3.4 g dl-1. The administration of macronutrient was initiated with total target of 2000 kcal with 15.7% protein, 50% carbohydrate and 34.3% fat. We enterally administered a diet with added oral nutritional support (ONS) high in protein, micronutrients supplementation 20 mg/day of zinc as the anti-inflammatory and antioxidant, curcuma, thiamine, and After 14 days of therapy, she discharged with her NLR value improves by 4.3, serum albumin returned to be normal 3.7 g dl-1, increased handgrip strength dynamometry, clinical improvement and she achieved 100% of our macronutrient target. In conclusion, medical nutrition therapy provides a meaningful role in multidisciplinary therapy for rheumatic heart disease. Zinc as anti-inflammatory and antioxidant therapy were potentially improve the patient's condition from complications of rheumatic heart disease.

Keywords: rheumatic heart disease, undernourished, nutrition

D5

[36]

THE ROLE OF VITAMIN D AND NUTRITIONAL THERAPY IN PATIENT WITH TETRAPARESIS OF THE LOWER MOTOR NEURON AND GUILLAIN-BARRÉ SYNDROME WITH MODERATE PROTEIN-ENERGY MALNUTRITION, ANAEMIA AND HYPOALBUMINEMIA: A CASE REPORT

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ABSTRACT

Guillain-Barré syndrome is an autoimmune disease that causes inflammation of the peripheral nervous system and can lead to acute flaccid paralysis. In addition, anaemia may occur in patients with GBS as a result of impaired red blood cell production, blood loss, iron deficiency and medication side effects. The beneficial role of vitamin D in the prevention and or treatment of autoimmune diseases is thought to be achieved by limiting the adaptive immune response by inhibiting the production and enhancement of pro-inflammatory cytokines and regulatory T-cell function. Case report; 41-year-old female patient with Moderate protein-energy malnutrition, Guillain-Barré syndrome, tetraparesis of lower motor neurons, multiple cranial nerve palsies, dysarthria, dysphagia. Physical examination revealed loss of subcutaneous fat. Blood examination showed anaemia (8.6 g dl-1), leukocytosis (16,000 ml-1), Neutrophil-lymphocyte ratio (15), hypoalbuminemia (2.6 g dl-1), severe immunosuppression (740 mL-1). Nutritional therapy was administered enteral as the total energy requirement was 1800 kcal and protein was given at 1.5-2.0 g per kg body weight per day. Additional supplements included vitamin D 5000 IU, zinc, multivitamins, ginger and cork fish extract. After 49 days, the patient was discharged from the ICU on enteral nutrition. The patient's blood test results improved, such as immune status (740 - 1670 mL-1), albumin (2.6-2.8 g dl-1), Neutrophil-lymphocyte ratio (15 - 5) leukocytosis (16,000 – 11,000 ml-1), In conclusion, nutritional therapy supported by vitamin D 5000 IU improved the nutritional status and clinical outcomes of patients.

Keywords: vitamin D, malnutrition, Guillain-Barré syndrome

D6

[37]

**MEDICAL NUTRITION THERAPY IN PATIENT WITH MODERATE
TRAUMATIC BRAIN INJURY POST CRANIECTOMY WITH PRESSURE ULCER:
A CASE REPORT**

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ABSTRACT

Traumatic brain injury (TBI) is a global health and socio-economic problem, malnutrition is common in TBI patients and is associated with increased morbidity and mortality rates, as well as longer stays in the intensive care unit and hospital. Pressure ulcers are one of the major complications in TBI patients with a prevalence of 1.5 times that of other bedridden patients. We report a case of a 58-year-old male patient with moderate TBI, multiple trauma and moderate protein energy malnutrition. The patient was in severe illness and he underwent craniectomy surgery. Medical Nutrition Therapy (MNT) was given with a final target of 2200 kcal, however medical nutrition therapy was started at 1250 kcal (25 kcal/kgBB), with 17 - 20% protein (1.3 - 2 g/kgBB). For micronutrients, we administered zinc, vitamins B1, B6, B12, vitamin A, vitamin C, vitamin D, ginger and snakehead fish extract. He experienced hemodynamic instability on days 1 to 10. On the 26th day of our care, he had a pressure ulcer. Some deterioration of laboratory findings such as leukocytosis, anemia, thrombocytosis, increased Neutrophil to lymphocyte Ratio, severe depletion of immune system, hypoalbuminemia, increased CRP, increased procalcitonin, increased D-dimer, hyperbilirubinemia, increased transaminase enzymes, hyperlactatemia, and respiratory and metabolic alkalosis. After 24 days of nutritional treatment, he gained consciousness with a GCS score of 10 (E4M6Vx) and achieved improved leukocytosis, decreased neutrophil to lymphocyte ratio, improved immune system depletion, decreased NLR, improved thrombocytosis, increased serum albumin, decreased CRP, decreased procalcitonin, improved transaminase enzymes and improved pressure ulcers. MNT played an important role in a multidisciplinary approach for TBI to provide adequate energy to fulfill hypercatabolic condition, which eventually improving clinical outcome for this patient.

Keywords: traumatic brain injury (TBI), nutrition, pressure ulcer

D7

[38]

MEDICAL NUTRITION THERAPY IN PATIENT WITH SEVERE PROTEIN ENERGY MALNUTRITION, SQUAMOUS CELL CARCINOMA AT RIGHT PEDIS REGION AND ANOREXIA RELATED CANCER: A CASE REPORT

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ABSTRACT

Squamous Cell Carcinoma (SCC) is an uncommon condition affecting the foot, with an incidence estimated at 0.6 to 3.0%. Cancer patients, including those with SCC, often experience malnutrition and weight loss due to factors related to the tumor, the host response to the tumor, and cancer treatments. Case report: A 29 year old female patient with severe protein energy malnutrition, Squamous cell carcinoma in the foot and thigh region, along with anorexia. She experienced a significant reduction in appetite, her food intake decreased by over 50%, leading to an unintentional weight loss of more than 10% in the past year. Physical examination revealed loss of subcutaneous fat and severe muscle wasting. Local examination showed an irregularly shaped ulcer on the dorsum of the right foot, measuring 15x10x7 cm, with inflamed and edematous margins, "cauliflower-like growth" lesion, and active bleeding. Blood tests revealed anemia (7.1 dl⁻¹), leukocytosis (19,200 ml⁻¹), hypoalbuminemia (2 dl⁻¹), thrombocytosis (734.000/μL), elevated NLR (8.7), and hyponatremia (133 mmol/L). The patient received oral nutritional therapy to meet a total energy requirement of 1900 kcal, with a protein intake of 1.5-2.0 g per kilogram of body weight per day. Additional supplements included 1000 mg of omega-3 fatty acids, zinc, multivitamins, curcumin, BCAA, and snakehead fish extract. During her treatment, she underwent a core biopsy and a below-knee amputation. After 24 days, the patient was discharged with improvements in fatigue, appetite, and reduced symptoms of nausea and vomiting. Blood test results showed improvements in hemoglobin (from 7.1 to 11.8 dl⁻¹), albumin (from 2 to 3.2 dl⁻¹), and sodium (from 133 to 135 mmol/L). Conclusion: proactive nutritional intervention can enhance clinical outcomes and improve the quality of life.

Keywords: Squamous cell carcinoma, malnutrition, anorexia related cancer, and hypoalbuminemia

D8

[39]

**THE ROLE OF MEDITERRANEAN DIET IN MALNOURISHED PATIENT WITH
BRAIN ABSCESS AND INTRACRANIAL HEMORRHAGE: A CASE REPORT**Hafni Z^{1,2*}, Nurpudji A. Taslim^{1,2}, Nurbaya^{1,2} and Rani NA¹*¹Clinical Nutrition Specialist Program, Faculty of Medicine, Hasanuddin University,
Indonesia**²Wahidin Sudirohusodo Hospital, Makassar, Indonesia***zuraidahafni87@gmail.com***ABSTRACT**

Brain abscess is a life-threatening infection with a high risk of neurological deficits and malnutrition. Postoperative intracranial hemorrhage is a complication that can lead to prolonged hospitalization and even death. The Mediterranean diet, rich in anti-inflammatory, antioxidant and immunomodulatory properties, has been shown to be neuroprotective and to reduce systemic inflammation. We report a 23-year-old male patient with moderate malnutrition (Subjective Global Assessment Score B), multiple brain abscesses after excisional craniotomy complicated by intracranial hemorrhage, and decreased consciousness. Physical examination revealed GCS E3M5VX and a bandaged wound in the left temporal region. Brain MSCT results showed multiple frontal and temporal lobe lesions sinistra suggestive of an abscess. There was an increase in leukocytosis of 12300 mg dl-1, D-dimer 2.66 mg dl-1, CRP 56.6 mg L-1. Medical nutrition therapy was given with 30-35 kcal/kgbw 1600-2000 kcal with protein 1.2-1.5 grams/kgbw, carbohydrates 50-55%, and fat 31-33.3% MUFA composition 45-50 grams with a Mediterranean diet. Additional supplementation included zinc, multivitamins, curcumin, folic acid, and vitamin C. After 14 days of treatment, GCS E4M6V5, leukocytes decreased 9900 mg dl-1, CRP levels became 12.6 mg L-1, and clinical improvement occurred. Medical nutrition therapy with a Mediterranean diet may play an important role in brain abscess patients with intracranial hemorrhage, helping to reduce inflammation and improve neurological deficits.

Keywords: mediterranean diet, malnutrition, brain abscess, intracranial hemorrhage, deficit neurological

D9

[40]

MEDICAL NUTRITION THERAPY IN POST CRANIOTOMY GLIOBLASTOMA PATIENTS WITH HYPOALBUMINEMIA AND SEVERE PROTEIN ENERGY MALNUTRITION: A CASE REPORT

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ABSTRACT

Brain tumors can cause nutritional problems. Brain tumors induce the release of inflammatory cytokines resulting in tissue catabolism, weight loss, and anorexia. Increased breakdown of muscle protein in cancer patients can cause the body to lose amino acids, which in turn causes the body to become weak. High Grade Glioma Sugestive Small Cell Glioblastoma, Postoperative Craniotomy tumor removal He has loss of appetite, and his oral intake was decreased 50% - 70% of his normal intake. He had unintentional weight loss more than 10% within the last four months. He had approximate body weight of 41 kg and body length of 160 cm. . The administration of medical nutrition therapy was initiated with a total target of 1700 kcal with 19.7% protein, 50% carbohydrate and 30.3% fat. We administered 0,25 g/body weight/day of BCAA, Zink 20 mg/day, Vitamin B complex 1 tablet every 8 hours, vitamin C 500 mg twice daily and curcuma 400mg every 8 hours. At the end of our therapy, his Albumin level was improved to be 3,1 mg/dl, increased handgrip strength dynamometry, clinical improvement and he achieved 100% of our macronutrient target. Several studies suggest that branched chain amino acids (BCAAs) can regulate protein synthesis directly by modulating mRNA translation.

Keywords: brain tumors, BCAA, hypoalbuminemia

D10

[41]

ROLE OF β -HYDROXY- β -METHYL BUTYRATE (HMB) PROTEIN IN NASOPHARYNGEAL CANCER PATIENTS UNDERGOING CHEMOTHERAPY WITH SEVERE MALNUTRITION AND ELECTROLYTE IMBALANCE: CASE REPORT

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ABSTRACT

Nasopharyngeal carcinoma (NPC) is the largest malignant tumor in the head and neck region, accounting for nearly 60% of tumors in the head and neck region. It is most common in Asia. In Indonesia, the incidence rate is quite high, at 4.7: 100,000 cases per year. From the profile data at Dr. Wahidin Sudirohusodo General Hospital - Makassar, South Sulawesi in 2011 - 2019, 280 new cases were found, which were dominated by men around 67%. β -Hydroxy- β -methyl butyrate (HMB) is a large and complex molecular protein formed from hundreds or thousands of small compounds called amino acids (Leucine) that plays a role in improving muscle function, cancer-related toxicity, length of hospitalization, serum C-reactive protein, mortality, and minimizing side effects of cancer therapy in NPC patients. Case report ; a 49-year-old male patient with severe protein energy malnutrition. Physical examination showed loss of subcutaneous fat in the clavicle and thorax. Blood examination showed hyponatremia (106 mmol/L), hypokalemia (1.7 mmol/L), leukopenia (2,100 mL-l), anemia (10.6 g/dL), severe immune decline (539.7 mL-l). Nutritional medical therapy was provided orally with a total energy requirement of 2000 kcal/day and protein of 1 - 1.5 g per kilogram of body weight per day. Additional supplementation included β -hydroxy- β -methyl butyrate 2.4-3 g, zinc, multivitamins, and curcuma. After 10 days of treatment, he was able to return to chemotherapy. He blood test results improved with leukopenia (2100 - 8700 mL-l), anemia (10.6 - 11.8 gr/dL), sodium (106 - 137 mmol/L). In conclusion, nutritional therapy supported by HMB improves nutritional status and clinical outcomes in patients with nasopharyngeal carcinoma.

Keywords: β -Hydroxy- β -methyl butyrate (HMB), malnutrition, nasopharyngeal cancer

D11

[42]

MEDICAL NUTRITION THERAPY IN A PARTIAL GASTRECTOMY WITH ANASTOMOSIS OF THE STOMACH DUE TO GASTROINTESTINAL STROMAL TUMOR WITH MALNOURISHED: A CASE REPORT

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ABSTRACT

Gastrointestinal stromal tumors (GISTs) are the most common type of mesenchymal tumors in the gastrointestinal (GI) tract, accounting for 80% of all GI tumors and 0.1 to 3% of GI malignancies. The primary treatment for GIST is surgical resection. However, gastrectomy can lead to physiological changes in digestion and impair the function of the gastro-esophageal junction, potentially resulting in malnutrition. Case report: A 34-year-old male with severe malnutrition, post partial gastrectomy due to GIST. He experienced a loss of appetite, with his oral intake reduced to 40%-60% of his usual amount. He had unintentionally lost more than 10% of his body weight in the past three months. His approximate body weight was 56.6 kg, and his height was 170 cm. Blood tests revealed anemia (9.7 g/dL), leukocytosis (12.400/ml), hypoalbuminemia (3.0 g/dL), severe immune depletion (471.2/ml), and an increased neutrophil-lymphocyte ratio (23.8). Medical nutrition therapy was initiated with a total target of 1700 kcal, consisting of 19.9% protein, 50% carbohydrate, and 30.1% fat. He received early postoperative oral nutrition through oligomeric nutritional supplements and additional supplements including zinc, multivitamins, and snakehead fish extract. Blood test results showed improvement in immune status (471 to 1670/ml), albumin levels (3.0 to 3.7 g/dL), and neutrophil-lymphocyte ratio (23.8 to 7.4). Additionally, there was an increase in handgrip strength, clinical improvement, and he achieved 80% of the macronutrient target. In conclusion, nutritional therapy, especially through oral nutritional supplements and additional supplementation, improves nutritional status and clinical outcomes, thus preventing nutritional complications after gastrectomy.

Keywords: oligomeric, multivitamin, malnutrition, and GIST

D12

[43]

**THE ROLE OF OLIVE OIL AS A NEUROPROTECTOR IN CEREBELLAR
INFARTION COMPLICATED WITH HYDROCHEPALUS POST VP SHUNT: A
CASE REPORT**

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ABSTRACT

Cerebellar infarction is an important cause of stroke with a prevalence of approximately 2% of all cerebral infarcts. One of the complications of cerebellar infarction is fourth ventricular compression which can lead to obstructive hydrocephalus which can cause increased intracranial pressure. We report a case of a 42-year-old male with moderate malnutrition, with decreased consciousness due to cerebellar infarction complicated by hydrocephalus post VP Shunt insertion. He had decreased appetite and oral intake by about 50% of his usual intake. He had unintentional lost weight about 5% in the last 1 month. He had an elevated lipid profile (total cholesterol 206 mg/dl, LDL 142 mg/dl), elevated blood pressure 161/115 mmHg, leucocytosis 14,800 μ l, immune system depletion 972 mL⁻¹, and elevated NLR 5.8. nutritional therapy was given with a total calorie target of 2100 kcal, protein 17.5%, carbohydrate 50% and fat 32.5%. We give Olive oil 30-50 ml/day as anti-inflammatory and antioxidant. After 14 days of treatment showed improvement in laboraoty finding such as inflammation (leukocytes decreased to 8,100 μ l, NLR 1.5; immune status was improved to 2697 mL⁻¹, Lipid Profile improved (total cholesterol from 206 to 204 mg/dl and LDL from 142 to 138 mg/dl) Blood pressure decreased from 161/115 mmHg to 130/90 mmHg. In conclusion, nutritional therapy supported by olive oil administration has a potential effect as a neuroprotector to reduce the risk of stroke include cerebral infarct and helps in improving the clinical outcomes of patients.

Keywords: olive oil, neuroprotector, infarct cerebellar, hydrocephalus

E1

[44]

**THE RELATIONSHIP OF BODY MASS INDEX, BLOOD PRESSURE, BLOOD
GLUCOSE AND FOOT SENSITIVITY IN PEOPLE WITH TYPE 2 DIABETES
MELLITUS**

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ABSTRACT

Foot sensitivity plays an essential role in preventing diabetic foot ulcers. The study aims to determine the relationship between body mass index (BMI), systolic blood pressure (SBP), diastolic blood pressure (DBP), fasting blood glucose, haemoglobin A1c (HbA1c), and ankle brachial index (ABI) with foot sensitivity. A cross-sectional study using 1,088 participants taken by accidental sampling. We found the abnormality of BMI ($p < 0.001$), blood pressure ($p < 0.001$), ABI ($p < 0.001$), FBG ($p = 0.016$) and HbA1c ($p < 0.001$) significantly independent and synergistically increased the risk of foot sensitivity disorder. Participants co-occurring at least four or more than four abnormal levels of BMI, SBP, DBP, FBG, HbA1c, and ABI, significantly synergistic increase their risk of foot sensitivity disorder, the more of abnormal conditions of those, the higher risk of foot sensitivity disorder. We suggested that abnormality of BMI, blood pressure, ABI, FBG, and HbA1c can be considered as the predictors of foot sensitivity disorder.

Keywords: body mass index, blood pressure, ankle brachial index, blood glucose, haemoglobin A1c, diabetic foot, foot sensation, diabetes mellitus

E2

[45]

**POWER SHIFT ENABLES TO RAISE VOICES AND COLLECTIVE ACTIONS
AMONG THE MARGINALISED/VULNERABLE PEOPLE'S TOWARDS
STRENGTHENING THE LOCAL HEALTH SYSTEM IN RURAL WEST BENGAL,
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ABSTRACT

Community-driven approaches to health system strengthening are receiving increasing attention. West Bengal Voluntary Health Association (WBVHA) is closely collaborating with marginalised populations in unserved/underserved rural areas through the Basic Health Care Support Program (BHCSP), aims to empower communities to develop ownership of health services/programmes' planning and decision-making processes for sustainable change. BHCSP supported community-driven programme, which transformed into community-level health platform overtime in five districts of West Bengal and creates a multi-stakeholder dynamic to strengthen the Local Health System and provides insight into the presence, role and raising voices of marginalized communities in advocacy/interfaces between decision makers and health technocrats and effects of interactions between local governments and health services. This people-centred program coordinated local Community Based Organizations and groups/individuals to work together to identify excluded communities, health problems and negotiate with the healthcare providers for problems resolution, experience and exercise influence on their own lives, which involves collective engagement of influential stakeholders with varied interests demands a deeper analysis of how power is manifested at various levels and assists government in fulfilling its commitments by identifying operational/policy gaps and providing services in unserved/underserved areas. Both qualitative and quantitative methods (peer learning, community scoring, rich picture, interface meeting etc) were used to understand the process. The BHCSP worked with people-with-power from advocacy perspectives and people-without-power through empowerment process. Inclusion comprehends people's involvement and empowerment building-an inclusive society that empowers marginalized groups/individuals supports sustainable development. BHCSP is engaging communities to sensitize about their right to health, make informed decisions and demand their right to quality healthcare services. Community empowerment processes provided opportunities to create new power for people and address the challenges in existing power imbalances.

Keywords: power shift, community-driven approach, health-system strengthening

E3

[46]

**COST-EFFECTIVENESS OF TELEHEALTH-POWERED MANAGED CARE
VERSUS CONVENTIONAL HEALTHCARE IN ACUTE RESPIRATORY
INFECTION-RELATED DIAGNOSES**

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ABSTRACT

Telehealth is a well-established concept and has been widely used in many organizations due to its numerous benefits. This study presents a comparative analysis of telehealth-powered managed care systems (a combination of chat doctor, pharmacy delivery, and offline visits), against conventional healthcare models in Acute Respiratory Infection (ARI) related diagnoses across Indonesia. The objective was to evaluate the cost-effectiveness and savings potential of telehealth-powered managed care compared to conventional healthcare services involving offline visits to general practitioners and specialists. This article explores the advantage of telehealth in ARI-related diagnoses through a cost sensitivity analysis across various categories, such as reductions in medical and prescription service expenses, travel distances, travel cost savings, and environmental impact. The study was intended to retrospectively analyze the telemedicine consultation database between July 2022 and June 2024 at REY Assurance Pte Ltd. The results revealed that telehealth-powered managed care significantly reduces costs compared to conventional healthcare for almost 7 times cheaper (USD 4.53 versus USD 31.30). In the sensitivity analysis, the primary contributors to cost savings were the reductions in consultation and prescription costs. While reductions in travel time also contributed to the overall savings, their impact was less significant. The implications for greenhouse gas emissions were the least significant among the categories considered. The study underscores the potential financial benefits of telehealth and managed care, especially to enhance the efficiency and affordability of healthcare services in Indonesia.

Keywords: telehealth, cost-efficiency, cost analysis

E4

[47]

ASSESSING ADOLESCENT AND YOUNG CAREGIVERS' INDIVIDUAL AND SOCIAL DRIVERS FOR UPTAKE OF CHILDREN'S ROUTINE IMMUNIZATION AND HPV VACCINATION

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ABSTRACT

Due to the low uptake of the routine immunization and HPV vaccination services, Girl Effect in collaboration with GAVI, the Vaccine alliance, and the Ministry of Health is implementing integrated innovative demand generation approaches to increase demand and uptake for routine immunization and HPV vaccination among the caregivers (15-29 years old) and 13–14-year-old-girls. The baseline was done to establish young parents and caregivers' individual and social drivers that lead to uptake of children's routine immunization and HPV vaccination services among under-immunized and missed communities. It was a cross-sectional mixed study. It was observed that community members and the community leaders are ill-informed about vaccination. Misconceptions about the child immunization alluded to fears that HPV vaccination would lead to their children being unable to give birth. Male dominance was another barrier identified and people had shortage awareness regarding the benefits and safety of vaccines. Co-design of communication contents and diversify them to make the content accessible to most community members was recommended. Community-led initiatives to increase vaccination uptake for both HPV and RI should take in specific measures to incorporate male participants.

Keywords: HPV, vaccination, immunization

E5

[48]

EVALUATION OF FAMILY ADOPTION PROGRAM NEWLY INTRODUCED FOR UNDERGRADUATE MEDICAL STUDENTS IN INDIA- A MIXED METHOD STUDY

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ABSTRACT

India is a country where 65.5% of the population resides in a rural setup. Family adoption program started as a part of MBBS curriculum to ensure enhanced healthcare services in rural areas. Each medical student is required to adopt five families to monitor their health conditions regularly and advise accordingly. So the present study was undertaken to develop and validate tool for taking feedback from students regarding program and to evaluate program implementation through different stakeholders' perspectives. The first part was tool development for taking feedback from students. A thorough Literature review, Focus Group Discussion with Faculties and students was done to find out domains to develop tool which was then validated by group of 8 experts. The second part was in depth Interviews that was conducted for Medico social workers, Accredited Social Health Activist, Village Local leaders and Focus group discussion for families. Both quantitative and qualitative data were analyzed. The Content Validity Index of the tool that was developed came out to be 0.88125. The recordings of in depth interviews and Focus Group Discussion were transcribed, and codes were generated under the broad themes such as Advantages, Challenges and Suggestions. As this is a new initiative taken, it throws multiple challenges to medical colleges. Various issues arising at different levels need to be addressed to run this program more effectively.

Keywords: family adoption, medical, students, undergraduate, India

E6

[49]

ACCESSIBILITY OF THE SENIOR CITIZENS TO COMMUNITY CLINIC SERVICES IN THE SELECTED RURAL COMMUNITIES OF BANGLADESH

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ABSTRACT

To assess the accessibility status of the senior citizens to community clinic services, a cross sectional (mixed model to get deeper insight) study was conducted among 388 respondents from different rural areas of Bangladesh. Sampling was done purposively among the senior citizens fulfilling the enrolment criteria. Data was collected by face to face interview from semi structured questionnaire for quantitative part and 11 in depth interviews, 44 focus group discussion and one key informant interview were carried out for qualitative part. Average age of the respondents was 66.96 years with minimum 60 years and maximum of 90 years. 59% respondents were male and 41% were female. Average self-income of the respondents was Tk. 815.72 whereas 257 (62.2%) respondents did not have any income. Community clinic was on average 8.21 minutes walking distance from the residences of the respondents. Most of the respondents (71.9%) had history of frequent visit. Maximum respondents were happy about availability of medicines (56.2%), waiting time (78.6%). Most of the respondents (57%) considered the community clinic services very good or good. Expected service from community clinic was measured to be very good in likert scale (mean score 30.86). A significant association was drawn between age and treatment decision which shows majority of respondents (78.5%) in the age group less than 70 years and individuals having self-income were more empowered to take decision. Information from FGD, in-depth interviews show positive approach of respondents regarding community clinic including general idea, expectation, services, effectiveness of health care providers. Availability of medicines, close distance from residence and absence of social conflicts play a major role in making the services accessible to the senior citizens.

Keywords: accessibility; community clinic; senior citizen

E7

[50]

**CO-CREATION OF A NOVEL APPROACH FOR IMPROVING SUPPLY CHAIN
MANAGEMENT FOR POINT-OF-CARE DIAGNOSTIC SERVICES IN PRIMARY
HEALTH CARE SETTINGS**

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ABSTRACT

The COVID-19 pandemic has accentuated supply chain vulnerabilities, particularly in point-of-care (POC) diagnostic services. This study, conducted in Mopani District, South Africa, aimed to address SCM challenges for COVID-19 rapid tests in primary healthcare clinics. This study employed a four-stage process, including a scoping review, GIS-based accessibility analysis, an audit of primary health care facilities, and a Nominal Group Technique (NGT) workshop to address supply chain management (SCM) challenges for COVID-19 diagnostic services. Key challenges revealed include paper-based systems, limited communication, data fragmentation, resource wastage, unequal distribution, emergency response challenges, and supply chain vulnerability. The proposed novel approach, focusing on digitalization, standardised procurement, and improved stock visibility, offers a pathway for enhancing SCM resilience in resource-limited settings. Successful implementation requires multi-sectoral collaboration and ongoing evaluation. Future research should assess the feasibility and impact of these recommendations in improving SCM effectiveness and healthcare outcomes.

Keywords: nominal group technique, audit, geographic information system, point-of-care diagnostics, supply chain management, co-creation

E8

[51]

**ASSESSMENT OF QUALITY SERVICE DELIVERY IN URBAN AYUSHMAN
AROGYA MANDIR FOR STRENGTHENING URBAN PRIMARY HEALTH CARE**

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ABSTRACT

To achieve universal health coverage investment in the urban area through the establishment of the Urban Ayushman Arogya Mandir (UAAM) is the need of the hour. Under 15th Finance Commission, the Government of India has the initiative to serve vulnerable and marginalized pockets in urban areas. Urban AAM largely focuses on services that reached the last mile, reducing out-of-pocket expenditure, and ensuring a continuum of care. The primary objectives were to evaluate the UAAM's rollout pace and pinpoint any implementation-related difficulties. To assess the quality of service delivery at UAAM in Bhopal, India, a cross-sectional study with a quantitative approach was employed. The study included data collection on 180 elements across 11 UAAMs, encompassing objective measures (infrastructure, amenities, etc.) and patient satisfaction scores (n=55) captured using a 5-point Likert scale. According to the study, 81% of facilities have good infrastructure, 55% have adequate amenities, 81% have adequate furniture and equipment, 100% have full HR support, 50% have health care providers trained to provide a wider range of services, 100% have diagnostics availability, the supply chain needs to be strengthened to ensure 80 % drug availability as per defined list, and satisfaction levels are moderate at 3.2. However, waiting times and communication need to be improved. The study's conclusions showed that 60% of facilities started offering expanded range of services; 100% of community structures formed; 45% of facilities started organizing wellness sessions; and the average monthly foot fall at OPD was recorded at 2000, which is higher than usual. The study will provide valuable insights into the strengths and weaknesses of service delivery within the selected UHWCs. This information can be used to identify areas for improvement and ultimately enhance the quality of healthcare accessible to the urban population.

Keywords: primary health care, universal health coverage, patient satisfaction, service delivery, urban Ayushman Arogya Mandir

E9

[52]

HEALTH-RELATED QUALITY OF LIFE (HRQOL) OF FILIPINO PEDIATRIC PATIENTS TREATED WITH GLOBAL INITIATIVE FOR ASTHMA (GINA) TWO-TRACK APPROACH

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ABSTRACT

Children with uncontrolled asthma have a significantly poorer quality of life. Consequently, the Global Initiative for Asthma (GINA) provided two-track options for personalized management of asthma to keep symptoms under control. This study evaluated the asthma Health-related QOL (HRQoL) by comparing the GINA two-track approach among Filipino pediatric patients in the community setting. This community-based cross-sectional study surveyed 132 pediatric patients aged 12 to 18 years old at Santa Barbara, Iloilo using the Filipino-translated KINDL questionnaire to assess the HRQoL of patients across GINA treatment tracks. At baseline, treatment groups were similar in terms of age, gender, weight-for-age, socioeconomic status, and comorbidities but varied significantly in terms of history of smoking, history of alcohol consumption, and duration of illness since diagnosis. GINA Track 1 was significantly associated with well-controlled asthma symptoms ($p < 0.001$). HRQoL scores were significantly correlated with GINA treatment tracks ($r = 0.473$; $p < 0.001$). Accordingly, children treated with GINA Track 1 had significantly higher overall mean HRQoL score ($p < 0.001$) and the following domains of HRQoL: physical wellbeing ($p < 0.001$); emotional wellbeing ($p < 0.001$); self-esteem ($p = 0.046$); family ($p = 0.005$); friends ($p = 0.007$); and school ($p < 0.001$). Children with asthma have a compromised HRQoL due to factors related to sociodemographic, clinical, and environmental factors, hence leveraging on GINA Track 1 can improve HRQoL.

Keywords: asthma, children, quality of life, GINA treatment tracks

E10

[53]

**INEQUALITIES IN ACCESS TO HEALTHCARE SERVICES IN JHARGRAM
DISTRICT OF WEST BENGAL, INDIA: DOES SOCIAL EXCLUSION PLAY A
ROLE?**

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ABSTRACT

India has achieved significant decline in maternal, neonatal and child mortality rates, improved immunization coverage, and attained greater life expectancy at birth. However, these advances are experienced unevenly across the population. This study is part of a doctoral program. The data collection was carried out in 2022 in Jhargram district of West Bengal, India, one of the backward districts of WB and home for marginalised groups. The study used a mixed method approach. While the quantitative arm sought to identify and quantify the social exclusion and discrimination faced by the marginalized groups, and the qualitative arm then tried to unpack the mechanisms of exclusion. The analysis of survey data reveals that only one-third of households had at least one usual member protected under health insurance or health scheme. Notably, the prevalence of health insurance or a health scheme is highest in non-SC/ST and SC households (36%), and lowest among Adivasi households (27%). Worryingly, majority of the enrollees from SCs (85%) and STs (88%) did not have any details regarding SS card or scheme's benefits. Additionally, discrimination while accessing healthcare is often reported, in terms of the casual approach of the doctor and medical staff, not being provided by bed or medicines or referral from one place to another. The analysis of UNDP social exclusion model demonstrated, that the Dalits and Adivasis encountered exclusion in most of the indicators (such as economic deprivation, unmet medical need, early school leavers, lack of social and civic participation etc.) as compared to the advanced caste groups. Finally, as per the results of the regression model, indicators of social exclusion have a significant effect on health outcomes. This confirms that social, political, economic, and cultural contexts, apart from health systems play a significant role in determining health inequality in India.

Keywords: exclusion, discrimination, health, disadvantaged, poor

E11

[54]

**IMPROVING PUBLIC SPENDING EFFICIENCY IN PRIMARY HEALTH CARE -
PUBLIC EXPENDITURE TRACKING SURVEY, A BOON FOR POLICYMAKERS:
AN EXPERIENCE FROM NIGERIA**

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ABSTRACT

Gombe State, facing demographic shifts and growth challenges partnered with UNICEF to undertake a Public Expenditure Tracking Survey (PETS). The PETS examined health budget allocations and funds flow, offering insights into delays, potential leakages, disparities in resource allocation, service delivery assessments, analyzing staff incentives, behavior, and input quality. The PETS covered the entire state including all the 11 Local Government Areas (LGAs) and 114 facilities with the participation of varied stakeholders. The findings from the survey study combined with some simple statistical data analysis, reveal a concerning reduction in Routine Immunization (RI) funds, from the center to the periphery, signaling potential threats to the successful implementation of crucial immunization programs. A critical finding underscores discrepancies between the funds disbursed by the State Primary Health Care Development Agency (SPHCDA) and the funds reported to be received at the LGA level. This inconsistency raises pertinent questions about reporting accuracy and the potential for paucity of documentation at the LGA level. In addition, PETS revealed the need to reduce the delays in funds transfers. Additionally, the study reveals reporting inconsistencies between the number of RI visits reported at the LGA and Primary Health Center (PHC) levels. The report led to enhanced budgetary allocation for RI and improved documentation. In the long term, the survey findings will ensure a more transparent use of public health funds, reduce waste and pilferage of funds, and enhance healthcare quality and accessibility.

Keywords: public expenditure, economic governance, efficiency, transparency, funds, sustainable development

E12

[55]

**THE RELATIONSHIP BETWEEN THE IMPLEMENTATION OF THE FIVE
PILLARS OF COMMUNITY-BASED TOTAL SANITATION AND STUNTING
INCIDENTS IN WEST TIMOR, INDONESIA**

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ABSTRACT

Stunting is caused by several factors, both directly (specific factors) and indirectly (sensitive factors). Stunting is directly influenced by food intake and infectious diseases. Indirectly, Stunting is also affected by food accessibility, parenting patterns, availability of clean water/sanitation, and healthcare services. This study aims to determine the relationship between implementing the five pillars of Community-Based Total Sanitation and the incidence of Stunting in the Oesapa Health Center working area, Kupang. This quantitative study used a cross-sectional research design and a simple random sampling technique involving 74 parents with toddlers. Data analysis used the Spearman Rank Correlation test (ρ) with $\alpha=0.05$. The results showed a significance value of $\alpha < 0.05$ indicating a significant relationship between the five pillars of Community-based Total Sanitation, including Stop Open Defecation-Free ($\alpha=0.020$), Handwashing with Soap ($\alpha= 0.000$), Household Water and Food Management ($\alpha=0.003$), Household Waste Management ($\alpha=0.005$), and Household Liquid Waste Management ($\alpha=0.003$) with the incidence of Stunting in the Oesapa health center working area. The conclusion drawn from this research is that there is a relationship between implementing the five pillars of community-based total sanitation and the incidence of Stunting. To address this issue, a health literacy campaign during integrated health posts is necessary to implement the five pillars of community-based total sanitation, especially for pregnant women and mothers with toddlers, to minimize the increase in stunting incidence.

Keywords: five pillars, community-based total sanitation, stunting, Indonesia

E13

[56]

COMMUNITY-BASED HEALTHCARE INNOVATIONS: ENHANCING PRIMARY CARE ACCESS DURING PANDEMIC THROUGH MEDICAL MOBILE UNITS IN THE SLUMS OF MUMBAI CITY

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ABSTRACT

In underserved urban slum settlements, the redirection of public health services to pandemic control efforts decreased the availability of essential primary healthcare -- maternity care, routine immunization, Tuberculosis (TB) prevention/care, and non-communicable disease management. Against this backdrop, Population Services International (PSI), partnered with Uplift Mutuals (Uplift), which operates community-owned financial risk protection systems for health through a network of support services, including provision of basic outpatient care and diagnostic services. Mumbai was at the epicentre of the pandemic, especially during the second wave. People were hesitant to step out of their houses to seek healthcare and frontline health workers were engaged in Covid-related activities. PSI and Uplift provided outpatient services and referrals in three major slum settlements of the city, covering approximately 300,000 people. Services were provided through low-cost Medical Mobile Units (MMUs); mobile vans with a doctor and essential drugs/diagnostics. Collaborations with medical officers, hospitals, and local authorities fostered trust in public healthcare system, facilitating referrals from MMU for TB treatment, antenatal care registrations, etc. During the pandemic period (Aug' 2021 – Sep' 2022), 9,657 pregnant women benefited from maternal and child health services provided at MMUs. Of 231,528 TB screenings conducted, 231 TB cases were detected and referred for treatment. Simultaneously, 16,667 patients with hypertension and diabetes received diagnosis and treatment. This resulted in saving USD 30, 248 out-of-pocket expenditures on primary care, medicines, and check-ups. The MMUs facilitated immunization of 14,473 children. The effective MMU referral system and consistent operation improved outreach during COVID-19. Post-pandemic, demand for these services has surged, highlighting the potential for such convenient, confidential, and affordable care to reach more underserved communities including persons with disabilities and transgender population.

Keywords: COVID 19, primary care, high blood pressure, medicine, diabetes, antenatal care

E14

[57]

**PERCEIVED SEVERITY AMONG PATIENTS WITH TYPE 2 DIABETES ON
GLUCOSE SELF-MANAGEMENT IN JAKARTA, INDONESIA**

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ABSTRACT

The efficiency of the Indonesia Chronic Disease Management Program (Prolanis) in promoting diabetes management is delayed as a result of the Covid-19 outbreak. To maintain optimal health outcomes, glucose self-management played a pivotal action to prevent complications among people with type 2 diabetes mellitus (T2DM). However, due to the unexpected and lifelong condition, diabetes requires belief and motivation to sustain optimal control. Therefore, this study aimed to examine the relationship between perceived severity as part of a person's belief and glucose self-management among patients with T2DM. This research is a quantitative study with logistic regression analysis involving Prolanis patients in Jakarta selected by simple random sampling (N=277). Each participant undertook measures of Glucose Management (Diabetes Self-Management Questioner), the potential severity of T2DM (Health belief Model), and basic socio-demographics as confounding factors (age, gender, education level, occupation, and duration of diagnosis with T2DM). This research found that perceived severity is significantly associated with glucose self-management (p-value = 0,011, OR = 2,225) which showed that respondents with inadequate perceived severity are 2,2 times at risk to maintain glucose self-management compared to respondents with adequate perceived severity after being controlled by a confounding variabel. The belief in the severity or negative consequences of T2DM is more likely to motivate persons to point out better behavior as prevention of complications via self-management. Therefore, this finding displayed the importance of perceived severity as a considerable potential target for approaching health intervention through personal belief. Covid-19 emphasized the efficiency of digital health technology in health promotion due to social distancing, new approach through e-health is needed to be explored accordingly.

Keywords: diabetes, glucose, self-management, perceived severity, motivation

E15

[58]

**ENHANCING URBAN PRIMARY HEALTHCARE: INSIGHTS FROM PATIENT
SATISFACTION SURVEY IN INDORE, INDIA**

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ABSTRACT

Ensuring quality and accessible primary healthcare services is pivotal for achieving Universal Health Coverage, particularly for disadvantaged urban populations, as prioritized by India's National Health Policy of 2017. Initiatives like Ayushman Bharat and the Fifteenth Finance Commission strive to bolster primary healthcare through the establishment of Urban Health and Wellness Centers. However, lingering operational challenges impede the delivery of quality care. Indore, the largest and most populous city of Madhya Pradesh, exhibits exponential urban growth, with 70% of its population residing in urban areas, including a significant slum population comprising 28% of the total urban population. Understanding the health-seeking behavior and quality of healthcare services provided to the slum population becomes imperative. Evaluating patient satisfaction alongside facility accreditation emerges as a crucial avenue for improvement. A cross-sectional survey was conducted over ten months (Oct 2023 - July 2024), involving 1200 outpatients, with 30 surveyed monthly per facility in adherence to National Health Mission (MP) guidelines. Employing a 5-point Likert scale, satisfaction was assessed across ten critical domains. Analysis revealed an overall high satisfaction level, with a mean score of 3.74 (SD 0.84), with 86% of respondents reporting elevated satisfaction levels, scoring 5 on the Likert scale. However, areas warranting improvement were identified, particularly in cleanliness and staff behavior. Participants were 717 Female, 481 Male & 2 Other Gender. Subsequent actions based on feedback included the implementation of strategies to mitigate waiting times, augment drug availability, and expedite diagnostic reporting. Targeted interventions, such as enforcing more frequent cleaning protocols and providing communication training for healthcare personnel, are imperative to enhance the overall patient experience at health facilities.

Keywords: patient satisfaction, communication, patient feedback, quality improvement, interpersonal skills

F1

[59]

THE LEVEL OF RESILIENCE OF ADOLESCENTS WITH HIV IN RWANDAKayiranga D^{1,2*}, Jourdan-Ionescu C², Mukamana D¹, Gishoma D^{1,3} and Relf MV⁴¹ *College of Medicine and Health Sciences, University of Rwanda, Rwanda*² *Department of Psychology, Université du Québec à Trois-Rivières, Canada*³ *Mental health Division, Rwanda Biomedical Center, Rwanda*⁴ *School of Nursing, Duke University, United States of America***dikayira2@gmail.com***ABSTRACT**

Resilience shapes the experiences of adolescents with HIV (AWH), enabling them to accept their health status, adapt to unexpected contexts, have hope for the future and maintain meaningful relationships. A study using a quantitative approach was conducted to describe the individual, relational and community resilience of AWH. Three hundred AWH aged 15 to 19 were recruited from 24 health centers in the 15 districts of Rwanda. In addition to collecting socio-demographic, viral load, sexual and reproductive health data, the resilience of AWH was assessed (Gottert et al., 2019). The majority of AWH have got HIV through vertical transmission (n=261, 87.0%) and 72% demonstrated resilience. Poorly resilient participants showed resilience deficits in individual, relational and community aspects. The dispersion of resilience varied from 0.31 (p=0.01) and 0.35 (p=0.03) units, respectively. Comparison of resilience scores according to viral load showed that the most resilient were those with suppressed viral load (Mann - Whitney U test, p=0.001). Initiatives aimed at improving the resilience of AWH need to focus on their biological, psychological and social well-being, as well as on their individual and relational adaptation to increase their ability to overcome obstacles and thrive despite their experiences they go through.

Keywords: adolescents, HIV, resilience, Rwanda

F2

[60]

**ADOLESCENT SEXUAL AND REPRODUCTIVE HEALTH AT THE CROSS
ROADS IN BANGLADESH: CURRENT SITUATION AND WAY FORWARD**

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ABSTRACT

Adolescent sexual and reproductive health (SRH) remains a critical cultural taboo in public sphere in Bangladesh. This study aims to address this issue by conducting a comprehensive analysis of adolescent health (AH) and sexual and reproductive health (SRH) programmes in Bangladesh, focusing on their effectiveness and impact. Data were collected via a scoping literature review, interviews, focus group discussions, observational case studies, and a stakeholder workshop, with respondents from various sub-districts. The study examined adolescent health programs in Bangladesh which varied in target populations, age ranges, and implementation platforms, such as, health facilities, schools, and community-based interventions. Findings reveal improved awareness about the problems of early marriage; improved knowledge and management of menstrual hygiene, including and use of health products and services; improved knowledge of nutrition and its practical implications; and achieving reasonable awareness around domestic and intimate-partner violence, harassment, rape and acid throwing etc. Educational interventions enhanced helped adolescents to access information, counselling, and sexual and reproductive health services. Parents acknowledged the significance of adolescent health education but expressed discomfort discussing issues with their children. They viewed adolescent clubs and programs as valuable information sources and advocated for more inclusive interventions. The study highlights the significance of adopting a comprehensive and multi-dimensional approach to AH/SRH programming in Bangladesh. By implementing the recommended actions, Bangladesh can make significant strides towards achieving the Sustainable Development Goals related to adolescent health and well-being.

Keywords: adolescent health, sexual and reproductive health, adolescent health programmes

F3

[61]

DIFFERENCES IN PARENTING PATTERNS BETWEEN GENERATIONS X, Y, Z AND ALFA

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ABSTRACT

Parenting styles or other caregivers can have an impact on children's mental health. Every family uses a different approach to parenting, typically carried over from their previous parents, when it comes to raising children. Every parent undoubtedly hails from a diverse range of backgrounds and generations. To maximize children's mental health, it is therefore essential to understand how parenting styles are passed down through generations in order to give suitable interventions. Finding out how parents apply different parenting philosophies to kids from generations X, Y, Z, and Alpha is the goal of this literature. The systematic review approach is used in this literature. The PRISMA-P protocol (Preferred Reporting Items for Systematic Review and Meta-Analysis protocol) was the methodology employed in 2020. Research was gathered by looking via Google Scholar for the original source data. PICOS (population Intervention Compare Outcome-Study Design) keyword search method. Out of the 60 studies that were located, eight were used in this analysis. The findings of this literature review highlight the disparities in parenting styles among the generations, with democratic parenting being the approach most commonly employed by parents of children in generations X, Y, and Alpha. Parenting styles used by Generation Z include authoritarian, permissive, narcissistic, and overly appreciative parenting.

Keywords: parenting style, generation x, generation y, generation z, generation alpha

F4

[62]

HEALTHCARE EXPERIENCES FOR MENSTRUATION RELATED SYMPTOMS IN ECUADORIAN UNIVERSITY STUDENTS

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ABSTRACT

Menstrual health and hygiene intersect with multiple Sustainable Development Goals (SDGs), notably SDG 3.7, aiming for universal access to sexual and reproductive health services. Access to healthcare and menstrual pain relief are vital for wellbeing, with menstruation related symptoms (MRS) known to impact quality of life. However, many experiencing MRS feel dismissed in healthcare settings. This cross-sectional study aimed to explore experiences of healthcare concerning menstrual health among young adult university students. An online survey was distributed to university students aged between 18-24 residing in Pichincha, Ecuador, between April and July 2023. A total of 379 participants (mean age = 20.8) completed the survey. Prevalent MRS reported included emotional disturbances (91.8%), menstrual cramps (91.6%), and fatigue (84.7%). The median number of MRS out of 10 symptoms was 7, with 50.1% experiencing 'high' MRS (≥ 7 symptoms). Over half of participants (53.6%) consulted a doctor about their menstrual cycle, while others cited reasons such as expense (24.4%), time constraints (13.1%), long waiting times (13.1%), or embarrassment (12.5%) for not accessing healthcare. Of those who went to the doctor, 49.7% felt comfortable discussing MRS, while satisfaction levels with treatment were moderate (48.3% satisfied, 18.7% very satisfied). Logistic regressions revealed that individuals with high MRS were less likely to feel comfortable discussing their menstrual cycle (aOR: 0.51, 95% CI, 0.29-0.92) and to be satisfied with their treatment plan (aOR: 0.38, 95% CI, 0.19-0.75), after adjusting for age and income, than participants with less MRS. Preliminary findings suggest that communication barriers between providers and patients exist and underscore the need to create supportive environments that address MRS concerns more effectively to advance towards the realization of SDG 3.7.

Keywords: menstruation, menstruation disturbances, young adult, Latin America, primary health care

F5

[63]

ASSESSMENT OF ACADEMIC BURNOUT AMONG MEDICAL AND HEALTH SCIENCES STUDENTS: A SURVEY STUDY FROM UNITED ARAB EMIRATESSalama RA^{1*}, Javid S², Mohsin MM², Mohsin AI² and Wadid NA³*¹Department of Community Medicine, Faculty of Medicine, Ras al Khaimah Medical and Health Science University, United Arab Emirates**²MBBS graduate, Faculty of Medicine, Ras al Khaimah Medical and Health Science University, United Arab Emirates**³Year 3MBBS, Faculty of Medicine, Ras al Khaimah Medical and Health Science University, United Arab Emirates***Rasha.aziz@rakmhsu.ac.ae***ABSTRACT**

Burnout emerges as a significant risk to students pursuing studies in medical and health science fields. The rigorous demands of their training can compromise their well-being and impede their professional development. The purpose of the study is to assess the prevalence of burnout among medical and health science students and to find out the factors associated with developing this syndrome. A cross-sectional study was undertaken involving students from Ras Al Khaimah Medical and Health Science University. The Maslach Burnout Inventory-Student Survey was utilized to evaluate three subscales of burnout. Before commencing the study, all necessary ethical considerations were met. Informed written consent was obtained from participants, ensuring confidentiality. Bivariate analysis and multiple logistic regression analysis were conducted to examine the relationship between demographic, personal, and school environment factors, and burnout. A total of 453 students were included in the study. The majority were females (74.8%), in the age group 18-20 years (60%). More than half (56.5%) reported emotional exhaustion, over one-third (40.8) reported depolarization and almost (94.5%) experienced reduced personal accomplishment. Overall, 308 (69%) students had burnout. Being in third or 4th year (OR=2.7, 95% CI 1.11 to 6.55; p=0.001), the challenge of commuting long distance (OR=1.7, 95% CI 1.09-3.96; p=0.049), and choosing college unwillingly (OR=1.96, 95% CI 1.12 to 4.3; p=0.02), appear to be predictors of burnout. Raising awareness, maintaining a healthy work-life balance, and advocating for coping strategies such as time management and seeking guidance from coaches, mentors, or mental health professionals are essential for promoting student well-being and fostering a positive learning environment.

Keywords: burnout, medical and health science students, Maslach burnout inventory

F6

[64]

INTELLIGENCE QUOTIENT (IQ) AND ITS ASSOCIATIONS IN INDIAN CHILDREN AND YOUTH WITH TYPE 1 DIABETES MELLITUS

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ABSTRACT

Children's verbal intelligence quotient (IQ) may be affected by type 1 diabetes (T1D), resulting in a decreased IQ. Studies have reported an association of IQ with age at onset of T1D and glycaemic control; there are very few studies in children and youth with T1D from India. Diagnosing cognitive impairment early will allow timely intervention. We thus aimed to study IQ and its predictors in children and youth with T1D. In this clinic-based cohort study, sociodemographic/educational, anthropometric, lifestyle and glycaemic control details were recorded. IQ of 438 participants (4-22years) was assessed using a standardized test- the Binet Kamat Test (BKT). Adjusted IQ (AIQ) was computed using age appropriate formulae. As glycaemic control is likely to affect IQ, we further measured IQ (and glycaemic control) consecutively at two time points(subset, n=187) with a gap of one year. Study subjects [median (25th-25th percentile), 13.9 (10.8-17.1 y)] had average IQ based on the standard BKT IQ categories [(103 (99-122)]. Subjects who were younger (standardised β , -0.207), whose parents were more educated (0.211-mothers; 0.141-fathers), who exercised/played regularly (0.100) and who had good sleep hygiene (0.100) had higher IQ. Subjects with poor glycaemic control (-0.101) and longer diabetes duration (-0.130) had lower IQ. In the subset with 2 consecutive measurements, IQ improved in subjects whose glycaemic control (HbA1c) had improved (paired t-test, $p < 0.001$). Subjects with T1D had average IQ and glycaemic control, duration of diabetes, parental education, sleep hygiene and exercise were important predictors of their IQ; improvement in glycaemic control improved IQ. Our study underlines the importance of screening for cognitive impairment and emphasizes importance of good glycaemic control for optimising IQ in subjects with T1D.

F7

[65]

**FEASIBILITY AND EFFECTIVENESS OF TEEN CLUB STRATEGY FOR
IMPROVING ANTIRETROVIRAL THERAPY RETENTION AMONG
ADOLESCENTS AND YOUTH IN MALAWI DEFENCE FORCE HIV CLINICS**

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ABSTRACT

Adolescents (10–19 years old) and young adults (15–24 years old) represent a growing share of people living with HIV. Despite massive rollout of antiretroviral therapy (ART) however, adolescents and youth still have poorer treatment outcomes at all stages of the HIV continuum, including viral load suppression. In recent years, implementation research has embarked on identifying various strategies for improving HIV/AIDS service provision with the aim to improve HIV treatment outcomes. Teen clubs are one of the strategies being implemented. We sought to assess the effects of the strategy on treatment outcomes among adolescents and youths. We conducted a mixed-methods study in October 2023 in two Malawi military health facilities. A total of 38 study participants comprising of caregivers of AYLHIV and health care workers (HCWs) were purposively selected for in-depth interviews (IDIs). We also obtained individual-level data of AYLHIV on ART from electronic medical records (EMR) prior to establishment of teen clubs (March 2021 to February 2022) and post teen establishment (March 2022 -February 2023). Chi-square test was used to compare ART outcomes before and after establishment of teen clubs in the facilities. Qualitative data was analyzed using thematic content analysis. Most HCWs felt that the Teen Club Strategy was doable. However, some reported youth friendly infrastructure as a challenge to implementation of Teen Club. HCWs further reported supporting the intervention because it provided safe space for adolescent to optimally access ART services and psychosocial support, develop supportive relationships, boost self-esteem, and establish and reinforce positive habits in their daily life. Retention in-care increased from 82% to 93.5% ($p < 0.01$) comparing before and after implementation of the strategy. Viral load suppression was high 92.7% ($p < 0.05$) after teen club compared to period before (82.1%). Orientation to the strategy, teamwork, involvement of caregivers and use of EMR system to track adolescents and youth were enablers to successful implementation. Teen club was feasible and effective in promoting retention to ART among adolescents and youths at the two military hospitals. Findings support its continued implementation.

Keywords: adolescents and youth, teen club strategy, antiretroviral therapy, art adherence, implementation research, Malawi

F8

[66]

**NURTURING RESILIENCE: ADOLESCENT-FRIENDLY HEALTH SOLUTIONS
AMIDST CONFLICT IN MANIPUR**

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ABSTRACT

Amidst the backdrop of ongoing conflict in Manipur, India, the health and well-being of adolescents face unprecedented challenges. Despite government initiatives like National Adolescent Health Program and the School Health and Wellness Program, adolescents in Manipur continue to grapple with issues ranging from substance abuse to mental health disorders. The conflict exacerbates these vulnerabilities, straining an already fragile healthcare system and restricting access to essential services. Recognizing the urgent need to address these challenges, our study focused on developing adolescent-friendly health solutions tailored to the unique context of Manipur. Through informal discussions with adolescents, youths, parents, and service providers, we gained invaluable insights into the barriers to accessing healthcare and identified key preferences and suggestions for improvement. Based on our findings we are establishing dedicated adolescent-friendly spaces, separate from traditional health facilities, where adolescents can access comprehensive physical and mental health services in a supportive environment. These spaces, equipped with recreational amenities and staffed by trained professionals, will serve as vital outlets for adolescents to seek solace, forge connections, and address their health concerns. Additionally, we developed a mental health chatbot to provide adolescents with accessible information and support for managing mental health issues. Covering topics such as depression, anxiety, and self-care, the chatbot offers informative videos and encourages users to seek professional help when needed. In conclusion, amidst the ongoing humanitarian crisis in Manipur, there is an urgent imperative to prioritize the health and well-being of adolescents. By implementing adolescent-friendly health solutions and leveraging digital tools for support, we can empower adolescents to navigate the challenges of conflict and cultivate resilience in the face of adversity.

Keywords: adolescent health, humanitarian crisis, mental health, conflict and health

F9

[67]

**AWARENESS OF POLYCYSTIC OVARIAN SYNDROME AND LIFESTYLE
BEHAVIOR AMONG MEDICAL STUDENTS OF RAS AL KHAIMAH MEDICAL
AND HEALTH SCIENCE UNIVERSITY**

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ABSTRACT

Polycystic ovarian syndrome (PCOS) poses a significant challenge in contemporary medicine, with its prevalence on the rise despite limited understanding and awareness. This study aimed to evaluate the awareness of PCOS among undergraduate medical students and explore the lifestyle behaviors of female medical students. A cross-sectional study was conducted from January to March 2023 among undergraduate medical students across all years. An anonymous semi-structured questionnaire was utilized to collect demographic data, assess awareness of PCOS, and explore lifestyle behaviors associated with the syndrome. Ethical approval was obtained from the local institutional review board and informed written consent was secured from participants. Statistical analyses, including T-tests and ANOVA, were employed to compare means between groups. A total of 233 students participated, comprising 164 females (70.4%) and 64 males (27.5%). The majority (69.9%) of students were aware of menstrual cycle irregularities, while 67.8% recognized hormonal imbalance as a risk factor. Notably, 44.6% were aware of endometrial cancer as a potential complication, and 48.5% understood the psychological ramifications of binge eating disorder. Additionally, 66.5% of students acknowledged the role of regular exercise in PCOS prevention. Regarding lifestyle behaviors, 70.7% of females reported regular consumption of junk food, while 56.1% engaged in regular exercise. The study identified gaps in knowledge regarding PCOS among undergraduate medical students, emphasizing the need for increased awareness and education. Lifestyle modifications, including dietary habits and stress management, are essential for enhancing understanding and promoting preventive strategies among medical students.

Keywords: awareness, university students, polycystic ovary, lifestyle behavior

G1

[68]

UNDERSTANDING THE DRIVERS AND DETERMINANTS OF ZERO DOSE CHILDREN AND COMMUNITIES IN NIGERIA TO INCREASE VACCINE ACCESS AND EQUITY

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ABSTRACT

Background: Nigeria contributes disproportionately to the global zero dose burden, with 2.25 million children not receiving the first dose of the Diphtheria-pertussis-tetanus (DPT 1) vaccine in 2021. However, insufficient attention has been given to reaching these zero-dose children because previous efforts have addressed under-vaccinated and unvaccinated children as one large group. Understanding the factors affecting equity, access, and effective delivery of routine immunization (RI) services in these communities is crucial. This is part of a larger study to gain insight into the risk factors affecting effective routine immunization service delivery and demands in zero-dose communities and utilize the human-centered design (HCD) approach to provide a pathway for the design of contextual and practical solutions targeting zero-dose communities to increase immunization uptake. Methods: The study was conducted in June 2021- May 2022 across 12 Local Government Areas (LGAs) in 7 states in Nigeria, including remote rural, riverine, security-challenged, and urban poor settings. Qualitative interviews including Key Informant Interviews (KIIs) and In-Depth Interviews (IDIs) with immunization program managers (PMs), healthcare workers (HCWs), community leaders, and parents of zero-dose children. These interviews, guided by the WHO journey to immunization and the UNICEF Behavioral and Social Drivers (BeSD) of vaccination frameworks, uncovered supply and demand-side drivers and determinants of zero dose. 79 KIIs and 1DIIs were conducted. Results: Thematic analysis using Dedoose software revealed systemic challenges such as inadequate healthcare personnel and funding, alongside socio-behavioral barriers including fear of adverse effects following immunization (AEFI), cultural beliefs, and logistical difficulties. Conclusion: Context-specific strategies are essential to enhance vaccine equity and access in underserved settings. Addressing systemic and socio-behavioral challenges is crucial for effective RI delivery and uptake in zero-dose communities.

Keywords: immunization, zero dose children, barriers, equity, Nigeria

G2

[69]

**THE WORLD'S LONGEST RUNNING CIVIL WAR AND CHRONIC CHILDHOOD
UNDERNUTRITION IN MYANMAR: A PROPENSITY SCORE MATCHING
APPROACH**

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ABSTRACT

Myanmar is a witness to the world's longest running civil war between its various minority ethnic factions and the ruling military junta. Such conflicts have been shown to have a detrimental effect on the social, economic and public health fabric of a country. In this study, we attempt to examine the impact that this conflict has had on chronic childhood undernutrition, namely stunting. For this purpose, we use a propensity score matched analysis on data obtained from the 2015-16 Myanmar Demographic and Health Survey (MDHS). The results indicate that under 5 children hailing from conflict-affected regions have a significantly higher odds of stunting compared to their peers from unaffected regions (AOR = 1.28, 95% CI 1.10-1.49). Covariate balance was established with respect to various perceived confounders and the results were robust to various alternative modeling frameworks of estimating propensity scores as well as to unobserved confounding. This is probably the first study that provides rigorous data-driven evidence about the detrimental impact of the civil war on chronic undernutrition, specifically those staying in conflict affected zones.

Keywords: Myanmar demographic and health survey, ethnic conflicts, childhood stunting, propensity score matching

G3

[70]

**REVOLUTIONIZING CHILD-CENTRIC CARE WITH INTEGRATED MODEL
AND DIGITAL TECHNOLOGIES FOR IMPROVED SUPPORT AND SCALABLE
IMPACT**

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ABSTRACT

Health Promotion Board (HPB) conducts health screenings, coaching for weight management, vaccinations, dental check-ups and treatment for 400,000 students annually in Singapore. Obesity rates among school children have risen since 2011, worsened by COVID-19. Face-to-face coaching programs- initiated struggle with low attendance due to travel issues to counselling sessions. Additionally, the program's excessive costs and resource demands make it financially unsustainable and difficult to scale. To address these challenges, the authors introduced Virtual Coaching (VC) using video call function as part of an integrated programme to support obese children weight in Jul 2023. VC includes four 30-minute sessions over six months, focusing on diet, exercise, and sleep for weight management. Using a “natural experiment” approach, this prospective cohort study with 923 eligible students were offered virtual coaching premised on motivational interviewing (MI) technique. The comparison group was a 2022 historical cohort of 2,704 using face-to-face method. Students were enrolled based on motivational levels. All including those with low motivational levels were supported by digital resources. Comparing to the historical cohort, the prospective cohort of 354 students showed improved adherence attendance to the programme (30% to over 65%) and reported statistically significant positive behavioural changes including better sleep (>7), reduced sugary drink consumption (from 43% to 50%), increased participation in moderate-to-vigorous physical exercise (16 min per week improvement). Improvement in BMI (>1.0) was seen in 35% after six months. The revamped approach enables scaling harnessing virtual means (phone video coaching) in a cost-efficient way. In conclusion, virtual coaching is superior to traditional face-to-face coaching with better enrolment and statistically significant improvement in modifiable behaviours and BMI.

Students were enrolled based on motivational levels. All including those with low motivational levels were supported by digital resources.

Keywords: virtual coaching, sugar sweetened beverage (SSB), sleep, moderate-vigorous physical activities (MVPA), weight management

G4

[71]

**ACUTE RESPIRATORY INFECTIONS AMONG CHILDREN UNDER 5YO ;
DETERMINANTS AND ECONOMIC BURDEN**

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ABSTRACT

With a population of around 265 million, Indonesia ranks first in Acute Respiratory Infections (ARI)-related deaths among other countries in Southeast Asia. When viewed at the regional level, Tamansari District had the third highest prevalence of ARI in 2021, with a percentage of 13.4% of the total cases in the city of Tasikmalaya. Various factors can influence children under the age of five to suffer from ARI. Apart from impacting morbidity and mortality, ARI also results in economic losses through increased use of healthcare resources and loss of productivity. Therefore, this research is conducted to explore the determinant factors and economic burden of ARI in Tamansari District. This research will use a matched case-control study to estimate statistical association between exposure and the likelihood of becoming infected in a specific patient population. The sample calculation design considered a 95% confidence interval, 80% power, 5% alpha level, 1:2 case-to-control ratio, and 2.00 extreme odds ratio. We assumed that the control proportion of family members who smoke to the prevalence of ARI in Indonesia is 71.4%. Based on the sample calculation using Open EPI software, the final sample size was 480 (160 cases and 320 controls). To test for differences in the mean cost estimates between the case and control groups, we performed a mean difference test. To ensure that the results were not biased, we performed a sensitivity analysis by comparing the cost components between the case and control groups. The economic burden of direct and indirect costs of ARI incidents will be estimated using micro costing. We use logistic regression to estimate factors determine of ARI cases among children.

Keywords: ARI, Tamansari sub-district, under 5-yo, microcosting, logistic regression, match-case-control

H1

[72]

HBM4LV: STEPPING TOWARDS A NATIONAL HUMAN BIOMONITORING PROGRAM IN LATVIA

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ABSTRACT

Human biomonitoring assesses total exposure to chemicals. Latvia is one of the countries in Europe without a national human biomonitoring program. Therefore the Ministry of Health initiated a State Research Program granting a 2-year project called “Development of Human Biomonitoring Program for Latvia - HBM4LV” to move towards program development. One of the project tasks is the identification of priority chemicals to be included in the program. Initially, the Ministry of Health of Latvia pre-defined three priority groups: pesticides, heavy metals, and persistent organic pollutants. Acknowledging the work that had already been done under HBM4EU, it was decided to access the criteria that were used in HBM4EU chemical prioritization strategy because this, in turn, reviewed the criteria used in other HBM programs for chemical prioritization. The HBM4LV prioritization strategy combines HBM4EU data and national data on environmental contaminants, using an adapted Hanlon method, assessing problem size, hazardous and exposure characteristics, national importance and societal concern. Each component is scored (scores from 15-60 points) and weighted to produce a final score (maximum of 150 points). The substances and/or groups are investigated in a similar manner and background documents are prepared for discussion with the national Human Biomonitoring Council to agree on priority chemicals that should be monitored in Latvian citizens. Substance identification and prioritization is essential for setting up a human biomonitoring program. Our experience can model for countries that currently do not have national human biomonitoring programs. This study is funded by State Research Program “Development of Human Biomonitoring Program for Latvia - HBM4LV”, project nr. VPP-VM-Sabiedrības_Veselība-2023/4-0001.

Keywords: human biomonitoring, chemical identification, chemical prioritisation

H2

[73]

**ROLE OF VIRGIN COCONUT OIL AS COGNITIVE DISORDERS THERAPY
WITH SEVERE MALNUTRITION, INTRAKRANIAL TUMOR AND
MULTIMORBIDITY PATIENT: A CASE REPORT**

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ABSTRACT

Case report; a 65-years-old female patient with Bronkopneumonia, Anemia, Imbalance electrolyte, Hipertension. Physical examination revealed loss of subcutaneous fat. Blood test showed anemia (10,7 g dL⁻¹), leukocytosis (38.700 ml⁻¹), hypoalbuminemia (2,8 g dl⁻¹), severe immune depletion (580 mL⁻¹), Hypokalemia (2.3 mmol/L), and Hyponatremia (127.1 mmol/L). Nutritional therapy was given via enteral due to total energy requirement 1500 kcal and protein was given 1.4-1.7 g per kilogram body weight per day. Additional supplementations in the form of Virgin Coconut Oil around 20 ml a day, zinc, multivitamins, and snakehead fish extract. After 20 days, patient was discharged from hospital with adequate oral nutrition. increases upper arm circumference (17.5-17.7), improved blood test results such as immune status (580 to 819 mL⁻¹), albumin (2,6 to 2,8 g dl⁻¹). In conclusion, nutritional therapy supported by Virgin Coconut Oil, improved nutritional status and clinical outcome in patient with SOL Intrakranial.

Keywords: virgin coconut oil, malnutrition, cognitive disorder, and SOL INTRA KRANIAL

H3

[74]

THE IMPLEMENTATION OF DIET IN DIABETIC VERSUS PRE-DIABETIC PATIENTS IN LONG TERM TEXAS FACILITIES

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ABSTRACT

Diabetes Mellitus and Pre-Diabetes Mellitus are two of the fastest growing diseases in the world. While extensive research has been done regarding dietary regulations in Diabetics, there is a lack of pre-existing research addressing diet regulations in Pre-diabetics. Considering diet plays a crucial role in the recovery process of these patients, the scarcity of information regarding diet regulation in Pre-Diabetics is quite alarming. Thus, this study focuses on examining the implementation of diet in Diabetic versus Pre-diabetic patients in long term Texas Facilities. To assess the adherence to the CDC's Recommended Dietary Allowances, 12 long term Texas facilities participated in one or more of the following 3 methods: a quantitative questionnaire, qualitative interviews, and both a quantitative and qualitative dietary menu analysis. The results concluded that the extent to which the CDC'S recommended dietary allowances are implemented in the diet of Pre-diabetic patients in Texas facilities is much less efficient than in diabetics due to leniency of dietary regulation, granting of dietary requests, longer monitoring intervals, and lack of priority towards educating the patient on dietary restrictions in Pre-diabetics.

Keywords: diabetes mellitus, pre-diabetes mellitus, dietary regulations

H4

[75]

EXAMINATION OF MONITORING EPIDEMIC STATUS THROUGH DAILY SUBMISSION OF INSURANCE CLAIM INFORMATION IN JAPAN

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ABSTRACT

In Japan, timely monitoring of infectious disease outbreaks such as COVID-19 is critical to public health. This study aims to develop a system for real-time or daily collection of infectious disease data through insurance claim information, thereby reducing the burden on medical institutions. Many medical institutions in Japan conduct online confirmation for health insurance qualification and online billing, and secure lines are used. Through interviews with several university hospitals, we explored the feasibility of real-time or daily submission of diagnosis procedure combination data, which medical institutions in Japan currently submit to the Ministry of Health, Labour and Welfare once every three months, and insurance claims, which medical institutions submit to payment review organizations once a month. The results indicate that real-time or daily data submission is currently impractical due to lengthy data processing times. However, reducing the volume of data and limiting the scope to specific inpatients, medical procedures, and larger facilities could improve feasibility. Implementing an efficient extraction program and ensuring a secure submission line are necessary. Specific methods to reduce data volume include targeting patients with specific ICD-10 codes in larger acute care facilities. Future discussions should focus on the frequency of data collection, target institutions, and data granularity. The cost of implementing and maintaining the system is also important to consider, but considering this system as part of disaster preparedness may justify the investment. By incorporating this system into disaster preparedness strategies, Japan can significantly improve its preparedness and response capabilities for future infectious disease emergencies and ensure a more efficient and effective public health infrastructure.

Keywords: infectious disease, epidemic status, monitoring, health insurance claims, Japan

H5

[76]

**APPLYING BACK PROPAGATION NEURAL NETWORK AND RECURSIVE
NEURAL NETWORK FOR OPTIMAL LOCATION OF RURAL HEALTH UNIT
FACILITIES IN THE PHILIPPINES**

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ABSTRACT

Access to healthcare remains a challenge in most areas in the Philippines. Fifty percent (50%) of the Philippine population do not have access to a Rural Health Unit (RHUs) within a 30-minute travel distance. As a response, the Philippine Department of Health needs to construct an additional 2400 RHUs by 2025. This paper proposes a solution to healthcare inaccessibility by selecting locations where under-served populations are prioritized, for RHU construction. RHU accessibility was measured using a back propagation neural network (BPNN) and a recurrent neural network (RNN). The models were applied to locate areas, with limited healthcare accessibility, that can be transformed to high accessible locations through the addition of a RHU. The BPNN showed stronger generalization across regions, achieving 79.1% average accuracy on Region 1 and identifying 50.5% of its land as candidate RHU sites. Applied to Regions 7 and 10, it found 48.7% and 51.9% candidate sites, respectively. The RNN, better in precision and capturing unique regional characteristics, required separate training: 77.2% average accuracy on Region 1, 83.5% on Region 7, and 73% on Region 10, identifying 42.9% of Region 1's land as candidate sites. These results were validated through testing on Regions 7 (67.9%) and 10 (53%). The implications of our findings suggest that more of the land area of a region can be utilized more efficiently to boost population access to healthcare facilities such as RHUs. The study contributes to the ongoing effort to enhance healthcare infrastructure, quality and accessibility, offering evidence-based recommendations for more RHU locations through site selection.

Keywords: healthcare accessibility, back propagation neural network, recursive neural network, site selection, optimization

H6

[77]

**UTILIZING CHICKEN EGGHELL-DERIVED ORGANIC FERTILIZER (CEOF)
TO ENHANCE PLANT GROWTH: A STEP TOWARDS ENVIRONMENTAL
SUSTAINABILITY IN HEALTHCARE FACILITIES**

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ABSTRACT

The implementation of environmentally friendly practices in healthcare facilities, particularly hospitals, has gained significance under the backdrop of evolving health laws and environmental consciousness. With the increasing emphasis on sustainability and environmental health, the utilization of organic waste like chicken eggshells as fertilizer presents an opportunity for hospitals to contribute positively to both environmental and public health. This research aims to investigate the efficacy of chicken eggshell-derived organic fertilizer (CEOF) on the growth of *Catharanthus roseus*, commonly known as Tapak Dara, a medicinal plant, within the framework of the Green Hospital Program at RS Hermina Melkarsari Hospital. The study employs an experimental design using quasi-experimental methods. CEOF was applied to *Catharanthus roseus* plants in varying concentrations (50g, 60g, 70g, 80g) alongside a control group with no fertilizer. Growth parameters such as flower count, stem count, leaf length, plant height, and leaf count were measured over two months. Analysis revealed significant differences ($p < 0.05$) in flower count, stem count, leaf length, plant height, and leaf count among the different fertilizer concentrations compared to the control group. The One-Way ANOVA test demonstrated rejection of the null hypothesis, indicating the effectiveness of CEOF in promoting plant growth. The study concludes that chicken eggshell-derived organic fertilizer positively influences the growth parameters of *Catharanthus roseus*. The findings support the feasibility of utilizing organic waste materials like chicken eggshells as environmentally friendly fertilizers in hospital settings, contributing to the Green Hospital initiative's objectives of sustainability and environmental stewardship.

Keywords: egg shell, chicken eggshell-derived organic fertilizer, green hospital

H7

[78]

**PROCESSING AND UTILIZATION OF HEMODIALYSIS JERRICAN WASTE IN
THE MANAGEMENT OF HAZARDOUS WASTE AS THE IMPLEMENTATION OF
GREEN HOSPITAL**

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ABSTRACT

Hospitals play a vital role in enhancing community quality of life by delivering comprehensive medical services. Hospital Hermina Depok, a prominent healthcare provider with 230 beds, serves as a significant case study for addressing the challenges of hazardous and toxic waste (B3) management. The diverse and increasing medical services at the hospital generate substantial B3 waste, posing severe health and environmental risks. Effective waste management is therefore critical to prevent contamination and ensure a healthy environment, particularly in high-activity areas. This study examines the B3 waste minimization initiatives at Hospital Hermina Depok, focusing on the recycling of used hemodialysis jerry cans. Adhering to the Ministry of Environment and Forestry Regulation No. 56/2016, which sets technical standards for B3 waste management in healthcare facilities, the research employs a descriptive methodology. Data from 2022-2023 was analyzed through field surveys and observations. The findings reveal that Hospital Hermina Depok generates approximately 6,500 kg of B3 waste monthly, including 2,100 jerry cans. Through cutting, disinfecting, and recycling processes, the hospital effectively converts B3 waste into non-B3 waste, which is then sold to licensed recyclers. This practice not only reduces B3 waste volume but also generates additional income, which is reinvested in hospital sustainability projects, such as the creation of a rooftop garden. Hospital Hermina Depok's waste management efforts have notably decreased the volume of B3 waste and associated disposal costs, demonstrating the efficacy of waste minimization strategies. Furthermore, the revenue from recycling supports sustainability initiatives, reinforcing the green hospital concept. These practices underscore the dual benefits of cost savings and environmental stewardship achieved through innovative waste management.

Keywords: B3 waste, waste minimization, recycling, green hospital, hazardous waste management

H8

[79]

**LEVEL OF AWARENESS AND IMMUNIZATION STATUS OF HEPATITIS – B
AMONG THE NURSES OF SELECTED MEDICAL COLLEGE HOSPITALS IN
DHAKA CITY**

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ABSTRACT

Hepatitis B virus infection is a significant public health concern worldwide, posing a significant risk to healthcare personnel. The virus is transmitted through blood or body fluids, including wound exudates, semen, vaginal secretions, and saliva. It can lead to chronic liver infections, cirrhosis, and hepatocellular carcinoma in the long run. The virus is transmitted vertically from infected mothers to neonates through the placenta, infected birth canal during normal vaginal delivery, breast milk, and horizontally through person-to-person contact through blood and blood products transfusions, sharing needles in intravenous drug abusers, and unprotected sexual intercourse with an infected person. Pre-diagnosis of HBV infection is crucial before vaccination, blood and blood product transfusion, or any other surgical procedure. Healthcare professionals must be knowledgeable about the virus's mode of infection, transmission, disease severity, and prevention. Dhaka Metropolitan, the capital city of Bangladesh, is home to many Medical College Hospitals and Medical Institutes, providing the best healthcare facilities in the country. Health care personnel must be knowledgeable about the disease and provide satisfactory patient care, as a lack of knowledge can demoralize patients and affect the hospital's reputation. A study is being proposed to determine the level of awareness and immunization status of Hepatitis B in selected medical college hospitals in Dhaka City.

Keywords: HBV, infection, knowledge, personnel, transmitted

H9

[80]

NURSING CARE FOR *MYELODYSPLASTIC SYNDROMES* PATIENTS IN EMERGENCY DEPARTMENT: CASE REPORT

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ABSTRACT

Myelodysplastic syndromes (MDS) are conditions that indicate low levels of certain or several types of blood cells. MDS has symptoms that carry a high risk causes death due to complications of *cytopenia*. Laboratory check results of MDS patients who came to the Emergency Room (ER) showed abnormal hemoglobin, hematocrit, leukocytes, and platelets values but showed different symptoms in each patient. Management of MDS patients requires comprehensive treatment to prevent worsening and life-threatening conditions. The purpose of this scientific paper is to find out nursing diagnoses that may arise, signs and symptoms, nursing intervention and to evaluate the results of interventions for MDS patients in emergency department of X Hospital Semarang. This research was conducted at the central public hospital in Semarang from October to November. The method used in this study is a case report with the application of management to MDS patients. Participants involved in this study were 5 patients with a diagnosis of *myelodysplastic syndrome*. Assessments carried out on managed MDS patients experiences ineffective peripheral perfusion, fatigue, and other symptoms varied and distinct for each patient. Interventions given to MDS patients aims to improve peripheral perfusion are circulatory care, monitoring blood laboratory results, intravenous insertion, and blood transfusion. The results of this scientific paper show the improvement conditions in peripheral perfusion such as circulation status, breathing patterns, and ability to perform daily activity. Fatigue level and hemoglobin values have not shown any improvement because the evaluation was carried out before the blood transfusion. It is hoped that the results of this case report can be a reference for nurses' practice in the Emergency Room and research in managing MDS patients with different symptoms.

Keywords: Myelodysplastic syndromes, emergency room, nursing management

J1

[81]

AWARENESS LEVELS AND TESTING PREFERENCES FOR SEXUALLY TRANSMITTED DISEASES (STDs) AMONG UNIVERSITY STUDENTS IN KARACHI, PAKISTAN

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ABSTRACT

Pakistan has a conservative society where conversations around sexual health are considered taboo even though urban university culture includes dating and relationships. This study aims to evaluate students' knowledge about the types of Sexually Transmitted Diseases (STDs), along with information-seeking patterns regarding testing for STDs. An anonymous online survey was designed to gather responses from students across universities in Karachi, Pakistan. Additionally, clinical institutions were reviewed for availability and affordability of tests for STDs. Survey responses (n=171) yielded interesting results from both, male and female, participants. When asked to correctly identify STDs and their modes of transmission, 31.4% demonstrated a complete understanding, 49% exhibited a partial understanding, and 19.5% indicated no understanding. Interestingly, no significant difference was observed among the students from soft or hard sciences. While 89.9% recognized that each STD would have a different test, 18.3% expressed unwillingness to recommend STD testing for a friend, stating unawareness regarding testing facility as a major concern. Among those willing to get tested, 81% favored private hospitals or labs for testing, citing lack of trust in public healthcare sector. Clinical institutions' websites provided limited information regarding name and detail of STD tests with pricing not mentioned or in the higher range. This study reveals a significant gap in knowledge about STDs among university students, even in ones with the hard sciences background. Despite a dating and relationship culture, societal taboos surrounding sexual health discussions limit comprehensive understanding. These findings highlight the urgent need for educational interventions tailored towards young adults, along with increased transparency, accessibility, and affordability of STD testing services in both public and private healthcare sectors.

Keywords: sexually transmitted diseases (STDs), sexual health, healthcare, student, Karachi

J2

[82]

**MEANINGFUL ENGAGEMENT OF YOUNG PEOPLE IN THE
IMPLEMENTATION OF SEXUAL REPRODUCTIVE HEALTH (SRH)
PROGRAMMES FOR ENHANCED ACCESS TO INFORMATION AND SERVICES
AMONG YOUNG PEOPLE IN INDIA**

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ABSTRACT

India is home to an estimated 370 million young people, the largest in the world (*Census 2011, Population Projections for India and States, 2011 – 2036*) making Sexual and reproductive health (SRH) a critical component for ensuring health and well-being of young people thereby contributing to their holistic development. Given the current policy environment in the country, there are only two government programmes namely Rashtriya Kishor Swasthya Karyakram (focuses on adolescents, below age of 18) and Mission Parivar Vikas (focuses on married couples, both over and under the age of 18) with provisions for ensuring access to information and services pertaining to SRH. These programs have an obvious blind spot, with unmarried young people over the age of 18 left out from the service provision. Therefore, the challenge to address the diverse SRH needs of young people still persists. In order to comprehend the obstacles involved in the SRH service delivery for young people, a qualitative assessment was conducted through 90 key informant interviews with health service providers and RKSK programme implementers identified using randomized sampling technique across 10 states. The qualitative data was codified and analyzed to frame the findings based on the narratives and anthology of the respondent feedback. The findings highlighted the lack of awareness, staggered access to information and judgemental attitude from service providers as reasons behind increased unmet need of contraception among young people as data collectors and respondents themselves. Using this data, youth champions across four states have anchored the Adolescent Health & Wellness Days influencing about 2.5 lac people with leveraging support from local authorities. This model of ecosystem approach of centering young people's experiences to strengthen, design and deliver programmes will ensure sustainable and effectiveness of government initiatives to ensure higher uptake of SRH services among young people for their health and well-being.

Keywords: young people, sexual reproductive health rights, contraceptives, access

J3

[83]

**TEST AND TREAT: THE EXPERIENCES IN THREE CLINICS SERVING HIV
TEST AND ARV IN BALI**

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ABSTRACT

The government of Indonesia has adopted a test and treatment regulation in order to improve access to Anti Retro Viral Treatment (ART). By this regulation, those people who have seroconversion to HIV test positive will directly received ART regardless the CD4 count. Yet, the proportion of men who have sex with men who access the Test and treatment services are still below the target. This study aims to understand barrier and facilitator regarding the test and treatment in the same day. The research questions were what is the barrier and facilitator of the Men Who Have sex with men (MSM) to access this services? This research applied a qualitative methods using in-depth interview and focus grou discussion (FGD), The total of 26 informants were involved in this study with 16 of informants at in-depth interviews were MSM and 10 participants of FGD were HIV testing counsellor and doctors. Daya analysis were done by transcribe the interviews, then generate the coding, sub themes and themes. This research generated three themes related with barrier to undergo HIV testing, barrier to undergo ARV treatments and facilitator of HIV test and treatment. Lack of understanding of the HIV syntoms and intention to deny where related with the HIV test barrier, as for the barrier to undergo the ARV in the same day of test were related with the lack of understanding of ARV, fear of the side effects, fear of receiving stigma from friends and family when discovered their HIV status and hesitation to maintain ARV adherence. The implication of this research is to improve knowledge of the MSM related with the symptoms of HIV and ARV, to improve self confidence of the new ARV user on how to maintain ARV adherence and to improve communication strategy on HIV treatment.

Keywords: HIV communication, test and treatment, Bali, Indonesia

J4

[84]

ASSESSING STAKEHOLDERS' PERSPECTIVES ON MOBILE HEALTH INTERVENTIONS FOR ADOLESCENT SEXUAL AND REPRODUCTIVE HEALTH EDUCATION IN INDIA: BARRIERS AND OPPORTUNITIES

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ABSTRACT

Mobile health (mHealth) programs offer opportunities to improve the sexual and reproductive health (SRH) of adolescents by providing information. This paper reports the findings of a study carried out in 3 states of India, to assess stakeholders' perspectives on access to and use of mobile phones by adolescents for SRH education. We aimed to establish whether mobile phones could facilitate access to SRH information by adolescents and the barriers to be addressed. This was a qualitative exploratory study involving adolescents, parents, teachers, health care workers, and community health volunteers. Data were collected through focus group discussions (FGDs) and key informant interviews (KIIs), and were analyzed through thematic and content analysis. Respondents lauded mHealth as an effective and efficient approach to adolescent SRH education with a potential to promote the learning of useful SRH information to influence their behavior formation. Respondents pointed out bottlenecks such as the limited ownership of and inequitable access to phones among adolescents, logistical barriers such as lack of electricity, internet connectivity, and the impact of phones on school performance, which must be addressed. The usefulness of mHealth in adolescent SRH education can be enhanced through inclusive program formulation and co-creation, implemented through safe spaces where adolescents would access information in groups, and supported by trained counselors.

Keywords: comprehensive sexuality education, sexual and reproductive health and right

K1

[85]

**NATURE, PREVALENCE AND DETERMINANTS OF MENTAL HEALTH
PROBLEMS EXPERIENCED BY ADOLESCENTS IN SOUTH ASIA: A
SYSTEMATIC REVIEW OF THE EVIDENCE**

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ABSTRACT

Adolescence is a sensitive phase of human development where individuals are particularly vulnerable to developing mental health problems (MHPs). South Asia, home to 24% of the global population, is mostly comprised of low-and-middle-income countries, where most of the world's young people live in. This systematic review aims to assess the available evidence on nature, prevalence and determinants of MHPs experienced by adolescents in South Asia. Searches were conducted in four online databases. Two independent reviewers performed title, abstract, full-text screening, data extraction and quality assessments. Extracted data were categorised into two groups: school-based studies (SBS) and non-school-based studies (NSBS). Data were further stratified according to country and condition and narratively synthesised. Of the 5847 records identified in the searches, 117 met inclusion criteria. Most (n= 87) were SBS. In these, highest prevalence ranges were reported for anxiety disorders in India (1.5-81.6%). In NSBS (n=30), highest prevalence estimates were for depression in India (0.4-98.5%). Determinants/associated factor groups include: individual characteristics; violent victimisation; poor family/home/school environment and peer relationships; already experiencing MHPs and substance use/abuse. Increased physical activity, adequate nutrition, safe homes, being unmarried females, higher maternal education, positive family environment, peer support/friendship, higher education level and engaging in extra-curricular activities were protective of mental well-being. Prevalence of MHPs among South Asian adolescents are substantially higher than those reported in high-income countries. Determinants include social, cultural, environmental and socioeconomic factors often beyond individual control. Protective factors show a potential starting point for mental health policies, programs and future research. Population level epidemiological data incorporating research methods appropriate to the cultural context is also needed.

Keywords: mental health, adolescent, South Asia, mental health problems, determinants

K2

[86]

UNCOVERING THE LINK BETWEEN WORKPLACE PSYCHOSOCIAL ENVIRONMENT AND MENTAL WELLBEING AMONG LOW SOCIOECONOMIC WORKERS: A DESCRIPTIVE QUALITATIVE ANALYSIS

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ABSTRACT

In Malaysia, the lowest socioeconomic population or bottom 40% represented the lowest-income earners group. This group is vulnerable and highly dependent on aid and subsidies, and access to quality education can be limited, thus impacting employment opportunities. This situation intensifies the risk to an individual's mental health. Poor mental health leads to productivity loss and incurring management's operation costs. The workplace's perceived psychosocial environment can either benefit or harm workers. This study explored workers' understanding of mental health and its symptoms, as well as the perceived workplace psychosocial factors experienced by them. This study used a descriptive-qualitative approach using semi-structured interviews with eight participants. Data analysis identified overarching themes of workplace-related psychosocial work environments, particularly (1) job control, (2) job demands, and (3) social support, which strongly affected the participants' mental health. The study also discovered the participants' understanding of mental health, including symptoms, and coping mechanisms.

K3

[87]

**COMMON MENTAL DISORDERS AMONG HEALTH CARE WORKERS AT A
TERTIARY HOSPITAL IN ZIMBABWE DURING COVID-19: A CROSS-
SECTIONAL STUDY**

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ABSTRACT

Healthcare workers (HCWs) played a critical role in addressing the medical and psychological needs of patients during the pandemic and have been impacted psychologically by the COVID-19 pandemic. Within a range of 10–60% of COVID-19 infections globally, HCWs account for around 10% of all COVID-19 cases. The aim of this study is to assess the prevalence of symptoms of CMDs among HCWs and associated factors during COVID - 19 at a tertiary hospital in Zimbabwe. A cross sectional study was therefore carried out at Arundel Hospital targeting fulltime nurses, doctors, lab technicians, administration staff, and cleaning staff aged 18 years and older. A sample size of 245 subjects was derived. A questionnaire was administered to HCWs at Arundel hospital in Zimbabwe with 2 sections: 1) Socio-demographic questions and factors which affect symptoms of CMDs, and 2) The WHO Self-reporting tool (SRQ-20) which is a mental health screening tool. The sampling strategy for the study was purposive sampling using a random sampling technique. Findings of this study revealed that 24% of respondents reported having CMDs symptoms, while the remaining 76% were symptom-free. The respondent's age was found to be statistically significantly associated with symptoms of CMDs. HCWs who were aged between 30-39 years were 33.6% less likely to have CMDs compared to those aged between 18 - 29 years adjusting for confounders. Participants who were medical practitioners were 52.3% more likely to have CMDs compared to nurse practitioners adjusting for confounders. In conclusion, the findings of this study suggest that there is an alarming need for intervention through psycho-support to HCWs during pandemics.

Keywords: common mental disorders, coronavirus disease for 2019, health care workers

K4

[88]

MULTI-LEVEL ANALYSIS OF THE ASSOCIATIONS BETWEEN INTIMATE PARTNER VIOLENCE AND CHILD ABUSE IN HONDURAS

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ABSTRACT

Intimate Partner Violence (IPV) is often linked to child abuse, predominantly focusing on physical abuse. Less explored is the connection between IPV and psychological abuse. Prior research has mainly included individual and household characteristics as confounders. This study assessed the link between IPV and both physical and psychological child abuse in the context of individual, household, and area-level factors. Caretaker and household data from the 2019 Honduras Multiple Indicator Cluster Survey were linked with homicide rate and inequality-adjusted human development index as regional indicators. Among 6,982 female caretakers of children aged 2-14 years, 57% reported experiencing IPV, 44% reported using child discipline methods that imply psychological abuse, 53% physical abuse, and 65% reported any type of abuse. IPV was significantly associated with both physical (OR=1.19, 95% CI= 1.04, 1.37) and psychological (OR=1.45, 95% CI=1.23, 1.71) abuse, and the estimates remained unchanged after adjusting for confounders. Physical abuse was significantly associated with children aged 2-5 years (OR=3.55, 95% CI=2.87, 4.4), and caretakers' accepting attitudes towards corporal punishment (OR=2.82, 95% CI=2.44, 3.26). Psychological abuse was significantly linked to caretakers' previous history of abuse (OR=1.59, 95% CI=1.22, 2.06) and child's disability (OR=1.44, 95% CI= 1.13, 1.81). The robust association between IPV and all forms of child abuse in this study suggests that addressing IPV may reduce child physical and psychological abuse. Given the high prevalence of IPV and child abuse found, we recommend population-based interventions, such as crisis hotlines for women experiencing IPV, educational programs aimed at changing attitudes towards corporal punishment as an acceptable method of child discipline, support systems for families with children with disabilities, and mental health support for adult abuse victims.

Keywords: child abuse, intimate partner violence, physical abuse, psychological abuse

K5

[89]

LEVERAGING HIV CARE PLATFORM TO DELIVER MENTAL HEALTH SERVICES: LESSONS LEARNED FROM RURAL MALAWI

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ABSTRACT

The dearth of integration of mental health services in Malawi like other low resource limited setting has left over 80% of the patients without treatment. Comparatively, the HIV program has made tremendous progress decentralizing care into primary health care facilities and ensuring the service coverage of over 90% (DHIS 2010). Looking at the dearth of mental health services and the success stories of the HIV program, in July 2015, Partners In Health in collaboration with Ministry of Health designed a program to integrate mental health services into HIV care to leverage the HIV care delivery platform in rural Malawi. This study aimed at evaluating the impact of this integration on mental health service delivery in the district. The study used a convergent mixed methods research design utilizing both quantitative and qualitative data to interpret and cross-validate findings. Qualitative descriptive data was gathered through individual interviews with patients, family caregivers, and clinical providers. Concurrently, individual data records were reviewed and disaggregated to show number of people utilizing the services before and after the integration. The qualitative and quantitative data were merged for analysis and interpretation. The integration into the HIV platform decentralized mental health care from two to 14 health care facilities and increased number of patients from 104 clients (January 2013 to January 2015) before integration to 2107 clients (January 2016 to January 2018) after integration. Patients and caregivers described increased accessibility, retention, reduced stigma and discrimination, and improved family and home dynamics. This study shares a simplified model of delivering comprehensive mental health services by leveraging other health care delivery platforms that can be adapted and implemented in different resource limited settings.

Keywords: integrated mental health, mental health, HIV platform, leverage care

K6

[90]

EFFECTS OF HOME-BASED EXERCISE INTERVENTIONS ON POST-STROKE DEPRESSION

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ABSTRACT

Post-stroke depression (PSD) is a prevalent and enduring mental ailment that detrimentally affects stroke recovery. While exercise has been beneficial for mild stroke depression, the overall impact of home-based exercise on PSD has not been synthesized. This systematic review and network meta-analysis aimed to assess and compare the effectiveness of various home-based exercise programs on PSD. A comprehensive search in PubMed, Embase, Cochrane Library, CINAHL, and PsycINFO was performed up to March 7, 2023, focusing on RCTs of home-based exercise for PSD in adults over 18. The Cochrane risk-of-bias tool for randomized trials (RoB-2) assessed study quality. Analysis was conducted using Review Manager 5.4.1 and Stata 15.1, with surface under the cumulative ranking curves (SUCRA) determining the intervention hierarchy. Nine RCTs with 517 participants showed mind-body exercise as the most effective for PSD reduction (SUCRA: 90.4%, Hedges' g: -0.59). Subgroup analysis highlighted Tai Chi as the most effective mind-body exercise for PSD (SUCRA: 99.4%, Hedges' g: -0.94, 95% CI: -1.28 to -0.61). Home-based exercise, particularly Tai Chi, may reduce PSD. However, more robust studies are needed to confirm these results, with a focus on multicenter RCTs to evaluate effectiveness and practical application.

Keywords: post-stroke, depression, home-based exercise, network meta-analysis

K7

[91]

**EFFECTS OF THEORY-BASED HEALTH INTERVENTION ON DEPRESSION
AMONG MOTHERS OF CHILDREN WITH CANCER AT UNIVERSITY
HOSPITALS IN KLANG VALLEY, MALAYSIA**

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ABSTRACT

Mothers caring for children with cancer face significant challenges that lead to depression. This study aims to develop, validate, and implement the effectiveness of a Social Cognitive Theory (SCT)--based health education intervention on depression (SCODESS), as well as cancer-related knowledge, self-efficacy, perceived stress, coping skills (problem-focused and emotion-focused), and social support among the respondents. A quasi-experimental study was conducted among mothers from two University Hospitals in Klang Valley, Malaysia. A total of 95 participants were included (50 intervention, 45 control). A series of health education videos were delivered online over one week, while the control group was assigned to the wait-list group. Data was collected pre-intervention (T1), postintervention (T2), and at 2 months follow-up (T3). The baseline response rate was 60.53% at baseline, with a 7.60% loss to follow-up after 2 months. The GEE analysis showed no significant effects of SCODESS intervention on depression scores at T2 ($p=0.909$) and T3 ($p=0.622$) compared to the control group at baseline. However, statistically significant increases were observed in cancer-related knowledge scores at T2 ($\beta= 0.66$, 95%CI: 0.21, 9.20, $p=0.002$) and T3 ($\beta= 1.18$, 95%CI: 0.65, 1.70, $p<0.001$), and in the problem-focused coping scores at T2 ($\beta =2.50$, 95% CI 0.42, 4.58, p -value=0.018), and T3 ($\beta = 2.42$, 95% CI 0.13, 4.72, p -value=0.038) in the intervention group compared to the control group at baseline. No significant intervention effects were observed on other outcomes. The study highlights the effectiveness of the SCODESS intervention in improving cancer-related knowledge and problem-focused coping skills. Further research is needed to understand the long-term effects of such interventions and to examine the intervention's impact on other outcomes.

Keywords: childhood cancer, depression, mothers, online health intervention, social-cognitive theory

K8

[92]

**MEDICAL NUTRITION THERAPY IN PREGNANCY WITH OBSTRUCTIVE
ILEUS COMPLICATED WITH RECALCITRANT HYPOKALEMIA:
A CASE REPORT**

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ABSTRACT

Obstructive ileus is a serious medical condition that may result from multiple factors, often caused by adhesion of adhesive bands. Small bowel obstruction in pregnancy may cause mortality both for the mother (2-4%) and neonate (13-17%). Obstruction often causes abdominal pain, vomiting, obstipation, and bloating. Excessive vomiting and impaired absorption of potassium from the intestine can cause hypokalemia. Case report of a 29-year-old pregnant woman with ileus obstruction due to adhesive band attachment with moderate hypokalemia. Physical examination showed distended abdomen, darm contour and metallic sound; weight loss and decreased handgrip strength (8.3 kg). Blood test results showed moderate hypokalemia (2.7 mol.m⁻³), moderate depletion of the immune system (total lymphocyte count / TLC 1,006 x 10¹² m⁻³), and increased Neutrophil Lymphocyte Ratio (NLR) (6.1%). Nutritional management was administered via parenteral and oral routes, delivering a total of 2,330 kcal and 0.002 kilogram of protein per kilogram of body weight daily (18.1%). The patient was given potassium supplementation of 70.2 mEq per day, but could not adequately correct the potassium level, and even decreased. Hypokalemia was ultimately corrected after exploratory laparotomy with band release. Oral supplementation was also given such as zinc, Vitamin C, B-complex, and D. After 14 days of nutritional treatment, the patient was discharged with adequate oral nutrition and improved functional capacity (Handgrip strength 8.3 to 14.2 kg). Blood test results also improved, including potassium (2.7 to 3.6 mol.m⁻³), TLC (1,006 to 1,650 x 10¹² m⁻³), and NLR (6.1 to 4%). In conclusion, recalcitrant hypokalemia in pregnant patients with obstructive ileus cannot be treated with nutritional management alone, but adequate etiological management is essential.

Keywords: obstructive ileus, pregnancy, nutritional therapy, hypokalemia

K9

[93]

**ADVANCING GENERATION Z'S MENTAL HEALTH: THE SPECTRUM OF
SYSTEMIC ROOT CAUSES OF THE MENTAL HEALTH CRISIS AND
INNOVATIVE SOLUTIONS**

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ABSTRACT

This literature review combines first-hand accounts and scholarly research to delve into the systemic factors contributing to the increase in the incidence of mental illness among Generation Z (Gen Z; Born 1997-2010), creating a public health crisis. This review analyzes peer-reviewed articles, published during the last 20 years, that study issues impacting Gen Z mental health, including socioeconomic pressures, media exposure, intense academic stress, nutrition and exercise deficiencies, a noticeable decline in creativity, profound feelings of loneliness, and complex family dynamics, pinpointing these as the primary drivers exacerbating mental health challenges among Gen Z. Given that this area of study has limited peer-reviewed research available, this review serves to fill a critical gap in information. Inclusion criteria consist of studies published within the last twenty years that focus on Gen Z and mental health factors, while exclusion criteria ruled out studies that were not peer-reviewed or lacked empirical data. This review evaluates the efficacy of current interventions, primarily from the United States, including community-based support systems, innovative digital mental health platforms, and crucial policy reforms aimed at improving mental health outcomes. The findings underscore the pressing need for social innovation, indicating that traditional methods, such as pharmaceutical intervention and talk-based therapy, are often insufficient and ineffective. This review aims to provide comprehensive insights and forward-thinking strategies for stakeholders committed to supporting the mental well-being of this vulnerable population, urging a shift towards more sustainable and impactful solutions. By providing a comprehensive synthesis of current research, this study aims to inform stakeholders and guide future efforts in mental health advocacy and policy reform.

Keywords: generation z, mental health, socioeconomic pressures, digital and social media, innovative solutions, policy reforms

L1

[94]

**PATTERN OF SELF-MEDICATION PRACTICES AMONG RESIDENTS OF
SELECTED EMIRATES OF UAE**

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ABSTRACT

Self-medication is extremely common at these times especially in developed and developing countries. There are concerns about misuse of drugs, even for the drugs which are available over the counter. The current study was conducted to estimate the prevalence and pattern of self-medication among residents of UAE. This understanding is crucial to develop strategies for promoting responsible use of medication and safeguarding public health. A community based cross sectional study was conducted in Dubai and Ras Al Khaimah during July to November, 2023 after receiving approval from Research Ethics committee, Ministry of Health and Prevention (MOHAP). The population chosen for this study were Emirati population and resident expatriate population in selected two Emirates of UAE. Data was collected from 330 residents of UAE. Out of 330 participants, 256 (77.4%) reported to practice self-medication. It was reported more in Emiratis (80%) as compared to expats (76%). Majority (90%) study participants reported using self-medication for fever and cold with cough. Antipyretics (93%), Analgesics (69%) and Antibiotics (55%) were the major reported categories of drugs used for self-medication. Over 45% of the participants quoted high fees of the doctors as the major reason for self-medication. Multivariate analysis revealed education, type of family, having doctor in the family and having health insurance as predictors explaining the practice of self-medication by students. Based on results, it can be concluded that self medication is highly prevalent among residents of UAE, driven by factors such as affordability and cultural norms. It raises concerns about the misuse of medications and the potential for antibiotic resistance. It highlights the need for education, regulation and access to affordable health services.

Keywords: cross sectional study, self-medication, over the counter drugs, prevalence, pattern

L2

[95]

**COMMUNITY DEVELOPMENT AS A TOOL IN OVERCOMING SOCIO-HEALTH
BARRIERS TO BRING HEALTH EQUALITY WITH FOCUS TO MANUAL
SCAVENGING IN INDIA**

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ABSTRACT

Manual scavenging in India refers to the manual removal of human excreta from private dwellings and facilities maintained by local authorities. Human waste is collected from public streets and pit latrines, sewers and gutters, and septic tanks with bare hands, brooms or metal scrapers, and placed into woven baskets or buckets, and then carried to disposal sites. The work is generally restricted to those occupying the lowest levels of the Indian caste system. Manual scavengers suffer considerable societal disadvantages in addition to increased morbidity and mortality, associated with drowning in sewage, and to exposure to asphyxiating gases and to a wide variety of local and systemic infectious diseases. Life expectancy is shortened. Caste is a strong social institution and a socio-health determinant in India. In context to manual scavenging Caste is a strong social determinant in regards to the status of health and hygiene a person is equipped to. Despite Manual scavenging being prohibited under the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013. , 400 people have died in the last 5 years while cleaning septic tanks and sewers in India. Community development is an age old tool in Indian context of social work and welfare. Community development as tool does not merely limits its horizon in bring services of welfare to community but deeply focuses on education, empowering, making the community participate in the theory of change and holds traditional values of Indian society in context to development. Community development is an unmissable and integral step solving the health hazards of manual scavenging while breaking caste barriers.

Keywords: manual scavenging, health hazard, community development, caste, socio-health, social determinant

L3

[96]

INTERPROFESSIONAL COLLABORATION IN SOCIAL PRESCRIBING: A CONTEMPORARY NORM IN HEALTHCARE

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ABSTRACT

Social prescribing can tackle health inequalities by helping people to find the support that they need based on their unique situation. Effective social prescribing involves interprofessional collaboration and many socially prescribed activities are run by voluntary and community organisations. It is not clear how interprofessional collaboration are established and managed in social prescribing. A systematic review was conducted to explore how interprofessional collaboration works in social prescribing and how the scheme is run. Seven scientific databases and grey literature were searched between 2022 and 2023. 20 studies were included and analysed using convergent narrative synthesis after screening of 45 full text resources. Three themes were identified for interprofessional collaboration in social prescribing (1) the requirements for collaboration, (2), challenges to establishing collaboration, and (3) forms and values of collaboration. We found that different models of social prescribing are in operation in the UK and there is a lack of unity in the definition of social prescribing. We also found that social prescribing can develop best when all partners and stakeholders involved share the same values and aims, feel respected and included and can learn about each other's roles and responsibilities. We found a role for effective leadership and the need to abolish hierarchical structures and partnerships which can negatively impact the collaboration between partners and stakeholders in social prescribing and affect the development of services provided, and implementation of quality standards. There is a need for more inclusive model of social prescribing and a need to bring both health and social care professions and service users onboard in a non-hierarchical manner when discussing social prescribing.

Keywords: social prescribing, interprofessional collaboration

L4

[97]

**GOVERNMENT TO GOVERNMENT COOPERATIVE AGREEMENT A
PLATFORM FOR TRANSFORMATIONAL COLLABORATION IN PUBLIC
HEALTH**

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ABSTRACT

South Africa has the largest HIV burden globally, with an estimated 7.8 million people living with HIV. The South African National and Provincial Departments of Health (NDoH/PDoH) lead the public-sector HIV treatment and prevention efforts to achieve epidemic control. The US Government President's Emergency Plan for AIDS Relief (PEPFAR) through the US Centers for Disease Control and Prevention (CDC) supports the South African Government and focuses on approaches which improve outcomes for Tuberculosis and HIV services while minimizing costs to support sustainability. KwaZulu-Natal (KZN) Province is a PEPFAR focus area given its HIV prevalence of 21.8% among adults aged 15 years and older. Investing in stronger HIV/TB program oversight at the provincial level may permit faster adoption and implementation of key policies and programs. PEPFAR/CDC is now in the third year of a technical Cooperative Agreement (CoAg) funding the KZN PDoH to review current NDoH/PDoH health policies and ensure implementation with fidelity; address critical gaps in leadership and management, coordination, and communication; engage capacity building strategies; and strengthen human resources for health (HRH) planning. The CoAg has supported the launch of a HIV/AIDS, Sexually Transmitted Infections and TB (HAST) Policy Implementation unit within the KZN PDoH, funding critical staff positions with a jointly developed workplan focusing on key gaps such as pediatrics and adherence support. Future work will include HRH mapping, aligning laboratory quality improvement work and resources, launching a provincial men's health policy, expanding men's health programs to the community level, supporting implementation, monitoring and evaluation of existing and newly developed HAST Policies, and improving stakeholder engagement. This collaboration will leverage existing resources and expand critical areas of investment to facilitate HIV and TB program impact.

Keywords: South Africa, provincial, government, health systems strengthening

L5

[98]

EXPLORATORY STUDY OF COMMUNITY HEALTH WORKERS' SKILLS AND THEIR NEEDS TO IMPROVE SKILLS IN ROTE NDAO ISLAND

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ABSTRACT

Community health workers' (CHW) skills are the ability to perform the stages of weighing, filling, and reading the Child Health Growth Card and to educate and provide health counseling to mothers and children. The problems CHWs face are the limitation of knowledge and skills and the need for more training supplied to them. This condition will affect their skills in providing and delivering integrated health programs for the community. This research is qualitative research with a case study approach. The research was conducted in Batutua Village, Southwest Rote District, Rote Ndao Regency. Rote Ndao regency is located on Rote Island, the southernmost part of Indonesia. This study took place in three health integrated posts (Posyandu). The research participants were 15 community health workers, the family of the community workers, the Village Midwife, and Village officials. The variables studied were the skills and needs of CHWs, and data was collected using an In-depth Interview. Data was analyzed using thematic analysis. The study found two main themes: CHWs' skills, with the sub-themes are CHWs habits, experiences, social support, resources, and community participation. Another theme is the need to improve the skills of CHWs, with the sub-themes are the need for training, additional tools, and facilities. The data analysis reveals that CHWs already knew about the five-table system of Posyandu; however, they face challenges in providing services for the community due to their limitation of skills and knowledge and lack of adequate facilities and tools as well as lack of awareness of the community. Therefore, CHWs need training from health providers, support from the village government, and the active participation of the community. The government should also intervene by providing tools, facilities, and training for the CHWs in remote areas.

Keywords: community health workers, skills, needs, Rote Ndao Island, Posyandu

L6

[99]

UNDERSTANDING THE INFLUENCE OF THE WORLD BANK ON AGENDA SETTING IN HEALTH IN INDIA: A DISCOURSE ANALYSIS FROM 1978-2023

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ABSTRACT

Intergovernmental organizations act as institutions that govern the policies in health care for many LMICs. Under the lack of an articulate health diplomacy policy, India has been vulnerable to the consequences of a dire mismatch in diplomatic outcomes of 'soft power' by donor agencies and national health priorities. The in-depth analysis of the unfolding of the discourse on Intergovernmental agencies' influence on health priorities in India from the lens of software of health policy is seldom discussed. This study aims to understand the discourse set by the World Bank (WB) through its various World Development Reports (WDR) and other prescriptive reports on health policy vis-à-vis India's national health policies and plans by performing a discourse analysis. We analyzed the secondary data sources in two parts; we performed a content analysis for documents to find similarities in the language and themes of the discourse around agendas in Health. We then used the content analysis's findings to code policy priorities' themes and perform an argument analysis. We used the modified version of the Shiffman and Smith framework to identify different elements of the framework (external framing of the agendas, guiding institutions, and governance structures) in health policy agenda setting. We observed that the World Bank has influenced the national health agendas in developing countries by framing the problems and recommending policy choices. We could notice from the content analysis results that the context in which the development and health were discussed by the World Bank and the Indian government were remarkably similar. The World Bank, since the early 1970s, started its transition from a financial institution to providing technical guidance. It could establish itself as an important stakeholder in making policy choices for developing nations by framing the agendas through varied discourses and extending the institutionalized delivery of knowledge on how to solve these issues. It was noticed in the argument analysis that, during the late 80s and 90s, the WDRs started recommending transactional policy choices with the developing countries. The World Bank used adjustment-based lending to ensure its agendas reach the developing nations' policy reforms, thereby establishing itself as a global governance structure. However, we can also see that in its efforts to forward the health agendas and reforms, it also played a role in keeping specific agendas off the table, the long-term impact of which can be seen in India's global disease health burden.

Keywords: World Bank, institutions, discourse, agenda-setting

L7

[100]

NON-SPECIALIST TASK SHARING FOR INGUINAL HERNIA REPAIR: A COST-EFFECTIVE SOLUTION FOR SIERRA LEONE?

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ABSTRACT

In Sierra Leone, the persistent backlog of inguinal hernia patients, exacerbated by a shortage of specialist surgeons, prompts the practice of task-sharing with non-specialist medical doctors and associate. However, the economic implications of this approach necessitate evaluation for scalability. This study investigates the cost-effectiveness of open mesh repair performed by these provider types in adult males (>18 years), compared to no treatment, along with inter-provider comparisons, and assesses the budget impact of backlog clearance. Developing a Markov model, costs per disability-adjusted life year (DALY) averted over a decade for each provider type were calculated. Subsequently, the costs of backlog reduction through accelerated repair rates via task-sharing were examined. Both deterministic and probabilistic sensitivity analyses were conducted to assess input value uncertainties. Results reveal costs of USD 244 and USD 404 per DALY averted for associate clinicians and medical doctors, respectively, both below the GDP per capita of USD 1,427, indicating high cost-effectiveness of the operation against no treatment. Associate clinicians demonstrate comparable health outcomes at lower costs than medical doctors, displaying their greater cost-effectiveness. Estimations suggest a USD 106 million budget to clear the entire backlog over a decade. In conclusion, hernia repair by both associate clinicians and medical doctors in Sierra Leone proves highly cost-effective. With quality training and supportive supervision, associate clinicians emerge as the more cost-effective option. Hence, task-sharing, particularly involving associate clinicians, presents a promising strategy for improving access to surgical services, particularly in areas with limited providers.

Keywords: budget impact, cost-effectiveness, inguinal hernia, task-sharing

L8

[101]

**ANALYSING THE DYNAMICS OF HEALTHCARE EXPENDITURE AND ITS
IMPACT ON HUMAN DEVELOPMENT INDEX IN SRI LANKA: A
COMPREHENSIVE STUDY FROM 2004 TO 2020**

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ABSTRACT

Despite being a lower middle-income country, Sri Lanka maintains the highest Human Development Index (HDI) in South Asia, reflecting a commitment to universal free healthcare with substantial budget allocations. The study aims to assess trends in healthcare expenditure, considering absolute values and percentages relative to National Expenditure and Gross National Income (GNI). Objectives include exploring factors contributing to fluctuations in Healthcare Expenditure percentages, evaluating the impact on HDI, and providing recommendations for further investigations. Data from the Ministry of Health and United Nation Development Reports were used, revealing a significant increase in absolute Healthcare Expenditure, fluctuations in the percentage relative to National Expenditure, and a positive trend in HDI. The absolute value of Healthcare Expenditure has been steadily increasing from LKR 37,405 million in 2004 to LKR 250,813 million in 2020, indicating a significant rise in the financial resources allocated to healthcare in Sri Lanka. The percentage of Healthcare Expenditure in relation to National Expenditure fluctuates, reaching a peak of 7.62% in 2006 and showing variability over the years. In 2009, it dropped to 3.86%, indicating a relatively lower allocation during that year. The percentage of Healthcare Expenditure as a share of GNI demonstrates some variations, with a slight decrease in recent years. In 2004, it was 1.855%, and in 2020, it was 1.675%. The Human Development Index (HDI) exhibits a positive trend, increasing from 0.683 in 2004 to 0.780 in 2020. This suggests consistent improvements in life expectancy, education, and per capita income over the years. Despite a slight decrease in Healthcare Expenditure as a share of GNI in recent years, these findings indicate promising trends and highlight areas for further analysis to inform policy decisions and resource allocation for enhanced healthcare outcomes in Sri Lanka.

Keywords: healthcare expenditure trends, human development index, Sri Lanka

L9

[102]

**THE SIGNIFICANCE OF FLOATING HOSPITAL FOR PUBLIC HEALTH
PROBLEMS IN INDONESIA AS AN ARCHIPELAGO COUNTRY**

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ABSTRACT

Indonesia is one of the largest archipelagic countries in the world, with consist of 17,001 islands, and 7,000 of them are inhabited islands (BPS, 2023). Based on Indonesia's Central Bureau Statistics' data, mainland hospitals in Indonesia are 3,155 Hospitals, whereabouts 1,586 of them (50.27%) are concentrated on just 1 island. By those data, a provision of hospital is urgently needed, especially to serve remote islands. One form of hospital that is considered appropriate to the geographical conditions of the islands in Indonesia is through a floating hospital. By the dynamic form that can move from one island to another, the cheaper operational costs compared to mainland hospitals, making the existence of floating hospitals is important. This research aim is to obtain an overview of the significance existence of floating hospitals in Indonesia as part of efforts to improve public health. The method used is qualitative research with a single case study approach, where data is obtained through in-depth interviews with several sources who are directly involved in managing public health in some of province in Indonesia. The research results show that the existence of floating hospitals on these islands is significant and becoming one of the most reasonable alternatives for overcoming public health problems. However, the challenges that follow are challenging as well, such as weather conditions for sailing, difficult accessibility, and the availability of health health workers on board to provide health services.

Keywords: floating hospital, public health, urgency, significant

L10

[103]

**COMPARISON ON KNOWLEDGE ON HEALTH INSURANCE BETWEEN URBAN
AND RURAL ELDERLY PEOPLE**Shama FF^{1*}, Islam ANMS², Akhtar K², Dristi SS³ and Rahman MM⁴¹*BDS, MPH (HM), NIPSOM, Mohakhali, Dhaka-1212, Bangladesh*²*Department of Public Health & Hospital Administration, NIPSOM, Mohakhali, Dhaka,
Bangladesh*³*Department of Biostatistics, NIPSOM, Dhaka, Bangladesh*⁴*Medical Officer, DGHS, Bangladesh***fahmidafaizha72@gmail.com***ABSTRACT**

For elderly people, due to financial conditions, health service utilization is poor, which can be helped by health insurance. The objective of the study was to compare the state of knowledge on health insurance between urban and rural elderly people. A comparative cross-sectional study was conducted among 208 (Urban: 104; Rural: 104) elderly people by face-to-face interview through a pre-tested structured questionnaire from January to December, 2023. Most of the participants were male (U:63.5%; R:57.7%) with having 5-6 co-morbidities (U:4.1%; R:2%). About 60% urban and 50.5% rural respondents used monthly savings for health expenses. The term health insurance was known by 50% urban and 25% rural respondents. Among them, the source of information for 21.2% urban & 19.1% rural respondents was from insurance company. The highest number of urban participants had knowledge about types (U:37.5%; R:21.2%), duration (U:24.04%; R:15.3%), age limit (U:26%; R:21.2%), policy (U:46.2%; R:24%), coverage (U:39.4%; R:24%), premium (U:33%; R:18.3%), claim (U:39.4%; R:31%), maximum number of claim (U:29%; R:16.4%), deductible (U:18.3%; R:10%), coinsurance (U:18.3%; R:10%) and copay (U:12.5%; R:8%) than rural participants. Location, education and employment status were found significantly associated with knowledge. By binary logistic regression, (CI 95% and p value < 0.05) it was found that urban people have 3.33 more likely to having knowledge than rural people. People who were educated have 8.24 times & who were employed have 2.6 times more likely to having knowledge respectively then people had no education and were unemployed. Findings of the study can help policymakers and health administrators to develop specific policy, programs for elderly people thus achieve universal health coverage.

Keywords: knowledge, awareness, health insurance, urban, rural, elderly people

L11

[104]

**ANALYSIS OF CANCER CLAIMS DATA FROM MEGHA HEALTH INSURANCE
SCHEME FROM NORTH-EAST INDIA**

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ABSTRACT

Meghalaya, a hilly tribal state in northeast India, has one of the highest cancer burden in India. Megha-Health Insurance Scheme (MHIS) was launched in 2013 to reduce the out-of-pocket expenditure on health and provide quality healthcare. We present here an analysis of the MHIS data covering three phases of MHIS (II-IV; 2015-2022), to explore utilization and trends in cancer claims in Meghalaya. De-identified data on age, hospital type and location, diagnosis, procedures, package-categories, amount claimed, and amount approved were analysed. Proportion of cancer claims increased in volume from 0.5% in MHIS-II (2015-2016) to 2.2% in MHIS-IV (2019-2022); the claim-amount increased from USD 20,350 (0.3%) to USD 1,385,986 (3.1%) during the same period. Cancer-claims for oesophageal cancer, which is also the top cancer-site in Meghalaya in both sexes, increased from 1.3% to 4% with 65% cancer-claims in MHIS-IV designated as ‘unspecified chemotherapy’. Although 82% of the care was provided in the public sector, more than one-third of the claimed amount USD 493,181 (36%) were in private sector hospitals; USD 357,200 (26%) were from private hospitals outside of Meghalaya. the average amount claimed for radiotherapy increased from USD 498 to USD 20 ($P<0.0001$), chemotherapy from USD 36 to USD 80 ($P<0.05$). One-fourth of the cancer claims towards the private sector outside the state highlights the need for enhancing the current cancer care infrastructure in Meghalaya. As there is an increase in the average claim amount pertaining to cancer therapies, greater focus on primary and secondary cancer prevention strategies may be a more sustainable approach.

Keywords: cancer claims, Meghalaya, MHIS, Claims analysis, North-East India

L12

[105]

**THE IMPLEMENTATION OF THE NATIONAL GUIDELINES FOR PATIENT
SAFETY INCIDENT REPORTING IN A HOSPITAL IN NORTH WEST PROVINCE,
SOUTH AFRICA: HEALTHCARE PROVIDERS' PERSPECTIVES**

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L13

[106]

WOMEN'S EMPOWERMENT, SUSTAINABLE WATER USE, AND SANITATION PRACTICES IN RURAL COMMUNITIES OF BANGLADESH

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ABSTRACT

Empowerment is considered a significant development aim on its own to achieve enhanced water use and sanitation practices. This study analyzed the correlation between women's empowerment and the prevailing water usage and sanitation conditions in selected rural communities. A cross-sectional study was conducted in three villages in Sylhet, Bangladesh that included 413 married women aged 18-60 years. The study took place from January to December 2019, using multistage sampling. Data was collected via face-to-face interviews using a pre-tested questionnaire based on 'WHO/UNICEF Joint Monitoring Program for Water Supply, Sanitation and Hygiene (JMP)'. Women's empowerment was measured using UNICEF's 'A Compendium of Gender scales'. The findings highlighted alarmingly low levels of empowerment among women (1.2%). For drinking water, the majority (85.2%) relied on tube wells, with most (88.6%) of them sharing ownership of these sources. About half (47.2%) didn't have on-property water sources. Almost one-third (32.7%) of respondents reported facing inadequate drinking water availability at least once monthly. Regarding sanitation practices, 41.9% of respondents displayed good sanitation practices, while one-third (31.2%) shared toilets with members of other households. Logistic regression based on women having good/poor sanitation facilities revealed that for secondary/higher levels of education, the odds ratio was 3.79 compared to primary level and for ages between 35-45, the odds ratio was 1.4 compared to women below age 25. Notably, no significant association emerged between women's empowerment, water usage, and sanitation practices. Our study revealed a significant lack of empowerment among rural women and poor sanitation practices among young women and women who had no formal education. To address these challenges, strengthening education and introducing income-enhancing activities could bolster empowerment and foster better sanitation practices.

Keywords: women empowerment, water use, sanitation practice

M1

[107]

**NAVIGATING PROCESS EVALUATION IN CO-CREATION: A HEALTH
CASCADE SCOPING REVIEW OF UTILIZED FRAMEWORKS AND ASSESSED
COMPONENTS**

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ABSTRACT

Co-creation is seen as a way to ensure all relevant needs and perspectives are included. To increase its potential for beneficial effects and uptake, process evaluation is crucial. However, existing process evaluation frameworks have been built on practices characterised by top-down developed and implemented interventions and may be limited in capturing essential elements of co-creation. This study aims to provide a review of studies planning and/or conducting a process evaluation of public health interventions adopting a co-creation approach and aims to derive assessed process evaluation components, utilised frameworks, and insights into formative and/or participatory evaluation. We searched for studies on Scopus and the Health CASCADE Co-Creation Database. Co-authors performed a concept-mapping exercise to create a set of overarching dimensions for clustering the identified process evaluation components. Fifty-four studies were included. Conceptualisation of process evaluation included in papers concerned intervention implementation, outcome evaluation, mechanisms of impact, context and the co-creation process. Twenty-two studies (40%) referenced ten existing process evaluation or evaluation frameworks and most referenced were the frameworks developed by Moore et al. (14%), Saunders et al. (5%), Linnan and Stekler (5%), and Nielsen and Randall (5%). Thirty-eight process evaluation components were identified, with a focus on participation (48%), context (40%), the experience of co-creators (29%), impact (29%), satisfaction (25%) and fidelity (24%). Thirteen studies (24%) conducted formative evaluation, thirty-seven (68%) conducted summative evaluation, and two studies (3%) conducted participatory evaluation. This work provides an overview of process evaluation components, clustered in dimensions, and reflections which researchers and practitioners can use to plan a process evaluation of a co-creation process and intervention.

Keywords: co-creation, process evaluation, evaluation frameworks, evaluation, scoping review

M2

[108]

**STIMULUS FOR IMMEDIATE GAP RESOLUTION: INTEGRATING RAPID
FEEDBACK PROCESS TO ROUTINE MONITORING**

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ABSTRACT

USAID ReachHealth Project which aims to reduce unmet need for family planning (FP) and teenage pregnancy in the Philippines, introduced the Rapid Feedback process in its routine monitoring in its 3rd year of implementation. It optimized the nature of select indicators, whose gaps may be resolved through immediately actionable interventions. These indicators are FP stock-outs, status as FP Service Delivery Point, monitoring on Informed Choice and Voluntarism (ICV) by health offices, and conduct of FP demand generation in public health facilities. To determine the effect of the Rapid Feedback process in reducing gaps in these indicators, longitudinal analysis on its 3 years of implementation was done. Insights on FP performance were also explored to identify opportunities to optimize FP technical packages. Results showed decrease in percentage of public health facilities with gaps for all indicators. Most significant decrease was seen in FP stock-outs with an average decrease of 31% and 17% in health centers and public hospitals respectively. Gap recurrence in all years of study was recorded in FP stock-outs and monitoring on ICV. For FP performance, while majority of the facilities said that they have no problems recruiting FP new acceptors, no change for this indicator was reported. Community health workers and integration of FP into other health activities were identified as primary strategies in improving FP performance. Overall, contribution of Rapid Feedback process in reducing gaps for these indicators is evident. The recurrence of some gaps supports the need to concurrently address other intervening factors leading to the gap. Lastly, scaling-up support to community health workers and in-reach FP activities should be explored to aid in improving FP performance.

Keywords: family planning, rapid feedback

M3

[109]

**UNDERSTANDING ANTIMICROBIAL STEWARDSHIP: PERSPECTIVES OF
AGRICULTURAL SCIENCE STUDENTS, IN A TERTIARY UNIVERSITY IN
SOUTH AFRICA**

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ABSTRACT

The use of antimicrobials in agriculture has a significant impact on the development of antimicrobial resistance (AMR) in humans and animals. This development poses risks to food safety, food security, and the economy of the country. The study aimed to investigate the knowledge, attitudes, and perceptions of antimicrobial stewardship among final-year students enrolled in plant-related agricultural programs at the University in South Africa. A descriptive cross-sectional study design using a self-administered questionnaire was utilized, with the participants consisting of final-year students enrolled in agricultural science programs specializing in plant-related studies. Data was analysed using the IBM SPSS version 28 statistical software. A total of forty-seven participants were surveyed in the study. The participants demonstrated a solid understanding of antimicrobial stewardship; however, some misconceptions regarding important concepts were observed. The participants displayed a willingness and positive attitude towards contributing to AMR prevention. They also recognized the global seriousness of AMR and its threat to their health and families. However, many participants felt ill-equipped to make a positive contribution to the fight against antimicrobial stewardship. Furthermore, there was a weak association (12.5%) between the participants' overall knowledge and attitude, as well as between their perception and knowledge (25%). The association between attitude and knowledge was moderate (40%), whereas the association between participants' perceptions and attitudes towards antimicrobial resistance was strong (75%). This study underscores the importance of focusing on the preparation of future agricultural science professionals in the field of antimicrobial stewardship, with particular emphasis on their perception and attitude.

Keywords: antimicrobial stewardship, plant health, agricultural science, antimicrobial resistance

M4

[110]

**MAPPING OF FACTORS ASSOCIATED TO UNMET NEED FOR FAMILY
PLANNING IN INDONESIA: A SCOPING REVIEW**

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ABSTRACT

Globally, there are a lot of reproductive-aged women who are not met regarding family planning (FP) services. In 2020, the unmet need for FP in Indonesia still under national target (7,4%). The eastern the region in Indonesia, the higher the unmet need rate for FP. This scoping review aims to summarize those determinant factors correlated to the unmet need for FP among reproductive-aged women in Indonesia. We used a mixed method approach by combining quantitative and qualitative research from 2018 to 2023 that published in Science Direct, ProQuest, and Google Scholar databases. The keywords we used in the article search were reproductive-aged women, unmet need, modern family planning, and Indonesia. We have 22 eligible articles from 858 articles. The results showed that determinant factors of unmet need for FP were diverse among studies in Indonesia. According to several studies, there were associations between the number of children and unmet need for FP. The husband's support showed a positive relationship with the prevalence of unmet need for FP, meaning that the lower of husband's support, the greater of unmet need for FP. The reasons why reproductive women did not use contraception is low motivation to manage fertility and the experience of the side effects of contraception. This review conclude that the factors related to unmet need for FP were number of children, husband's support, low motivation to manage fertility, and the side effects of contraception. Because there is no one-size-fits-all program, we recommend providing specific interventions based on the problem of unmet need for FP in local areas to achieve equity for reproductive health among women in Indonesia.

Keywords: unmet need, family planning, reproductive-aged woman

M5

[111]

SUPPORT SYSTEMS AND CAREGIVER QUALITY OF LIFE

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*Department of Health Sciences, University of Northern British Columbia, Canada***ocloo@unbc.ca***ABSTRACT**

Caregiving for children with cerebral palsy (CP) has significant implications, including physical and mental stress, depression, financial strain, and social isolation for caregivers. Access to support systems is crucial for enhancing their quality of life (QoL). However, research on caregiver support systems in developing countries like Ghana, where CP prevalence is high, is scarce compared to developed nations. Understanding and improving these support systems can alleviate caregiver burden and enhance QoL. This study aims to understand the support systems that caregivers in low-income countries can leverage to improve their QoL using a qualitative case-study approach. Policy documents and other regulatory frameworks will be reviewed to understand the societal dimensions of support systems within the Ghanaian context. Additionally, in-depth interviews with caregivers and clinicians will be used to understand family dynamics, social networks, healthcare systems, and other community-level factors and resources available to caregivers. Study participants will be sampled using purposive snowball and maximum variation sampling. Thematic analysis will be used to identify patterns and themes emerging from the data, allowing for a detailed exploration of caregivers' experiences and perspectives. Findings from this research are expected to contribute new insights into the support systems available to caregivers in Ghana and how these impact their QoL. It will highlight the specific challenges faced by caregivers in a low-income setting and identify potential areas for intervention and improvement. The findings can inform the development of targeted support programs and policies tailored to the needs of caregivers in similar contexts.

Keywords: support systems, caregivers, cerebral palsy, developing country, Ghana

M6

[112]

**ADVANCING ACCESS TO SOCIAL ENTITLEMENTS FOR THE URBAN POOR
WOMEN IN INDORE, INDIA: A BLENDED TECH-PLUS-TOUCH MODEL**

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ABSTRACT

Urban poor women in India face significant barriers in accessing essential government health and allied welfare programs. These barriers stem predominantly from gender-based discrimination and the intricate bureaucratic processes inherent in program enrollment and utilization. This study explores the effectiveness of a blended approach utilizing AI-enabled digital tools and 300 trained last-mile women agents to bridge this gap. Population Services International (PSI) collaborated with Haqdarshak Empowerment Solutions Private Limited (Haqdarshak) to implement a technology-enabled doorstep facilitation program in Indore, India. The program provided comprehensive support through women agents' adept in digital tools. Following customization based on qualitative interviews, the program was implemented in two phases, reaching over 800,000 people across 85 wards. With an equitable focus, the program successfully facilitated access for 226,776 individuals (predominantly women, 70% of beneficiaries), resulting in the distribution of 283,259 benefits (e.g., health insurance, financial assistance, livelihood), empowering 1,700 persons with disabilities, and providing these 300 female agents with sustainable livelihoods. The intervention has unlocked lifetime benefits estimated at 35 million USD, underscoring its profound impact on participants. The program's success in Indore suggests its potential for wider replication across India and in other developing countries facing similar challenges. This intervention offers a promising solution for bridging the gap between government programs and the communities they aim to serve.

Keywords: social security, urban poor, SDH, livelihoods, community centric model

M7

[113]

**MEDICAL NUTRITION THERAPY IN LUNG CANCER AND TYPE 2 DIABETES
MELLITUS PATIENTS WITH MODERATE PROTEIN ENERGY
MALNUTRITION: A CASE REPORT**

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ABSTRACT

Approximately 63.1% of people in Asia are diagnosed with lung cancer. Lung cancer patients are at risk of malnutrition, sarcopenia, and electrolyte imbalanced. Type 2 diabetes mellitus (T2DM) is a chronic metabolic disease characterised by elevated blood glucose levels. Hyperinsulinemia due to insulin resistance, hyperglycemia, oxidative stress, and inflammatory cytokines are all linked to cancer development and lead to the proliferation of various solid tumor cell lines. Cancer patients with diabetes and malnutrition have a higher mortality rate and linked to poor outcomes. Case report of a 63-year-old male with lung adenocarcinoma, and T2DM with moderate protein energy malnutrition. On admission was found that the patient's food intake decreased until 70% and weigh loss until 12% in 1 month. The physical examination revealed anemic, loss of subcutaneous fat, muscle wasting and decreased hand grip strength. Metabolic status showed anemia (10.3 gdl⁻¹), hyponatremia (131 mmolL⁻¹), hypoalbuminemia (2.3 mgdl⁻¹), hyperglycemia (FBG 285 mgdl⁻¹, HbA1c 10.7%), leukocytosis (11,000μL⁻¹), and thrombocytosis (743,000μL⁻¹). Medical nutrition therapy was given according to Harris Benedict formula (1800Kcal) with macronutrient composition protein, carbohydrate, and fat was 20%, 50%, and 30%, supplementation (multivitamins, minerals, curcuma), EVOO and omega-3 contained in the daily intake. After 19 days, the patient's nutrition status, functional capacity and metabolic had improved significantly, body weight (52.8 to 53.1 kg), handgrip strength (12.8 to 19.1 kg), albumin (2.3 to 3.2 gdl⁻¹), sodium (131 to 136 mmolL⁻¹), leukocytes (11,000 to 10,700μL⁻¹), decreased of FGB (285 mgdl⁻¹ to 149 mgdl⁻¹) and platelets (743,000 to 619,000μL⁻¹). In conclusion, medical nutrition therapy has been shown to improve the nutrition status, functional status, metabolic disorders and clinical outcomes of lung carcinoma patients with T2DM.

Keywords: lung carcinoma, diabetes mellitus, nutritional therapy

M8

[114]

**FACTORS INFLUENCING THE USE OF CONTRACEPTION IN ETHNIC
MINORITY WOMEN IN HIGH INCOME COUNTRIES**

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ABSTRACT

Reproductive health equity is essential for health and wellbeing. Access to safe and modern contraceptive methods increases women and girls years in education and decreases the likelihood of negative health events such as unsafe abortion and maternal mortality. Ethnic minority women can have limited access to decision-making autonomy in using contraception thus leaving them with unmet reproductive health needs. A systematic review was conducted to explore factors which influence the use of contraception in ethnic minority women in high income countries. Five scientific databases were searched for articles published between 2013 and 2022. Studies in women 18 years and above, in high income countries were included. High income countries were as defined by the World Bank. 15 studies were included after screening of the full text of 146 qualitative and quantitative studies. Included studies were analysed using convergent narrative synthesis. Generally, there were more barriers to use of contraception than facilitators. Ethnic minority women had limited knowledge about modern contraception and the alternatives available. Women who had knowledge did not know where to obtain contraceptives. Contraception was influenced by culture and religion, childbearing expectations, stigma, fear and misconceptions about side effects. Women's partners, family, communities, and healthcare professionals also acted as barriers to contraception. There is a need to provide person-centred reproductive health care to ethnic minority women, ensuring that multilevel strategy is employed to encourage contraceptive uptake.

Keywords: contraception, ethnic minority women, factors influencing

M9

[115]

**HEALTH INSURANCE ACCESSIBILITY FOR PEOPLE WITH DISABILITIES IN
LOW- AND MIDDLE-INCOME COUNTRIES AND ASSOCIATIONS WITH
HEALTHCARE UTILIZATION, HEALTH OUTCOMES, AND FINANCIAL
PROTECTION: A SYSTEMATIC LITERATURE REVIEW**

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ABSTRACT

Background: People with disabilities face higher healthcare expenses due to increased needs, indirect costs, and services not provided by the public system. They are also more prone to poverty, reducing their ability to afford these costs. Health insurance is essential for addressing healthcare needs and preventing financial hardship for this population. This systematic review compiles evidence on health insurance coverage and its impacts on people with disabilities in low- and middle-income countries (LMICs). Methods: We searched for English peer-reviewed articles across nine databases, covering January 2000 to January 2023. Two independent reviewers selected articles, extracted data, and assessed bias. Eligible studies quantitatively evaluated at least one of four outcomes: health insurance coverage/access, the relationship between health insurance and healthcare utilization, financial protection, or health status/outcome. We assessed the risk of bias using NIH guidelines. Results: From 8,545 records, 35 studies from 49 countries met the criteria. Most studies (68.6%) focused on access and coverage, revealing limited access for people with disabilities. Sixteen studies (45.7%) investigated healthcare utilization, with nine showing a positive correlation between health insurance and the use of disability-related services. The link between health insurance and general healthcare utilization was inconclusive. Financial protection was examined in six studies (17.1%), also yielding inconclusive findings. Only four studies (11.4%) assessed health status, with most suggesting a positive relationship between health insurance and self-reported health among people with disabilities. Discussion: There is significant variability and a scarcity of evidence regarding health insurance coverage for individuals with disabilities in LMICs. This underscores the necessity for further research on health insurance for people with disabilities, in line with the objective of achieving Universal Health Coverage (UHC).

Keywords: health equity, universal health coverage, disabled person, inclusive health system

M10

[116]

COMPARISON OF LIFE EXPECTANCY DETERMINANTS AMONG GULF COOPERATION COUNCIL MEMBERS

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ABSTRACT

Background: Comprehending the determinants of life expectancy (LE) is crucial for policy planning and public health development, especially in the landscape of Gulf Cooperation Council (GCC) countries. The study tried to unravel the dynamic interplay between Sociodemographic (SD), Macroeconomic (ME), and Health Resource (HR) factors affecting Life Expectancy (LE). Methods: We created a combined model for comparative evaluation across six countries using a population-based approach and Meta Analytic Structural Equation Modeling. We compared how SD, ME, and HR factors influence LE in GCC by employing Partial Least Square Multi Group Analysis on annual secondary data from 1990 to 2020. Results: The findings highlight that HR factors directly impact LE across all GCC countries. Mediation effects are observed in the pathways of SD to ME and then to HR, ultimately affecting LE. Significantly, it was evident that robust HR affects longevity, with varying effect coefficients ranging from 0.834 in Oman to 0.948 in Qatar ($P < 0.001$). The interplay of ME and SD factors had significant impacts, especially in Bahrain, since the ME-LE connection exhibited an effect of 0.825 ($P < 0.001$) while SD-LE showed an effect of 0.790 ($P < 0.001$). Conclusions: The result showed an imperative need for the GCC countries to strengthen their holistic framework of SD-ME-HR instead of solely depending on HR factors alone, especially to avoid LE stagnation in the future. The model result may help guide targeted health policy initiatives and future studies in a similar context.

Keywords: life expectancy, macroeconomic, gulf cooperation council

M11

[117]

**FACTORS CONTRIBUTING TO STUNTING PREVALENCE IN EAST JAVA
PROVINCE, INDONESIA IN 2022**

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ABSTRACT

Malnutrition, including stunting, remains a significant health issue that impacts a country's health status and its progress towards sustainable development goals. Stunting, a condition stemming from prolonged malnutrition and recurrent infections, leads to hindered growth and developmental issues in children. In Indonesia, the prevalence of stunting was 24.4% in 2021 and decreased to 21.6% in 2022. Despite the improvement, the rate has not yet met the desired target. East Java still faces a relatively high stunting rate, standing at 19.2% in 2022, aligning closely with the national average. This study aims to examine the factors influencing stunting incidence by connecting stunting prevalence with its determinants. Utilizing secondary data from the Indonesian Ministry of Health, BPS (Central Agency of Statistics), and the East Java Provincial Health Service, the researchers employed correlation and multiple regression tests on dependent and independent variables. The results show that the Human Development Index, average years of schooling, per capita expenditure, housing households with access to proper sanitation, and villages with the pillars of CLTS, has significant correlation with the dependent variable (p value < 0.05) with negative direction and moderate strength. Whereas for married women aged under 19 years has significant correlation with the dependent variable (p value < 0.05) with positive direction and strong correlation then for LBW has significant with positive direction and moderate strength. The results of the multiple linear regression test prove that the incidence of stunting affects the independent variable by 41.60%, so that there are other factors that affect it by 58.40%.

Keywords: stunting, human development index, malnutrition

M12

[118]

**THE CONTRIBUTION OF *CO- PRODUCTION* TO PATIENT SAFETY: A
SYSTEMATIC LITERATURE REVIEW**

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ABSTRACT

According to WHO 2023, in low- and middle-income countries, as many as 4 out of 100 people die because of unsafe care. More than 50% of injuries (1 in 20 patients) are preventable, half of these injury events are treatment-related. Some estimates suggest that as many as 4 out of 10 patients are harmed in primary and outpatient settings, while up to 80% (23.6-85%) of these harms could be avoided. There have been various initiatives to improve patient safety, including "engaging" patients, but have not "empowered" patients more deeply. The concept of co-production is important in making patients more empowered in patient safety efforts. This systematic literature review aims to explore the concept of co-production in patient safety as defined and utilized within health literature, its contribution to patient participation in managing their own health risks and enhancing patient safety awareness, and the outcomes of patient involvement in co-production on patient safety. This SLR process begins with the identification of relevant literature sources through searches in the trusted databases Springer, PubMed, and BMC, using predetermined keywords: co-production, safety, patient, and healthcare. Strict inclusion criteria were implemented to ensure that only articles in English that were of high quality and relevant to the research topic, published between 2019 and 2024, were included in the analysis. Furthermore, this study uses the PRISMA 2020 framework. The findings suggest that co-production significantly contributes to patient empowerment in managing health risks and raising awareness about safety, leading to improved healthcare quality, patient satisfaction, compliance with treatment, and overall better health outcomes. These results underline the transformative potential of co-production in healthcare, emphasizing the importance of adopting co-production approaches in planning and delivering healthcare services to achieve optimal patient safety.

Keywords: co-production, health risk management, healthcare quality, patient safety

M13

[119]

**GRADUAL ENERGY INTAKE ON NSTEMI HIGH RISK, NON-SUSTAINED
MONOMORPHIC VENTRICULAR TACHYCARDIA + HEPATITIS ISCHEMIA
WITH MODERATE MALNUTRITION PATIENT: A CASE REPORT**

*Yasmin SA**

N1

[120]

**CANCER RISK CALCULATOR: A TOOL TO HELP PEOPLE UNDERSTAND THE
MODIFIABLE BEHAVIORS THAT CAN REDUCE CANCER RISK**

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ABSTRACT

Cancer Council Queensland's Cancer Risk Calculator is a free online tool that enables people to self-assess what actions they can take to reduce their cancer risk based on a set of key modifiable factors (i.e., physical activity, diet, weight, alcohol, tobacco use, sun protection, screening). It provides a personalised cancer-risk scorecard as well as some behaviour change strategies. To date, over 50,000 people from across the world have completed the Cancer Risk Calculator, 10% of those have subscribed to receive reminders to retake the Cancer Risk Calculator. Between 500 to 1,000 people complete the Cancer Risk Calculator every month. This presentation will describe the success of the Cancer Risk Calculator as an online engagement and awareness tool. We will also discuss the success of the Cancer Risk Calculator optimisation which enhanced its overall design and feedback to users. This optimisation followed a comprehensive evaluation including a full content review and involved a rebuild of the digital infrastructure, revision of questions, the scoring algorithm and recommendations provided to users. The presentation will provide initial insights into the successful launch (February 2024) of the new version of the Cancer Risk Calculator. The new version will be incorporated into prevention programs targeting behaviour change and screening participation. It will also enable research into the patterns and clustering of risk factors in relation to key demographics and help us understand engagement and usage patterns to identify new priority areas for further investigation.

Keywords: cancer prevention, early detection, risk calculator

N2

[121]

**SYMPTOM BURDEN EVALUATION IN OMANI WOMEN RECENTLY
DIAGNOSED WITH BREAST CANCER USING ESAS: A CROSS-SECTIONAL
STUDY**

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ABSTRACT

Breast cancer is the most common type of cancer among women worldwide, significantly impacting patients' quality of life (QoL). The Edmonton Symptom Assessment System (ESAS) is a validated tool used to measure the severity of symptoms in cancer patients, including those with breast cancer. This study aims to determine the prevalence and severity of symptoms among newly diagnosed breast cancer patients undergoing chemotherapy in Oman using the Arabic version of ESAS (ESAS-A). A cross-sectional study was conducted at the Sultan Qaboos Comprehensive Cancer Care and Research Centre (SQCCCRC) from December 2022 to February 2024. The study included 105 Omani women aged 18 to 60 with stages I to III breast cancer. Symptoms were assessed using the ESAS-A, including pain, fatigue, nausea, drowsiness, appetite, shortness of breath, depression, anxiety, overall well-being, and other health problems, each rated from 0 (none) to 10 (severe). Data were analyzed using SPSS software, with statistical significance at $p < 0.05$. The study achieved an 82.68% response rate. The mean age of participants was 43.62 years. The most common symptoms reported were tiredness (mean score of 2.50), well-being (mean score of 2.29), and drowsiness (mean score of 1.95). Moderate to severe symptoms were reported for tiredness (37.1%), well-being (30.5%), and drowsiness (27.6%). Anxiety and depression had mean scores of 1.76 and 1.16, respectively, with 21.9% reporting moderate to severe anxiety and 17.1% reporting moderate to severe depression. The study highlights the significant burden of symptoms, especially tiredness, and well-being, and identifies specific demographic and clinical factors associated with symptom severity. These findings underscore the importance of comprehensive symptom management strategies to improve the QoL of breast cancer patients in Oman.

Keywords: breast cancer, chemotherapy

N3

[122]

LONG-TERM ILLNESS AND HEALTHCARE BURDEN FACED BY PEOPLE WITH POST COVID-19 CONDITION AND PEOPLE WITH MYALGIC ENCEPHALOMYELITIS/CHRONIC FATIGUE SYNDROME

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ABSTRACT

Post COVID-19 Condition (PCC) and Myalgic Encephalomyelitis/Chronic Fatigue Syndrome (ME/CFS) are chronic multi-systemic illnesses with debilitating impacts on daily, social, and working life. However, the ability for PCC and ME/CFS to inflict long-term disability is not recognised in Australian health policy. Consequently, people with PCC (pwPCC) and people with ME/CFS (pwME/CFS) are deemed ineligible to access necessary care and support services. The present longitudinal study investigates the illness and healthcare burdens faced by pwPCC and pwME/CFS over time to inform health policy and guide service design and provision. Data was collected between October 2021 and April 2024 from Australians aged between 18 and 65 years formally diagnosed with PCC or ME/CFS according to the World Health Organization and Canadian Consensus Criteria case definitions, respectively, without exclusionary diagnoses. Sociodemographic, illness presentation, and healthcare access data were collected via three validated, self-administered questionnaires completed at six-month intervals. Data analysis was performed using Statistical Package for the Social Sciences version 29.0 and R version 4.3.3. At baseline, most pwPCC (n=8) and pwME/CFS (n=38) were middle-aged (median (M)=51.00, quartile 1–3 (Q1–3)=42.45–53.00 years and M=48.00, Q1–3=39.75–54.50 years, respectively, p=0.52) and female (n=7, 87.5% and n=27, 71.1%, p=0.66, respectively). Both pwPCC and pwME/CFS experienced a considerable symptom burden and regularly accessed primary and specialist healthcare services. Mixed effects regression models were generated to investigate the relationship of illness status with symptom presentation and healthcare access over time. The findings of this ongoing research are integral to promote the recognition of the long-term illness burdens of PCC and ME/CFS and improve service accessibility to maximise patient health outcomes.

Keywords: myalgic encephalomyelitis/chronic fatigue syndrome, post COVID-19 condition, long COVID, post-acute sequelae of COVID-19, healthcare access

N4

[123]

TRACE ELEMENT THERAPY IN DIABETES MELLITUS: A CASE REPORTStella T^{1*}, Nurpudji A. Taslim², Rani NA² and Ashari N²

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ABSTRACT

In 2021, there were 537 million people with diabetes mellitus worldwide, with an estimated 19.5 million in Indonesia. Uncontrolled blood glucose levels can result in a number of complications, including diabetic foot ulcers (DFUs) and an increased risk of malnutrition, morbidity and mortality. Trace elements play a specific role in the pathogenesis and progression of diabetes mellitus. Certain trace elements, including zinc, chromium and selenium, have the capacity to activate insulin receptor sites. Previous studies have demonstrated that the routine administration of trace elements has an effect on reducing blood sugar and HbA1C levels. A case report of a 40-year-old male with a Wagner grade V DFU and gangrenous ulcer with severe protein-energy malnutrition. On physical examination, there were anemic conjunctiva, loss of subcutaneous fat, muscle wasting, and xyloid ribs. The body weight was 44.47 kg, with a hand grip strength (HGS) of 4.8 kg. Laboratory results showed anaemia, leucocytosis, an elevated neutrophil-to-lymphocyte ratio (NLR), thrombocytosis, hypoalbuminemia, severe hyponatremia, and hyperglycaemia (321 mgdL⁻¹, HbA1C 13.5%). Nutritional management provided 1900 kcal total energy, with oral supplementation including zinc 40 mg, multivitamins, and potassium. Following 14 days of nutritional care, the patient's functional capacity had improved (HGS 18.6 kg). The blood test results also improved, including blood sugar levels (127 mgdL⁻¹), leukocytes (28,100 to 10,800μL⁻¹), NLR (26.44 to 9.87), platelets (478,000 to 385,000μL⁻¹), albumin (2.6 to 3.3 gdL⁻¹), and sodium (123 to 134 mmolL⁻¹). In conclusion, the provision of optimal medical nutrition therapy with trace element therapy will facilitate the control of blood sugar levels and improved clinical outcomes of diabetes mellitus patients.

Keywords: trace element therapy, diabetes mellitus, malnutrition

N5

[124]

**BEYOND THE MASS MEDIA CAMPAIGNS: EXPLORING PEER-TO-PEER
COMMUNICATION FOR CERVICAL CANCER AWARENESS IN SOUTH AFRICA**

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ABSTRACT

The use of mass media for health campaigns is extensive in developing countries such as South Africa and this may also be true for cervical cancer awareness campaigns. Despite this extensive use, their reach and effectiveness remain limited in some parts of South Africa. This study explores the potential of peer-to-peer communication as a complementary strategy to enhance awareness and understanding of the preventions and treatment measures that are available to women. This study used qualitative approach to collect data through interviews from 30 women across three rural areas of Limpopo Province in South Africa. From the literature, it emerged that there is a low number of women from the rural areas who participate in cervical cancer screenings. As such, it was important to use the selected research method which enabled the researchers to assess the knowledge and effective methods of communicating about cervical cancer. The preliminary findings show that peer-to-peer communication that is facilitated by healthcare professionals such as nurses, as well as testimonies from cervical cancer survivors can contribute greatly to awareness campaigns in addition to traditional mass media campaigns. By highlighting the effectiveness of localized peer-to-peer as a communication strategy, this will contribute valuable insights for creating more inclusive and impactful health interventions in rural and underserved areas.

Keywords: cervical cancer awareness, mass media, public health interventions, peer-to-peer communication, rural health, South Africa

N6

[125]

MEDICAL NUTRITION THERAPY IN HEMORRHAGIC STROKE: CASE REPORT

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ABSTRACT

Stroke is a cerebrovascular disease that occurs due to the cessation of blood flow that supplies the arteries in the brain. The clinical manifestations experienced by stroke sufferers are loss of motor function (hemiplegia and hemiparesis), decreased communication processes, decreased consciousness, and death. Nutritional support plays a crucial role in the treatment of stroke patients. Here we report a case of a 72-year-old woman referred by the Neurology Department with a diagnosis of intracerebral hemorrhage complicated by hydrocephalus non communicans, cerebral infarction, and chronic mastoiditis. The patient had a history of decreased food intake for 2 months due to severe headaches accompanied by nausea and vomiting, and weight loss of ± 2.2 kg (4.8%). Nutrition support was started with 1400 kcal and gradually increased to 1700 kcal on the 5th day. An optimal medical nutrition therapy in hemorrhagic stroke patients is very important to support patient recovery.

Keywords: medical nutrition therapy, hemorrhagic stroke

N7-1

[126]

**DIABETES SELF-RELIANCE, INTERVENTION, ELECTRONIC BASIS,
NETWORK SYSTEM (DIEN) DIABETES MELLITUS INTERVENTION MODEL**

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ABSTRACT

Diabetes is a chronic disease known as a long-life disease that must be managed continuously. This study aims to develop an intervention model for increasing independence in managing Diabetes. This study consists of four research stages. The first stage, the statistical test, used Structural Equation Model (SEM)-Partial Least Square (PLS); the second stage identifies the interventions needed to build DM independence behavior; the third stage of developing the DIEN model; fourth stage model trials. The first stage entails the crucial variables for managing Diabetes Mellitus (DM), namely behavioral skills, informational aspects, and motivational factors. Subsequently, in the second phase, comprehensive information pertaining to the requisites for autonomous DM management is acquired, including educational initiatives and self-monitoring protocols concerning dietary regimens, physical exertion, blood glucose surveillance, and the integrated management of DM medication within the insurance framework. The third stage was the formulation of the DIEN model tailored for self-administered DM intervention. The fourth stage showed affirmative outcomes are discerned through the utilization of this model in the development of autonomous DM intervention application. The DIEN application intervention model consists of guidance menus, challenges, laboratories, education and DIEN Diary (recording medication taking, recording blood sugar, food diary and sports recording). The utilization of this application requires integration with the national healthcare financing system and healthcare facilities to ensure its sustainability.

Keywords: diabetes type 2, diabetes self-management, DM

N7-2

[127]

**THE EFFECT OF MOIST WOUND HEALING ON THE CONDITIONS
OF WOUND IN DIABETIC FOOT ULCER PATIENTS AT HERMINA
JATINEGARA HOSPITAL**

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ABSTRACT

Diabetes mellitus (DM) is a prevalent chronic metabolic disorder characterized by persistent hyperglycemia, resulting in significant long-term health implications. Among its complications, Diabetic Foot Ulcer (DFU) stands out, with a lifetime prevalence ranging from 19% to 34%. Recurrence of DFUs is common, affecting 40-65% of diabetic patients within one to five years post-initial ulcer healing. This study aimed to evaluate the efficacy of moist wound healing compared to conventional methods in treating DFUs. Utilizing a quasi-experimental design with a time series approach, 20 diabetic ulcer patients were divided into treatment (moist wound healing) and control (conventional method) groups. Observations were conducted using the Bates-Jensen Wound Assessment Tool (BWAT), and statistical analysis employed the T-Independent test. Results revealed that moist wound healing led to significantly better wound conditions compared to conventional methods, evidenced by lower BWAT scores on days one (M=40), three (M=36.60), and six (M=31.90) compared to the control group (day one: M=43.90, day three: M=42.40, day six: M=40.30). The difference between groups was statistically significant ($p=0.001$), indicating the superiority of moist wound healing. Therefore, implementing moist wound healing strategies is recommended for managing DFUs in diabetic patients, potentially reducing recurrence rates and improving long-term outcomes.

Keywords: moist wound healing, conventional methods, diabetic ulcer wound conditions

N8

[128]

HEALTH-SEEKING BEHAVIOUR FOR NON-COMMUNICABLE DISEASES AND ITS DETERMINANTS IN INDIA- A SYSTEMATIC REVIEW AND META-ANALYSIS

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ABSTRACT

India faces a growing burden of non-communicable diseases (NCDs) straining the healthcare system. Given the urgent need for prevention and management, a systematic review and meta-analysis (SRMA) of health-seeking behaviours for NCDs is essential to guide targeted interventions to improve health outcomes. The SRMA protocol was registered in PROSPERO (CRD42023476381) and conducted adhering to standard guidelines. PubMed-Medline and Scopus databases were searched from inception to October 27, 2023. Eligible studies focused on adults (>18 years) with NCDs covered under the National Programme for prevention & Control of Cancer, Diabetes, Cardiovascular Diseases & stroke (NPCDCS). Data extraction and risk of bias assessment were conducted using predefined criteria. Meta-analysis of quantitative data was performed using DerSimonian and Laird random-effect model. From 2,917 identified studies, 64 were included in the SRMA, with 39 suitable for meta-analysis. The meta-analysis revealed that 72.72% (95% CI 59.48% to 85.97%, $I^2 = 99.97%$) of individuals sought treatment for existing health conditions, with 73.09% (95% CI 54.01% to 92.16%, $I^2 = 99.18%$) preferring allopathy, compared to 8.89% (95% CI 5.56% to 12.22%, $I^2 = 86.73%$) preferring alternative medicine with a significant heterogeneity. Major barriers to seeking treatment included illness not considered serious (0.4785 (95% CI 0.4556 to 0.5013) and financial constraints (0.3263 (95% CI 0.1457 to 0.5069), with delays in cancer treatment attributed to lack of disease awareness (0.5091 (95% CI 0.0294 to 0.9888)) and painlessness (0.4502 (95% CI 0.3312 to 0.5692)). Private healthcare facilities (51.26%, 95% CI 42.85% to 59.67%) were preferred over government facilities (33.78%, 95% CI 28.10% to 39.45%). This SRMA provide a comprehensive overview of health-seeking behaviour for NCDs in India. The findings underscore the complex interplay of socioeconomic, cultural, and systemic factors necessitating targeted interventions to reduce the burden of NCDs in India.

Keywords: health-seeking behavior, healthcare access, non-communicable diseases (NCDs), India, systematic review, meta-analysis

N9

[129]

PREVENTING RECURRENT STROKE BY STRENGTHENING HEALTH PROMOTION IN HOSPITALS IN INDONESIABachtiar A¹, Ayubi D², Gemilang SD^{3*} and Candi C¹*¹Department of Administration and Policy, Faculty of Public Health, Universitas Indonesia, Indonesia**² Department of Health Education and Behavioral Sciences Faculty of Public Health, Universitas Indonesia, Indonesia**³Faculty of Public Health, Universitas Indonesia, Indonesia***dgemilangsari@gmail.com***ABSTRACT**

Stroke is the second leading cause of death and third leading cause of disability in the world. Stroke is the number one cause of death and disability in Indonesia. Stroke is at risk of recurrence. The increased risk of death and disability from recurrent stroke should make prevention of recurrent stroke a priority. Behavioral theories and health promotion programs are needed for healthy behavior modification and advice for health care providers. This study aims to analyze efforts to prevent recurrent stroke by strengthening health promotion in hospitals in Indonesia. The study was conducted in two stages, namely stage one in the form of factor analysis related to recurrent stroke factors, using quantitative methods using Green's behavioral framework theory; stage two was the analysis of recurrent stroke prevention efforts in hospitals using the input-process-output donabedian system theory. The output of this study was the acquisition of an effective health promotion program framework based on a behavioral science approach and the acquisition of the most dominant variables on recurrent stroke prevention efforts by strengthening health promotion in hospitals in Indonesia. It is hoped that this study could provide evidence of information, evaluation, and basic input for hospitals in Indonesia in developing effective health promotion programs in efforts to prevent recurrent stroke. Hopefully the research can also provide an overview to the Directorate of Health Promotion and Community Empowerment of the Ministry of Health of the Republic of Indonesia in designing policies and programs for the prevention of recurrent stroke.

Keywords: behavioral science, non-communicable diseases, health promotion, stroke, recurrent stroke

N10

[130]

**THE EFFECT OF EXERCISE THERAPY ON PAIN AND SHOULDER'S ROM
IN BREAST CANCER SURVIVOR AT HERMINA BEKASI HOSPITAL**

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ABSTRACT

Breast cancer is a prevalent global health concern, accounting for significant mortality rates among women worldwide. Despite advancements in treatment, early detection remains crucial for reducing mortality and enhancing survivor quality of life. This study investigates the effectiveness of exercise therapy in mitigating pain and improving shoulder range of motion (ROM) in breast cancer survivors post-mastectomy. Using secondary data from medical records at RS Hermina Bekasi, this exploratory quantitative study employs a one-group pre-test-post-test design. Participants underwent exercise therapy twice weekly for six weeks. The study population comprised female breast cancer survivors aged 35-84 who experienced pain and limited shoulder ROM post-mastectomy. Data were analyzed using SPSS 26, including descriptive statistics and paired-sample t-tests. Results revealed a significant reduction in pain ($p < 0.05$) and improvement in shoulder ROM ($p < 0.05$) following exercise therapy. The study contributes to the growing body of evidence supporting the efficacy of exercise therapy in addressing post-mastectomy complications. These findings underscore the importance of integrating exercise therapy into comprehensive cancer care programs to enhance survivors' physical and psychological well-being.

Keywords: breast cancer, exercise therapy, pain management, shoulder range of motion, survivorship

N11

[131]

MULTIMORBIDITY IN THAILAND: DISEASE BURDEN, MORTALITY, AND GEOGRAPHIC DISTRIBUTION

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ABSTRACT

Multimorbidity, the coexistence of two or more chronic conditions, presents a significant health challenge in Thailand, particularly during a period of sustained health transition marked by an increasing prevalence of non-communicable diseases. This study aims to comprehensively examine the patterns, risk factors, and spatial distribution of multimorbidity among Thai adults, considering socio-demographic and lifestyle factors, and their impact on mortality. Data from the Thai Cohort Study comprising baseline 87,151 participants in 2005 and 42,785 participants at the endpoint in 2013 were analysed. Prevalence-based analysis found common multimorbidity patterns, logistic regression explored risk factors of multimorbidity, spatial analysis techniques identified potential clusters of the multimorbidity prevalence in the study area, and Cox proportional hazards models examined survival interactions between multimorbidity, risk factors, and survival. Metabolic syndrome components especially obesity, hyperlipidaemia, and hypertension, were the prominent factors driving multimorbidity. Age and gender disparities were evident, with individuals aged 60+ exhibiting higher multimorbidity prevalence (33.7%). Men showed a greater susceptibility to multimorbidity associated with metabolic syndromes (men: 9.2% vs. women: 4.0%). Lifestyle factors including diets, exercise, and sleep duration significantly influenced multimorbidity. Spatial analysis revealed higher prevalence observing in central areas. Survival analysis indicated that the risk of death was 43% higher for multimorbid people, with age, long sleep duration, smoking and drinking increasing mortality risk. This study highlights the urgency of focused prevention and management targeting metabolic syndrome components, gender, age (particularly the elderly) and lifestyle factors to reduce the prevalence of multimorbidity, and the need for tailored allocation of healthcare resources in areas with a high prevalence of multimorbidity. Addressing these factors could improve treatment outcomes and reduce the risk of death in multimorbid populations.

Keywords: age, chronic conditions, multimorbidity, Thai Cohort study

N12

[132]

CHARACTERIZATION OF PATIENTS' PERCEPTIONS AND ATTITUDES FOR EFFECTIVE MANAGEMENT OF TYPE 2 DIABETES

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ABSTRACT

Type 2 Diabetes Mellitus (T2DM) is an intricate metabolic disease requiring adherence to complex lifestyle therapy in addition to medication. For this reason, self-management activities are essential for risk reduction of long-term complications. Our qualitative study set out to explore the most prevalent behavioral features associated with T2DM patients' self-management, through understanding their perceptions of the disease and their experiences with treatment. 50 T2DM patients on insulin therapy were the subjects of a semi-structured interview study. The qualitative software tool ATLAS.ti 8 was used to analyze the interview transcript texts to identify themes and codes. The interview questions were grouped into three main categories that addressed the disease's history, the present course of treatment, and the treatment's ecological setting. Qualitative data were analyzed with thematic analysis as a theoretical framework. This method helps to identify, analyze, and report patterns (themes) within data. Before coding, the units of the texts in the sample were categorized, and to draw replicable and valid conclusions, they were re-coded by 2 independent coders, and differences between coders also were examined. The internal reliability of the qualitative results was calculated using Krippendorff's internal reliability value ($\alpha = 0.920$). According to the results of our qualitative analysis, the emotional correlates dominated a significant proportion of responses of insulin-treated T2DM patients. Based on the findings of the qualitative study, four patient groups were identified, and these were confirmed by hierarchical cluster analysis with squared Euclidean distances. Patients with varying psychosocial traits concerning their diabetic self-management are represented by the four groups that have been identified and characterized: Vulnerable Personality, Ambivalent, Effective Self-Manager, and Somatizing. By clearly defining such patients' characters, physicians can better personalize their interactions with the different patients based on their characters and thereby increase patient cooperation for more sufficient self-management.

Keywords: clusters of patients, diabetes behaviour, illness perception, type 2 diabetes, self-management

N13

[133]

**OPTIMIZING SERVICE QUALITY FOR INTEGRATED COMMUNITY HEALTH
FOR ELDERLY AND NON-COMMUNICABLE DISEASES DEVELOPMENT POST
IN INDONESIA**

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ABSTRACT

Indonesia Ministry of Health in 2021 released guidance for integrating two programs: the integrated community health service for the elderly (Posyandu Lansia) and the Integrated Non-Communicable Diseases Development Post (Posbindu PTM). Despite these intentions, minimum health standart productive (≥ 15 years old) in 2022 was only achieved by 35.24% of the target of 100%. Both programs face challenges in practical implementation such as insufficient facilities, limited operational funds and cadres insentive, and lack of community participation. This prompts the assessment of services provided, examining each posyandu's readiness to integrate programs for elderly care and non-communicable disease control from the viewpoint of healthcare providers and program beneficiaries. This study used a combination of qualitative and quantitative methods with a Structure, Process, and Outcome approach. In-depth interviews and observations are conducted to supplement data from structured questionnaires targeted at service providers and recipients. The findings indicate a requirement to advance cadres' incentive and media for health education through booklets or flip charts. The research recommends prioritizing the improvement of incentive systems and procurement of tools as critical areas that need prompt focus. A comprehensive strategy is suggested, encompassing stakeholder training, infrastructure enhancements, and policy modifications to surpass the expectations of elderly service users and improve their overall quality of life and satisfaction with healthcare services.

Keywords: integrated, elderly, NCDs, posyandu, posbindu

Q1

[134]

SEROPREVALENCE AND SURVEILLANCE OF BRUCELLOSIS IN HUMAN AND ANIMAL IN TERTIARY CARE HOSPITAL AT GUJARAT STATE OF INDIA

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ABSTRACT

Brucellosis, a zoonotic disease caused by *Brucella* species, presents a significant public health concern in India, particularly in the Narmada district, where it impacts both animal and human populations. This study aimed to assess the prevalence of Brucella species infection among humans and animals, evaluate knowledge, attitudes, and practices relevant to brucellosis control, and propose effective control and preventive measures. Utilizing data from the Animal Disease Surveillance Report (ADSR), the National Artificial Insemination Program (NAIP), and the Integrated Disease Surveillance Programme (IDSP-IHIP), a comprehensive analysis was conducted. Results revealed a notable occurrence of acute febrile illness (AFI) cases, with 2219 reported cases in Narmada from December 2022 to November 2023, affecting both humans and animals, totaling 15450 fever cases. Notably, instances of abortion linked to Brucellosis were identified, primarily in specific talukas within the district. Data quality audits were conducted to ensure the reliability and accuracy of the collected information in both animal and human cases. The findings highlight the importance of sustained surveillance efforts, education initiatives, and targeted interventions to mitigate the impact of Brucellosis. Emphasis on heightened awareness among communities, healthcare providers, and veterinary personnel is crucial. Furthermore, the development of vaccines and the implementation of mass screening programs are suggested strategies to eradicate the disease effectively. This study underscores the significance of a multifaceted approach to Brucellosis control, aiming to minimize its economic and public health implications in the Narmada district and beyond.

Keywords: animal health, brucellosis, human health, surveillance

Q2

[135]

**PROBABILISTIC FORECASTING OF DENGUE FEVER IN QUEZON CITY USING
A MULTIVARIATE BAYESIAN SPATIOTEMPORAL MODEL WITH INLA**Madrid GT^{1*}, Estuar MRJ¹, Tolentino MA², Teng T², De Lara-Tuprio E² and Garcia A³*¹Department of Information Systems and Computer Science, Ateneo de Manila University,
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Dengue fever poses a persistent public health challenge in Quezon City, Philippines. From 2013 to 2023, there has been an average of 5,723 cases per year with peaks during the months of August, September, and October. Current surveillance methods necessitate the need to develop a predictive tool to guide timely and targeted interventions. To address this, a Multivariate Bayesian Spatio-Temporal (MBST) Model has been developed for enhanced dengue forecasting. Utilizing the R-INLA package, the model integrates a comprehensive set of local variables, including weather data (minimum temperature, maximum temperature, rainfall, and humidity), historical number of dengue cases, and population density, to produce probabilistic forecasts of dengue risk at the district level on a monthly basis and with a three-month forecasting horizon. These district-level forecasts, in contrast to traditional barangay-level reporting, align with the city's preferred administrative view and are visualized in a choropleth map integrated into the surveillance platform. Results demonstrate that incorporating multiple variables, including population density, and utilizing a spatiotemporal approach significantly improve forecasting accuracy compared to simpler models that rely solely on temporal trends or ignore spatial dependencies. By identifying high-risk districts up to three months in advance, this scalable model enables proactive resource allocation and targeted interventions, ultimately contributing to more effective dengue control in Quezon City and potentially other urban settings facing similar challenges.

Keywords: Dengue, probabilistic model, multivariate analysis, spatiotemporal, disease forecasting, public health

Q3

[136]

ANALYSIS OF CRIMEAN-CONGO HEMORRHAGIC FEVER (CCHF) CASES IN GUJARAT, 2011-2023: IMPLICATIONS FOR FUTURE STRATEGIES

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ABSTRACT

Crimean-Congo hemorrhagic fever (CCHF) is a severe hemorrhagic illness with high mortality, endemic in Africa, Asia, Eastern Europe, and the Middle East(1). In India, the first case was reported in Gujarat in 2011, and since then, the state has experienced persistent outbreaks with alarming mortality rates. This study analyzed 125 laboratory-confirmed CCHF cases in Gujarat from 2011 to 2023 to delineate its epidemiology and provide evidence-based recommendations. The analysis revealed that 46% of districts in Gujarat were affected, with Kutch, Amreli, and Bhavnagar being the most affected. The majority of cases (70%) were among males, with a median age of 42 years. Notably, the transmission of CCHF peaked from July to October, coinciding with the monsoon season. Hospitalization was required for 94% of cases, with a staggering case fatality rate of 49%. Mortality rates were particularly high in selected hospitals, emphasizing the need for improved medical facilities and preparedness. Recommendations include initiating awareness campaigns targeting males involved in the cattle industry before the high transmission season, which typically peaks in July to October. Additionally, strengthening ICU care, including human resource augmentation and staff training, in hospitals located in high-risk areas is crucial for managing CCHF cases effectively. Vector surveillance efforts should also be intensified to identify and control potential vectors. Overall, proactive measures are imperative to mitigate the impact of CCHF outbreaks in Gujarat, safeguard public health, and reduce mortality.

Keywords: crimean-congo hemorrhagic fever, gujarat, epidemiology, data analysis, vector surveillance, mortality

Q4

[137]

AN EVALUATION OF USING COMMUNITY BASED PEER NAVIGATORS FOR IMPROVING HIV TREATMENT OUTCOMES AMONG ANTIRETROVIRAL THERAPY PATIENTS IN MALAWI DEFENCE FORCE CLINICS: A RETROSPECTIVE STUDY

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ABSTRACT

Malawi Défense Force adapted test-and-start for fast tracking antiretroviral therapy initiation for HIV positive clients in 2016. However, the 95-95-95 indicators such as retention in care, routine Viral Load (VL) testing volumes, VL suppression rates and ART adherence were suboptimal. From 2020, MDF utilized the use of peer navigators to re-engage patients in care. We sought to evaluate the effectiveness of the intervention. A quantitative study was conducted where programmatic data was collected retrospectively from 7 sites to compare Treatment Interruption (ITT) and Return to Treatment (RTT) levels 18 months before and after introduction of community-based peer navigators. During the intervention, each client had their locator forms updated, pre-appointment calls at day 3 for clients with phones, daily tracing of clients within 7 days after missing appointments through phone and field visits. The median IIT and RTT was 308(IQR =96) and 99(IQR=67) in pre intervention period respectively while in post intervention, the median IIT and RTT was 145(IQR=47) and 160(IQR=46) respectively. The Treatment Current rate increased by 36.5% through back to care (B2C) and by 10.4% through new initiations. Out of 1,073 clients due for VL flagged on patient cards, 953(88.9%) had their blood samples taken compared to only 61. 8% in pre intervention period($p < 0.01$). Out of 109 clients with high VL, 52% were successfully switched to second line regimen. There were some improvements in the program indicators after the engagement of peer navigators. However, there is need to conduct another study that controls for important confounders. Use of peer navigators to track clients and those due for VL blood sample collection through BTC initiative needs to be enhanced. Identifying patients that have high VL results to access IAC sessions and those with high F/U VL to alternate ART regimens needs to be strengthened.

Keywords: antiretroviral therapy, ART outcomes, peer navigators, Malawi Defence Force clinics

Q5

[138]

**DEVELOPMENT OF AN OPTIMAL BACK-END FOR NEAR-REAL TIME
DISEASE MODELING SURVEILLANCE: CASE OF PHILIPPINE COVID-19
COMPARTMENTAL MODEL AND DENGUE PROBABILISTIC MODEL**

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ABSTRACT

The FASSSTER Platform runs several models and analytics for surveillance of COVID-19. The FASSSTER COVID-19 Compartmental Model requires the COVID-19 linelist data that goes through parameter estimation and parameter fitting before it produces its projected number of cumulative and active cases as its final output. The FASSSTER COVID-19 SpatioTemporal Model requires the COVID-19 linelist data along with geospatial information of cities and barangays in the Philippines to produce estimates of relative risk for each barangay within a city, indicating the severity of case incidence compared to the city average. Data preparation involves integrating barangay-level population data to calculate population density and filtering the analysis to the most recent day. The current processes need to be replicated for all cities across the Philippines to provide a comprehensive overview of disease spread at the barangay level. This study aims to address the limitations of the FASSSTER Disease Modeling Platform's backend infrastructure, specifically on its data processing capabilities for large historical datasets, data integration from disparate sources, and the complexity of geospatial analysis. The current system struggles to efficiently process these datasets, hindering timely analysis and decision-making. This study investigates the potential of two batch processing frameworks in Apache Spark and Apache Beam. By leveraging on the capabilities of these two frameworks, the study evaluates the effectiveness in optimizing the FASSSTER ETL (Extract, Transform, Load) process. Performance is analyzed in terms of processing speed, resource utilization, and scalability as data volume increases. Preliminary observations suggest that both Beam and Spark pipelines can effectively handle the diverse data sources and complex transformations required by FASSSTER. Both frameworks' ability to scale and adapt to varying data loads indicates that they could significantly improve the efficiency and timeliness of FASSSTER's data processing workflows. Further investigation, including a direct comparison of Apache Spark and Apache Beam, and a comprehensive analysis of performance metrics, is ongoing.

Keywords: COVID-19 surveillance, Big Data, Apache Spark, Apache Beam, ETL optimization, disease modeling

Q6

[139]

MITIGATING LEPTOSPIROSIS ENDEMICITY IN SOUTH GUJARAT, INDIA: A COMPREHENSIVE APPROACH AND COLLABORATIVE SUCCESS

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ABSTRACT

Background: Leptospirosis, a widespread zoonotic disease, poses a significant health threat in regions with high rainfall, such as South Gujarat, India. The study focuses on endemicity in Valsad, Navsari, Tapi, and Surat districts, where sugarcane-paddy fields and rodent presence contribute to its prevalence. Objectives: (1) Assess the prevalence of leptospirosis in South Gujarat. (2) Implement and evaluate a comprehensive intervention strategy, including chemoprophylaxis, rodent control, training programs, and healthcare infrastructure enhancements. (3) Analyze the effectiveness of these measures in reducing leptospirosis cases and fatalities. Methods: Recognizing increasing cases since August 2011, chemoprophylaxis was initiated in high-risk villages, involving weekly doses of cap. Doxycycline 200 mg for 6 to 8 weeks. This was complemented by rodent control operations, training programs, and improvements in treatment facilities. Results: The interventions led to a significant decline in leptospirosis cases from 916 in 2011 to 9 in 2022. Fatalities reduced from 177 in 2011 to 1 in 2022, with only 5 reported cases and no deaths in 2023. Conclusion: The success is attributed to synergistic efforts and inter-departmental coordination between Agriculture and Health Departments. The collaborative approach, encompassing chemoprophylaxis, rodent control, training initiatives, and healthcare infrastructure enhancements, demonstrates significant efficacy. The study underscores the potential for replicating these strategies in other regions to curb leptospirosis nationwide.

Keywords: leptospirosis, zoonotic disease, chemoprophylaxis, rodent control, interdisciplinary collaboration, disease prevention, collaborative success

R1

[140]

**ZOONOTIC RISK FROM SWINE INFLUENZA A VIRUSES IN SOUTH-CENTRAL
CAMBODIA: A HUMAN COHORT STUDY**

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ABSTRACT

Cambodia has seen an increase in livestock production and consumption in recent years, which has coincided with the country's economic growth. This trend was also observed in the context of swine production, since rural smallholder production methods remain the primary source of pigs for urban areas. Here we describe a prospective human cohort study that aims to elucidate zoonotic influenza risk at the swine-human interface in south-central Cambodia. Eight districts in four provinces were selected using probability proportional to pig population size sampling to conduct a cohort study among households with and without occupational exposure to live pigs. Upon recruitment, household- and individual-level questionnaires were administered to obtain demographic and behavioral data (e.g., swine exposure), and sera were collected for screening of Influenza A antibodies. A total of 618 households were recruited for the research, resulting in the collection of 1485 serum samples from 779 participants at enrollment, 12-month and 24-month follow up periods. Preliminary analyses of ELISA results, using expected maximization on their S/N values, indicate that the majority of individuals were strongly positive for Influenza A antibodies across three different time points (53.98%, 55.14%, and 46.56%) respectively. Risk factor analysis found that pig traders had 2 (95% Confidence Interval: 1.14 to 3.68) times the odds of testing strongly positive for influenza A antibodies using ELISA compared to other participants, suggesting they may be at higher risk. This cohort represents one of the largest sero-epidemiological studies to date on influenza A risk associated with occupational exposure to swine in Southeast Asia. The study findings suggest ongoing exposure to Influenza A viruses within the study population which provide insights into zoonotic risk associated with swine production in Cambodia.

Keywords: influenza, cohort study, zoonotic risk, Cambodia

R2

[141]

SNAKEBITE ENVENOMING: A SYSTEMATIC REVIEW AND META-ANALYSIS OF GLOBAL MORBIDITY AND MORTALITY

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ABSTRACT

Snakebite envenoming poses a substantial public health challenge, especially in rural tropical and subtropical regions, with an estimated 1.2-5.5 million envenoming and over 125,000 fatalities annually. This systematic review and meta-analysis aimed to collate global epidemiological data on snakebite morbidity and mortality. A comprehensive search across Medline, Embase, Cochrane, and CINAHL Plus databases from 2001 to 2022 identified 5,312 articles, of which 65 met inclusion criteria, representing 663,460 snakebites. The most vulnerable populations were men (59%), engaged in agricultural labor (27.5%), and residing in rural areas (66.7%). Envenoming occurred in 57% of cases, predominantly during daytime (56.7%), in summer (38.5%), and affecting the lower limb (56.4%). Most envenoming severities were mild (46.7%), treated in hospital (68.3%), and managed with anti-venom (64.7%). The pooled global incidence and mortality rates were 69.4/100,000 population (95%CI: 36.8 to 101.9) and 0.33/100,000 population (95%CI: 0.14 to 0.52) annually, respectively. Incidence was highest in Asia (130.7/100,000 population, 95%CI: 48.3 to 213.1) and lowest in Europe (0.7/100,000 population, 95%CI: -0.2 to 1.5). Asia also reported the highest mortality (0.96/100,000 population, 95%CI: 0.22 to 1.70), followed by Africa (0.44/100,000 population, 95%CI: -0.03 to 0.84). Notably, lower-middle-income countries had the highest incidence (132.7/100,000 population, 95%CI: 55.4 to 209.9), while mortality was highest in low-income countries (0.85/100,000 population, 95%CI: -0.06 to 2.31). These findings highlight the global impact of snakebite and emphasize the urgent need to address this neglected tropical disease. While reported incidence was higher in lower-middle-income countries, mortality disproportionately affected low-income populations. Addressing this disparity requires concerted efforts to improve prevention, access to antivenom, and healthcare infrastructure in the most affected regions.

Keywords: epidemiology, incidence, prevalence, mortality, snakebite, venom injury

R3

[142]

**ENVIRONMENTAL EPIDEMIOLOGY OF GASTRIC CANCER : A
GEOGRAPHICAL ANALYSIS OF THE YANGTZE AND YELLOW RIVER BASINS
IN CHINA**

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ABSTRACT

Gastric cancer is one of the common malignant tumors in China, which seriously threatening the lives and health of residents. The risk factors related to gastric cancer include: Helicobacter pylori infection; Long term high salt diet, smoked and fried foods, intake of red meat and processed meat, and poor dietary habits; Smoking; Heavy drinking; Family history of gastric cancer in first-degree relatives. Based on the epidemiological study, this study analyzed the influence factors of environment, culture and living habits on gastric cancer in the Yangtze River basin and Yellow River basin in China. This study further summarized the environmental risk factors in the epidemiology of gastric cancer and expounded the relationship between gastric cancer and exposure to substances in production and life, smoke, harmful particulate matter, occupational hazards and water pollution. Among them, gastric cancer risk is associated with occupational exposure to asbestos, coal derivatives, pesticides/herbicides, chromium, radiation and magnetic fields, wood dust, aromatic amines, and rubber production. In terms of drinking water, unchlorinated drinking water sources, especially well water and surface water, were significantly associated with the risk of gastric cancer. The contents of anion and cationic contents of water sources in areas with high and low incidence of gastric cancer were significantly different. Drinking water sources that are contaminated, especially by Helicobacter pylori, need to take preventive measures in terms of environmental health. Long-term exposure to biomass, natural gas, tobacco and other smoke, its polycyclic aromatic hydrocarbons, benzene and formaldehyde are risk factors for gastric cancer, causing oxidative stress and DNA damage. In conclusion, this study provides possible evidence-based medical evidence for the comprehensive scientific prevention of gastric cancer.

Keywords: gastric cancer, epidemiology, Environmental carcinogenic factor, occupational exposure, water pollution, biomass smoke

R4

[143]

**STANDARDIZED FRAMEWORK AND DATA TRIANGULATION TOOL FOR
DISTRICT LEVEL RISK PRIORITIZATION FOR VACCINE PREVENTABLE
DISEASES, 2024**

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ABSTRACT

Policy makers at state or national level are required to prioritize districts for focused action and to optimize resources. However, vaccine preventable diseases (VPD) data at various levels are collected through multiple sources, making it difficult to triangulate data and inform a comprehensive plan for corrective measures. This project aims to create a standardized framework and electronic tool to prioritize the districts for Measles and Rubella (MR) elimination activities in India. We referred to WHO guidelines for public health data triangulation for immunization and VPD surveillance programs, using data from Health Management Information System, National Family Health Survey, disease surveillance and concurrent monitoring. We identified and categorized 41 indicators into population immunity, surveillance quality, accountability, and threat for MR elimination in consultation with program managers. A scoring algorithm of 100 points was computed based on weightage for each indicator using minimum-maximum normalization, which mitigates data quality disparities by ensuring more reliable sources have greater impact. The web-app was built with Bootstrap, PHP, MySQL for storage, and Morris or Google Charts for visualization. The web-based tool has a user interface that operates based on user identification. Allow user to register project, select indicators, input data and calculate weights. A total of 90 districts from Bihar, Jharkhand, and West Bengal were categorized against the selected indicators and ranked into 38 high, 24 medium, and 28 low priority groups. The tool is adaptable for national, state, district, or sub-district level data triangulation, aiding evidence-based decisions, enhancing efforts, tracking progress, and optimizing resource use to improve health outcomes.

Keywords: web-based tool, data triangulation, visualization

R5

[144]

**SEROPREVALENCE AND RISK FACTORS OF *Leptospira spp.* AMONG HUMANS
IN SOUTH-CENTRAL CAMBODIA**

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ABSTRACT

Leptospirosis, a zoonotic disease caused by *Leptospira spp.*, poses a significant global health threat, especially in tropical climates and low-income settings. Our study, conducted in South-Central Cambodia, focused on agricultural households, where leptospirosis is poorly understood. Conducted as an add-on to a larger survey investigating the epidemiology of zoonotic influenza in the swine sector, the study aimed to estimate leptospirosis prevalence and identify risk factors to inform future public health strategies. Between October 2020 and December 2021, a cross-sectional study in four provinces examined the link between pig exposure and leptospirosis. Participants from randomly selected households with, and without, exposure to live pigs were surveyed, collecting demographic and pig-related with questionnaires. Blood samples were screened for *Leptospira* antibodies using commercial ELISA tests. Statistical analysis investigated behaviors associated with higher exposure risk. Among 779 study participants, 53 (6.8%) and 37 (4.8%) tested positive for IgG and IgM antibodies, respectively. Using multivariate logistic regression, in terms of IgG, individuals working in livestock or fishing were found to have significantly lower odds of seropositivity (OR = 0.16, P = 0.01), indicating a protective effect associated with these occupations. In contrast, for IgM, individuals who slaughter pigs showed significantly higher odds of seropositivity (OR = 3.38, P = 0.02), identifying slaughtering pigs as a major risk factor for recent leptospirosis infection. Additionally, living in Takeo province was associated with significantly lower odds of IgM seropositivity (OR = 0.27, P < 0.001). Moreover, cleaning pigs was found to reduce the risk of IgM seropositivity (OR = 0.37, P = 0.02), indicating it may serve as a protective factor against infection. To our knowledge, this is the first study to describe the epidemiology of leptospirosis in a randomly selected population in South-Central Cambodia. Persons engaging in high-risk activities such as crop farming and slaughtering pigs may be at higher risk. It highlights the risk of leptospirosis and increased awareness is needed for the diagnosis and management of the disease.

Keywords: Leptospirosis, zoonotic disease, Cambodia

POSTER PRESENTATIONS

P1

[145]

AWARENESS OF THE USE OF THE PRE-EXPOSURE PROPHYLAXIS (PREP) METHOD IN PREVENTING HIV/AIDS AMONG MEN WHO HAVE SEX WITH MEN (MSM) IN DENPASAR CITY, BALI PROVINCE

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ABSTRACT

The prevalence of HIV in Denpasar City among MSM is 38.1%, while the 2015 STBP Report shows that the prevalence of HIV among female sex workers or FSW is 4.8%, MSM is 36.0%, and prisoners 3.8%. MSM is the population group with the highest prevalence in Indonesia. Pre-Exposure Prophylaxis or PrEP is a new strategy that uses ARVs to prevent HIV infection in people at high risk of HIV infection. This study aims to analyze awareness of the use of the PrEP method in preventing HIV/AIDS among MSM in Denpasar City. The research design uses a descriptive analytical method with a cross-sectional approach. The research population was MSM who visited the Bali Medika Clinic, totaling 100 people who were either HIV positive or negative. The population we chose was those aged 18 years or more, willing to participate in this research activity and fill out informed consent to analyze awareness of the use of the PrEP method in preventing HIV/AIDS among MSM in Denpasar City. In this study, 89% of MSM had heard information related to PrEP before. The uptake coverage of starting PrEP use among the MSM group in Denpasar City reached 38%. The behavior of initiating PrEP use among MSM in Denpasar City is predominantly influenced by several factors, namely occasional use of condoms, homosexual orientation and support from health workers. There is a need to increase the dissemination of information regarding the requirements, how to use and side effects of PrEP so that it can increase the uptake of PrEP use in Denpasar City.

Keywords: PrEP method, HIV/AIDS, MSM, Denpasar

P2

[146]

**DETERMINING FACTORS OF TUBERCULOSIS DISEASE IN CHILDREN IN
FIRST LEVEL HEALTH CARE FACILITIES: A CROSS-SECTIONAL STUDY IN
INDONESIA**

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ABSTRACT

A serious issue for world health, tuberculosis is particularly prevalent among young people. Although a child's clinical symptoms are generally non-specific and specimen collection is troublesome, tuberculosis in children can be challenging to diagnose and is sometimes problematic to treat. This study aims to determine risk factors based on sociodemographic, socioeconomic, nutritional and clinical status associated with TB. Children aged 0 to 13 years 59 months with malnutrition and one or more TB-related clinical symptoms from January 2023 to December 2023 were studied in Indonesia. The clinical diagnosis of TB in children was 72.4% and 27.6% were non-TB, while 10.3% of children with bacteriologically confirmed TB were randomly selected from 156 children and then compared. Cases more often had a history of contact with active TB patients ($p=0.009$) and exposure to cigarette smoke ($p=0.000$) compared to non-TB patients. In bivariate analysis, sociodemographic factors ($p=0.000$), socioeconomic factors ($p=0.000$), and nutritional status ($p=0.000$) had a significant relationship with TB cases in children. Thus, sociodemographic, socioeconomic factors, active TB contacts, nutritional status, and exposure to cigarette smoke or air pollution are useful in diagnosing TB in children in addition to TB-related clinical symptoms.

Keyword: pediatrics, tuberculosis contact, nutritional status, risk factor

P3

[147]

IMPLEMENTATION OF THE LATENT TUBERCULOSIS INFECTION CONTROL PROGRAM IN HIGH TUBERCULOSIS BURDEN DISTRICT IN INDONESIA

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ABSTRACT

Latent tuberculosis infection (LTBI) control has an important role in achieving the end TB strategy target. About 5-10 percents of patients with LTBI will develop into active tuberculosis during 5 years since first infected. This study aimed to explore the implementation of the LTBI control in Purwakarta, which is one of the districts with a high incidence of tuberculosis in Indonesia. This study used a qualitative research design. By purposive sampling, three informants were selected to be interviewed consisting of a national tuberculosis programe (NTP) staff in district health office and two NTP staff in community health centers. Data were collected during June to August 2023 and analyzed using the thematic analysis technique. The inhibiting factors identified in LTBI control were limitations of LTBI diagnostic tools, limited funding for LTBI control, lack of knowledge of health workers regarding LTBI, patient's denial of the diagnosis of LTBI. The driving factors in LTBI control were the existence of a national policy in LTBI control, high commitment of NTP staff to the LTBI control, innovation program for early detection of LTBI called "DENI MANTUL", and support from the public-private mix tuberculosis strategy. We conclude that implementation of LTBI control program needs to be strengthened with good governance, to minimize inhibiting factors and strengthen driving factors.

Keywords: latent tuberculosis infection, strategy, high burden

P4

[148]

EFFECTIVENESS OF TASK SHARING TO IMPROVE ACCESS TO FAMILY PLANNING SERVICES IN EGYPT

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ABSTRACT

Egypt is the third-most populous nation in Africa. Although total fertility rate declined from 3.5 births per woman in 2014 to 2.8 in 2021, a 13.8% unmet family planning (FP) need remains. Moreover, 15% of Primary Healthcare Units (PHCUs) operate without FP-trained physicians, signifying broader human resources for health (HRH) challenges in the health system, and threatening achievement of SDG target 3.7—universal access to sexual and reproductive services—by 2030. To address the challenges posed by the absence of trained physicians and limited FP services in underserved PHCUs, Egyptian Ministry of Health and Population (MOHP), collaborating with the USAID-funded Strengthening Egypt's Family Planning Program (SEFPP), trained 310 nurses across 255 PHCUs, equipping them with the necessary knowledge and skills to provide comprehensive FP services. The pilot program adopted a low-dose high-frequency approach, whereby nurses received three days of theoretical training, followed by five days of on-job training and monthly sessions with supervisors to assess performance, discuss challenges and provide refresher information. This resulted in uninterrupted access to single hormonal (pills and injectables) FP methods for approximately 920,000 women between 2021 and 2023, mitigating the potential loss of services due to the absence of physicians in PHCUs and leading to 40% improvement in Couple-Years of Protection within PHCUs catchment areas. Investing in nurse workforce development as part of health system strengthening expanded access to quality FP services in underserved communities. Based on the successful pilot, the project effectively implemented a robust advocacy model for MOHP, leading to significant advancements in recognizing the crucial role of nurses in the provision of FP methods. The government embraced the pilot program and transformed it into a national initiative.

Keywords: family planning, nurses, Egypt, health system strengthening

P5

[149]

FIT-TEENS: DEVELOPMENT OF A THEORY-BASED DIGITAL BEHAVIOUR CHANGE INTERVENTION USING THE BEHAVIOUR CHANGE WHEEL TO PROMOTE PHYSICAL ACTIVITY IN OVERWEIGHT AND OBESE ADOLESCENTS

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ABSTRACT

Insufficient physical activity and high sedentariness in overweight and obese youth impose significant adverse health outcomes. This research aimed to systematically develop an evidence-based and theory-informed digital behaviour change intervention promoting physical activity among inactive, overweight and obese adolescents aged 13-17 years. Formative qualitative research utilizing the COM-B model and Theoretical Domains Framework identified key barriers and enablers to physical activity. Applying the Behaviour Change Wheel, these findings informed selection of seven complementary intervention functions as prime drivers of behaviour change: education, persuasion, incentivization, enablement, modelling, environmental restructuring, and training. Specific behaviour change techniques encompassing goal-setting, activity planning, self-monitoring, virtual rewards, and social support, were further chosen to enact these functions based on the APEASE (acceptability, practicability, effectiveness, affordability, and side-effects) criteria. The resulting "FIT-TEENS" intervention incorporates interactive gamified educational modules on physical activity principles, sequential skill-based exercise video tutorials, tailored goal setting and tracking, adaptive activity planning, motivational feeds, and online peer forums, delivered via a mobile learning management system *EdApp*. An iterative co-design process allowed end-user input into refinement. To confirm content validity, the intervention content and embedded behaviour change strategies were reviewed by six experts in physical activity promotion and mobile health using standardized tool assessing construct relevance and appropriateness. Average content validity score was 0.88, indicating adequate content validity. Effectiveness evaluations are planned through an initial small-scale pilot followed by a full-scale randomized controlled trial. This systematic intervention development process demonstrates the value of mapping evidence-based behaviour change techniques, selected based on identified barriers, onto an optimized mobile platform using a structured behaviour change framework. The methodology can guide contextualized, scalable solutions targeting adolescent's health behaviours.

Keywords: adolescents, obesity, physical activity, digital intervention, behaviour change techniques, behaviour change wheel

P6

[150]

PATIENT PERCEPTIONS OF TELEHEALTH SERVICES DURING THE COVID-19 PANDEMIC: INSIGHTS FROM HULU LANGAT, SELANGORKannadasan K¹, Mohd Hairi, F¹, Dahlui M², Azzeri A³, Suli Z⁴ and Zakariah H⁵*¹Department of Social and Preventive Medicine, Faculty of Medicine, Universiti Malaya, Malaysia**²Department of Research, Development and Innovative, Universiti Malaya Medical Centre, Malaysia**³Department of Primary Care, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia**⁴Hulu Langat District Health Office, Malaysia**⁵SELANGKAH VENTURES SDN BHD, Malaysia***dr.vanidas@gmail.com***ABSTRACT**

The COVID-19 pandemic necessitated the rapid implementation of telehealth services to manage the high volume of patients, presenting unique challenges and opportunities. This study investigates the acceptability, usability, and satisfaction of COVID-19 patients in the Hulu Langat district, Selangor, Malaysia, using SELANGKAH, a telehealth application utilized as a virtual COVID-19 Assessment Centre (CAC). Understanding patient experiences with telehealth is crucial for optimizing healthcare delivery and resource allocation during the pandemic. The purpose of this study is to evaluate the acceptance of the virtual CAC approach, delivered through the SELangkah app, in providing remote healthcare services and to identify factors influencing user experience. A cross-sectional design was employed from March to July 2024, collecting data from 705 participants registered under the SELANGKAH application registry using a validated questionnaire developed from the same study. The analysis revealed that occupation and education level significantly influenced the usability and acceptability of telehealth services. Government employees and individuals with lower education levels reported lower scores, while unemployed/students and those with tertiary education showed higher acceptance and satisfaction. Significant predictors for higher acceptability included tertiary education (OR = 7.319, $p = 0.001$), being unemployed or a student (OR = 6.311, $p < 0.001$), self-employment (OR = 4.459, $p = 0.002$), and employment in the private sector (OR = 3.258, $p = 0.008$). Despite 61% of participants reporting high overall perceptions of usage, significant usability issues were identified, particularly in ease of use and necessary health facilities provision. These findings highlight the need for targeted improvements in telehealth systems, focusing on user experience, communication, and error handling. The study's implications underscore the importance of patient-centered design in telehealth applications, informing policymakers and stakeholders in optimizing telehealth services and resource allocation for better patient care outcomes.

Keywords: COVID-19, telehealth, usability, acceptability, satisfaction, SELANGKAH

P7

[151]

WHAT MAKES CONSUMERS ADOPT TO HEALTHCARE APP? EMPIRICAL EVIDENCE FOR THE MODERATING ROLE OF LONELINESS PERCEIVED BY FOREIGNERS LIVING IN KOREA

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ABSTRACT

Awareness of public health has drawn lots of attentions from society, which leads more people to engage in health-promoting behavior such as using healthcare application to monitor health. Almost no study has incorporated personal factor, social factor as well as pandemic factors to illustrate consumer health behavior. In doing this, this study aims to address gaps in the previous studies and illustrate the effect of perceived health importance, social support and perceived susceptibility to pandemics on the desire to attend healthcare screenings, which then affect intent to adopt healthcare application based on the health belief theory. This study developed a survey questionnaire and collected data from foreigners who lived in Korea. Specifically, MZ generation who are heavy users of mobile applications were targeted. The results of this study indicated that perceived health importance and social support significantly influence desire to attend health screening. The significant effect of desire to attend health screening on intention to adopt health application has been proved. Meanwhile, it revealed that the effect of desire to attend health screening on intention to adopt healthcare applications show significant difference following the level of loneliness. Based on the results of this study, it integrated the personal belief, social belief and pandemic-related belief effect on consumer desire to attend healthcare screening and intent to adopt healthcare applications. In addition, it extended the differential healthcare behavior following the level of loneliness. It is of importance for healthcare marketer to use multi-channel to increase positive social health belief, which can positively influence public health behavior. Consumer health related education is also an effective way in promoting public awareness of healthcare behavior.

Keywords: perceived health importance, social support, perceived pandemic susceptibility, desire to attend healthcare screening, intention to adopt health applications, loneliness

P8

[152]

**THE HEALTH FINANCING FOR NON-COMMUNICABLE DISEASES IN
DEVELOPED AND DEVELOPING COUNTRIES : A SYSTEMATIC LITERATURE
REVIEW**

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ABSTRACT

Non-communicable diseases (NCDs) represent a significant global health challenge, with a growing impact on both developed and developing countries, has been steadily increasing, posing substantial economic and health system challenges worldwide. The purpose of this literature review is to know the health financing for non-communicable diseases in developed and developing countries. The method used is a systematic literature review. The article search was done online by using the keywords “Health Financing” and “Health Financing for Non-Communicable Diseases”. A total of 22 articles in the period of 2014-2023 were used to carry out this literature review taken from Pubmed, Science Direct, Sage Pub, and Proquest. The results of the literature review show that studies and research conducted on different aspects of healthcare, including funding, policy implementation, stakeholders, and the impact on individuals and populations in different countries. The measuring instrument to evaluate healthcare and health financing in various countries, including topics such as funding for non-communicable diseases, chronic disease burden, eldercare facilities, policy analysis, equity in health service utilization, and barriers to universal health coverage. The results show that various studies have been conducted to explore different aspects of healthcare financing, funding trends, and the impact of financial burdens on individuals. These studies aim to understand the influence of funding on non-communicable disease prevention and treatment, assess the financial protection provided by healthcare spending, evaluate the quality of life and health outcomes, and analyze the association between funding priorities and health disparities. Additionally, the studies explore the consequences of treatment interruptions due to financial constraints and quantify the economic burden.

Keywords: health financing, NCDs, non-communicable diseases, financing

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[153]

RELATIONSHIP BETWEEN ECONOMIC DEVELOPMENT SUCCESS INDICATORS AND STUNTING IN INDONESIA

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ABSTRACT

The United Nations Sustainable Development Goals (SDGs) program underscores poverty alleviation as its primary focus. One direct consequence of poverty is its impact on health aspects, particularly human nutritional intake. Inadequate nutritional conditions have the potential to hinder human resource quality, which in turn affects individual productivity. This low productivity can then dampen the potential demographic dividend that could be generated, hindering a country's economic progress. In Indonesia, stunting has become one of the phenomena indicating growth disturbances in children under 24 months old. Inadequate nutritional intake is one of the main causes of stunting. Many studies have shown a correlation between poverty, low family income, and nutritional inadequacy. Therefore, this research aims to explore the relationship between indicators of economic development success, such as economic structure (the business sector's contribution to GDP), economic growth, economic inequality (Gini Index), and the Human Development Index (HDI), with the prevalence of stunting in Indonesia. The analysis in this study was conducted using regression and correlation analysis methods, utilizing panel data from each province in Indonesia from 2012 to 2022. The research findings indicate that economic structure, economic growth, and economic inequality positively impact the prevalence of stunting. However, notably, the Human Development Index (HDI) does not appear to affect the prevalence of stunting. Conclusion of this research is that although the success of economic development has positive effects on several social aspects, including overall quality of life, it does not fully guarantee a decrease in the prevalence of stunting. There are other dominant factors determining stunting occurrences in Indonesia. Therefore, a more holistic and interdisciplinary understanding is required to address the stunting issue in this country.

Keywords: stunting, economic development indicators

P10

[154]

**INVESTIGATION OF THE ANTIPROLIFERATIVE EFFECTS OF ETHANOL
EXTRACT OF *Tiliacora triandra* ON COLON CANCER (HCT116)**

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Cancer is a type of disease that causes the most deaths worldwide. With due attention to rapid progress in the phytochemical study of plants, they are becoming popular because of their anticancer effects. Even though there are many chemotherapeutic drugs used for cancer treatment, cancer cells can develop resistance to drugs. Therefore, the effort to explore novel drugs to fight against cancer is still required. This study aims to determine anticancer activity of two medicinal plant extracts against colorectal cancer cells. In this study *Tiliacora triandra* was extracted using 90% ethanol and studied cytotoxic activity of studied extracts via using 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyl-2H-tetrazolium bromide (MTT) assay. The plant extracts were incubated at increasing concentration (0 - 320 µg/mL) against human colorectal cancer (HCT116) at 24, 48, and 72 hours. In this study 5-fluorouracil (5-FU) was used as a positive control. The result showed that *T.triandra* extract exhibited anticancer activity with the half inhibitory concentration (IC₅₀) of *T. triandra* against HCT116 at 24, 48, and 72 hours were 56.58 ± 0.125 , 28.31 ± 0.801 , and 19.74 ± 0.624 µg/mL, respectively. In conclusion, *T.triandra* possessed potent anticancer activity against colon cancer cells as a concentration- and time-dependent manners with worth for further studies regarding the molecular mechanism of action.

Keywords: Antiproliferation, anti-cancer activity, colon cancer cells, *Tiliacora triandra*, *T.triandra*, MTT assay, colorectal cancer

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[155]

STUDY ON THE FACTORS FOR EFFECTIVE AND SUSTAINABLE CLINICAL WASTE MANAGEMENT POLICY IN HONG KONG

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ABSTRACT

Purpose: The effectiveness and sustainability of clinical waste management policy in Hong Kong have never been reviewed since its implementation in 2011. This study aimed to assess healthcare professionals' knowledge and compliance levels of and barriers encountered for proper clinical waste management. Methodology: A cross-sectional self-administered online survey was conducted between 9 April to 24 July 2024 in 659 healthcare professionals. It was estimated from the population size of 99208 that a minimum sample size of 383 was needed to have a confidence level of 95% with 5% margin of error. To ensure the representativeness of the target population, proportional sampling was adopted based on the statistics of the no. of registered healthcare professionals in 2020-2021. The questionnaire was consisted of 43 questions in 8 sections, including behaviour, capability, opportunity, motivation, implementation outcomes, policy outcomes, opinions and sociodemographics. An electronic written consent was sought before survey and ethical committee approval was obtained from The Chinese University of Hong Kong. The findings were mapped with Capability-Opportunity-Motivation-Behaviour (COM-B) and Theoretical Domains Framework (TDF) models to make recommendations for improving the policy implementation. Results: A total of 13,160 participants were recruited, yielding a 5.01% response rate. Most of them were female, aged 35-44, possessing 6-10 years of experience in managing clinical waste primarily involved in its generation. The majority worked in public hospitals and clinics. Insufficient knowledge of clinical waste management, including the classification of clinical waste and legal requirements, were observed among healthcare professionals but most significantly in vets (40%), physiotherapists (39.3%) and chiropractors (37.5%). Low compliance with proper clinical waste management by proper disposal and packaging was also found in physiotherapists (15.1%). The major barrier for compliance with proper clinical waste management was low awareness (35.4%) among all healthcare professionals, followed by insufficient political commitment (16.7%) in updating the policy and providing more guidelines to healthcare professionals. 7 intervention functions and 9 corresponding behavior change techniques were proposed to improve the implementation of the policy, with providing instruction on how to perform the behavior and goal setting for outcome being most practicable and effective. Implications: Healthcare professionals' knowledge and compliance levels of proper clinical waste management were found lowest in physiotherapists among other professions responded to the survey. The major barriers were revealed as low awareness and insufficient political commitment, which might be resolved by providing feedback on behavior, information about antecedents, goal setting for outcome, instruction on how to perform the behavior and facilitating problem solving.

Keywords: clinical waste, waste management, policy, COVID-19, pandemic, Hong Kong

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[156]

**DESCRIPTION OF STUNTING RISK FACTORS AT SUKATANI COMMUNITY
HEALTH CENTER, INDONESIA IN 2022**

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ABSTRACT

Nutrition is a critical part of health and development, which is especially needed during the golden period of child's growth. Insufficient and unbalanced nutrition that occurs during this period can cause failure in growth and development so that children experience stunting. Stunting is a condition of chronic malnutrition in toddlers resulting in children growing too short for their age. The stunting rate in Indonesia is quite high compared to other countries. This is a health problem that has not been fully resolved by the Indonesian people and government. Purwakarta is one of the districts in Indonesia with the highest stunting rate, namely around 20.6% in 2021. The highest stunting rate in Purwakarta is found at the Sukatani Community Health Centre at around 8.81% in 2022. Looking at the current data at the Sukatani Community Health Centre, the most optimal method is descriptive observational using a cross-sectional study with secondary data obtained from medical records. The sample for this research is all medical record data obtained from 204 stunted toddlers at the Sukatani Community Health Centre in 2022. The results of the characteristics of stunted toddlers with the most gender were boys (67.2%), history of mother's pregnancy without anemia (88.2%), not taking iron tablets regularly (52.4%), history of toddlers with normal birth weight (83.8%), without history of infection in the last 6 months (61.8%), given exclusive breastfeeding (74%), giving weaning food at age > 6 months (61.8%), incomplete basic immunization (70.6%), availability of healthy latrines (94.6%), protected source of drinking water (98.5%), and with chronic smoking parents (82.4%). The conclusion of this study helps us figure out the factors that can influence the stunting rate in toddlers. Parents that are chronic smokers, have a history of pregnancy with mothers who do not regularly take iron tablets, incomplete basic immunization, male gender, and giving weaning food at age > 6 months are highest proportions of factors found on toddlers with stunting at the Sukatani Community Health Centre in 2022. Hopefully, this research can provide input and insight for health workers and publics about things to avoid and actions needed to be done, in order to reduce the stunting rate.

Keywords: stunting, toddler, nutrition, risk factors

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**A SYSTEMATIC REVIEW OF ADVANCED CARE PLANNING OF OLDER
PEOPLE LIVING ALONE**

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ABSTRACT

Advance Care Planning (ACP) for the aging population is not yet fully explored and practiced around the world. For health care management, the clinical implication of ACP is required to meet their need, especially for older people who live alone. This systematic review aimed at the current knowledge and finding future research topics about Advance Care Planning for older people living alone. A literature search was conducted using PubMed between December 1 to 25 2023. The search terms include “Advance Care Planning”, “older adults”, and “living alone”. The PRISMA checklist was used to conduct our investigation. We excluded 22 full-text articles which were not studied older people living alone and remained 14 research articles on the topic. The range of older persons living alone varied from 13 to 61 % and having discussions or documented ACP was around 30 to 60 %. One study indicated that 93 % of older adults did not know ACP. The effect of living alone on ACP was not consistent. Some studies showed that living alone increased ACP, while others showed a decreased ACP, especially for those with reduced social interaction. Little is known about the discussion, planning, and documentation of ACP among older adults living alone. Factors associated with ACP such as cultural preference, attitude toward the end of life, changes over time, and health conditions are the areas of research that should be conducted for the aging society.

Keywords: advance care planning, older adults, living alone

P14

[158]

ENHANCING WORKPLACE ERGONOMICS IN A TERTIARY HOSPITAL

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Ergonomics is the science of fitting the job to the worker. When there is a mismatch between the physical requirements of the job and the physical capacity of the worker, problems can occur. In our hospital, the occupational medicine service has been receiving requests from time to time to assist colleagues with their workstation set up. These are mostly administrative and support staff who are non-patient facing and typically work in an office environment. It is not uncommon to hear colleagues complaining about neckaches and backaches attributed to their work. To better address the situation and to raise awareness about the importance of good office ergonomics, the doctors from the occupational medicine service created a short video to educate our colleagues on how they should adjust their chair and set up their workstation. Incorporating elements of participatory methods for ergonomic workplace improvement, we also visited various departments to do on-site demonstrations and conducting pre and post surveys to assess the effectiveness of our interventions. We are in the midst of data collection and we expect to have some meaningful findings in one to two months' time. As of now, we have gotten good feedback from colleagues who have benefited from our on-site interventions. To our knowledge we are the first people to conduct such a participatory workplace ergonomics programme in a Singapore's tertiary hospital to address ergonomic issues faced by our colleagues in various work settings within the hospital.

Keywords: occupational health, workplace ergonomics

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**INSOMNIA AND SLEEP HYGIENE AMONG ADULTS IN AN URBAN
COMMUNITY IN KEPONG DISTRICT, MALAYSIA**

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ABSTRACT

Insomnia is a sleep disorder that affects the ability to fall asleep, stay asleep, or achieve restorative sleep. The impact of insomnia can be address by various sleep habit. The objectives of this study were to estimate the prevalence of insomnia, identify behavioral factors of insomnia and the association between sleep hygiene and insomnia. This was a cross-sectional study carried out among 384 residents of Taman Beringin, Jinjang Utara located in Kepong district, Malaysia from April to June 2023. Data were collected by face to face interview. Insomnia severity index (ISI) questionnaire was used to collect data related to insomnia while sleep hygiene index (SHI) was used to collect data related to sleep hygiene. Among the respondent, 56.0% (n=215) experienced some level of insomnia while 44.0% (n=169) had no insomnia. The highest dissatisfied behavioral factor among respondent was with their current sleep pattern (17.7%). About 12.5% respondent reported that their current sleep problem interfere with their daily functioning while 10.9% respondent were worried about their current sleep problem. There was a significant association between sleep hygiene and insomnia with a p-value of < 0.001. In conclusion, insomnia is common among the respondent and there was a significant association between sleep hygiene and insomnia.

Keywords: insomnia, sleep hygiene, behavioral factor, adult, Malaysia

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[160]

SOCIAL SUPPORT AND MENTAL HEALTH AWARENESS AMONG MYANMAR MIGRANT WORKERS IN MALAYSIA

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ABSTRACT

Introduction: Migrant workers are vulnerable to poor mental health conditions due to various challenges that surround them in foreign countries away from home. This study aims to assess the level of social support received and mental health awareness among Myanmar migrant workers in Malaysia. **Methods:** A cross-sectional study using a convenience sampling method was conducted from September to October 2023 to select 395 Myanmar migrant workers within the Klang Valley, Malaysia. Level of social support was evaluated using the Oslo Social Support Scale (OSSS) while Mental health awareness level was evaluated using the Mental Health Literacy Scale (MHLS). **Results:** The study encompassed 395 eligible participants, who are predominantly male (60%), younger age (69.1%), Buddhists (93.9%) with secondary education (75.4%), outdoor field workers (57.7%) and obtained a lower monthly income (93.3%). Most did not have prior experience with mental illness. Low social support was reported by the majority (63%). The mean score for the knowledge of self-treatment domain was low with 4.98 (Sd=0.696). In contrast to the domain of attitudes that promote the recognition or appropriate help-seeking behaviour which was 43.19 (Sd=7.42), and considered high among the respondents. **Conclusion:** The overall OSSS and MHL levels were low. Strategies to accommodate social support programs in the workplace and also the Myanmar migrant community will improve mental health awareness and well-being. Interventions such as mental health education, and improving access to the services, should be tailored to the need groups.

Keywords: Social support, Mental health awareness, Migrant workers, Mental health experience, Malaysia

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[161]

**IMPACT OF A SHORT DIABETES EDUCATION INTERVENTION ON
TEACHERS' DIABETES KNOWLEDGE, ATTITUDES AND CONFIDENCE IN
DIABETES CARE**

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ABSTRACT

Young children living with type 1 diabetes need continual supervision and care. Teachers' engagement and their diabetes literacy are essential from the start of institutional socialization because the child spends a significant amount of time at school during the week, so if any problems arise, it is up to the teacher to respond first. Our objectives were to evaluate whether teachers' knowledge, attitudes, and confidence regarding diabetes care could be enhanced by a quick (one-hour) standardized diabetes education. Before, immediately after, and one month after the training, we gave out questionnaires measuring diabetes knowledge (Diabetes Knowledge Test 2), attitude (Diabetes Attitude Survey 3, School Personnel Diabetes Attitude Scale, Semantic Differential), and confidence in diabetes treatment. Sixty teachers in all answered our questionnaire. There were two modalities available for diabetes education: online (n = 36) and in-person (n=24) for contrasting the results of in-person and virtual learning. All participants' knowledge of diabetes has significantly increased as a result of the diabetes education program. One month following the education, the level of knowledge on diabetes stayed the same. The in-person education group saw a majority of favorable attitude changes, whereas the online format did not significantly alter attitudes toward diabetes. Only with the Semantic disparity was there a positive shift in attitude. The education also boosted participants' confidence in managing their diabetes, but in the online group, this confidence began to decline a month later than in the in-person group. We conclude that a brief instructional resource can greatly increase knowledge about diabetes and that this knowledge is retained over time. However, this kind of instruction is insufficient to alter people's attitudes about diabetes; instead, more sophisticated, maybe interactive training is advised. These experiences can be used to design effective short diabetes education programs.

Keywords: attitude, confidence, diabetes care, diabetes knowledge, type 1 diabetes

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DETECTION OF INBORN ERRORS OF METABOLISM USING LIQUID CHROMATOGRAPHY-TANDEM MASS SPECTROMETRY (LC-MS/MS) AMONG HIGH-RISK NEONATES AND CHILDREN IN BANGLADESH

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ABSTRACT

Inborn Errors of Metabolism (IEMs) are a group of inherited metabolic disorders. These metabolic disorders are characterized by mutations in genes that encode enzymes involved in metabolic pathways. It is assumed that 6-8% of the world population can be affected by IEMs where the prevalence of IEM among suspected patients is 2.6% in Bangladesh. Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS) an accurate and reliable approach for the diagnosis of IEMs. So, we aimed to determine the prevalence of IEMs among Bangladeshi children using LC-MS/MS along with the common types of IEM, their age-specific prevalence, clinical profiles, and treatment patterns. A total of 570 healthy participants and 273 suspected patients with IEMs were enrolled in the study. Quantification of amino acids and acylcarnitine was performed on an automated LC-MS/MS system using dried blood spots (DBS) cards. Data were analyzed using established methods. Among 273 clinically suspected patients with IEMs, 7 were screened positive for 6 different IEMs by LC-MS/MS analysis where 3 cases with phenylketonuria, 1 with citrullinemia type II, 1 with methylmalonic acidemia, 1 with isovaleric acidemia and 1 with carnitine uptake defect. The LC-MS/MS technique allows for the screening of a wide range of previously unscreened inborn errors of metabolism using a single test. LC-MS/MS technique may play a vital role in screening and diagnosis of IEMs in newborns and this may help facilitate timely therapy of treatable IEMs. Unfortunately, this high-throughput technique is very rare in our country. As a result, biological specimens from suspected individuals are sent to other countries. Our study aims to aid other researchers and government authorities in implementing and establishing a new technology for screening IEMs through newborn programs.

Keywords: inborn errors, metabolism, newborn, Liquid-Chromatography, Tandem mass spectrometry, Bangladesh

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EFFECTS OF NUTRITION EDUCATION PROGRAM ON DIETARY HABITS OF HIGH SCHOOL STUDENTS IN URBAN CHINA

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ABSTRACT

In China, increasing rates of obesity and underweight among children and adolescents has become a public health issue. Additionally, previous studies suggested that high school students in urban China especially had problems with dietary habits. Although it is generally known that nutrition education is effective in improving dietary habits, no empirical studies have been conducted on Chinese high school. Therefore, this study aimed to examine effects of nutrition education program on dietary knowledge, attitudes, and behaviors of high school students in urban China. The nutrition education program included 2 lessons (e.g., 1. nutrients and food combinations and 2. eating habits and healthy living) of each 45 minutes, a total duration of 90 minutes, was provided to 207 high school students at 4 schools in urban China. A questionnaire consisting of gender, height, weight, dietary knowledge on nutrients, dietary attitudes on food learning, and eating behaviors was used to survey at three time points: before, 1 week after, and 1 month after implementation of the nutrition education program. Data from 141 participants who fully responded to the survey at the three time points were analyzed for differences in dietary knowledge, attitudes, and behaviors at the three time points. Results showed that compared to before the intervention, participants' dietary knowledge and attitudes improved 1 week and 1 month after ($p < 0.001$), while dietary behaviors improved 1 month after the intervention ($p < 0.001$). Therefore, it was suggested that nutrition education program may be effective in improving the knowledge, attitudes, and behaviors of high school students in urban China.

Keywords: nutrition education, high school, dietary habits, urban China

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**THE IMPORTANCE OF SITUATION AWARENESS TO IMPROVE TASK
PERFORMANCE IN THE PUBLIC HEALTH CENTER**

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ABSTRACT

The strategy to reduce the high infant mortality rate (IMR) is to place midwives in the village. Situation awareness is an important component in decision making that has a significant impact on the performance of the village midwife's duties. To analyse the influence of the role of situation awareness on the task performance of village midwives in detecting problems in young infants. Quantitative research with a cross-sectional study. All village midwives became the population and were determined based on the results of the sample calculation of 151 village midwives who would be taken proportionally. The research variables were situational awareness and task performance. The instrument used was a questionnaire and analysed using Simple Regression Analysis. The regression coefficient value is positive, meaning that the direction of the influence of situation awareness on task performance is positive. Decision making on simple linear regression is situation awareness affects the performance of the village midwife's duties. Situation awareness is a predictor that is able to influence the task performance of village midwives in providing care for neonates.

Keywords: child health, performance, situation awareness

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**PRIMARY HEALTH CARE INTERVENTIONS ON OBESITY AND ITS
COMORBIDITIES: A SCOPING REVIEW**

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ABSTRACT

Primary healthcare (PHC) is an ideal setting for delivering weight management services by providing comprehensive treatments including lifestyle modification, medical nutrition therapy, physical activity guidance, and pharmacotherapy. Despite that, obesity prevalence keeps increasing per year and poses significant threat to health; indicating that current strategies practiced in PHC may not be fully effective. Thus, this scoping review was conducted to map the available evidence and identify the effectiveness of the PHC interventions on obesity and early non-communicable diseases (NCDs). SCOPUS, PubMed and Cochrane databases were searched for English, full-text articles using keywords and relevant terms up to 30th June 2023. All retrieved data were analyzed, guided by the PRISMA extension for scoping reviews (PRISMA-ScR). From 1,281 identified articles, only nine articles were included in the final analysis. Five were randomized control trials (RCTs), two were pre-post intervention studies, one used pretest-posttest control-group design and one was a clinical trial. This scoping review reveals that PHC interventions on obesity resulted in significant weight loss (ranging between 1.3-4.6kg) but there was no clear evidence on the superiority of one intervention over another. In addition, PHC interventions showed promising blood pressure improvements but not in lipid profile parameter. It is beneficial to implement standardized obesity competencies within PHC to improve the delivery of interventions for patients with obesity and chronic NCDs as well as to ensure that all healthcare providers are given thorough, up-to-date, and evidence-based training in obesity management.

Keywords: primary care, health intervention, obesity, non-communicable diseases

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UNDER-5 MORTALITY TREND AND ITS ASSOCIATED RISK FACTORS IN PUTRAJAYA

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ABSTRACT

The under-five mortality rate (U5MR) evaluates child survival by considering the social, economic, and environmental conditions children and society face, as well as their access to health care. The inclusion of U5MR within the indicators of the Sustainable Development Goals (SDG) underscores the importance of addressing this issue, aiming to eliminate all preventable deaths among newborns and children under the age of five by 2030. This cross-sectional study analysed 213 under-5 mortalities (U5M) from 2015- 2023 using community-based longitudinal data from government health clinics. The study demonstrates a fluctuating pattern in the U5MR, characterised by a consistent decline from 2015 to 2020, followed by an increase until 2023. The U5MR peaked in 2015 at 10.8 per 1000 live births, and declined to 7.5 per 1000 live births in 2020. Non-preventable causes accounted for 57% of U5M, followed by preventable causes (22%). MLR analysis revealed significant associations, with a statistical significance model [$X^2(44) = 78.988, p < 0.01$], indicating patient-related factors were a significant risk for U5MR (B = 9.482, p = 0.002, 95% CI [2.256 – 38.945]). The model shows that patient-related factors are nine times more likely to cause preventable U5M than healthcare-related factors, making them the main cause of preventable deaths among children under 5 years old in Putrajaya. This research significantly contributes to knowledge advancement by providing insights for the development of targeted policies aimed at reducing preventable deaths. Initiatives such as prioritising health education and awareness programmes for women and family members, along with enhancing clinical management practices, could be pivotal in addressing this issue. In essence, implementing effective targeted interventions is imperative as a strategy to decrease the U5MR in the Putrajaya District.

Keywords: under 5 mortality death, preventable death, patient factor, healthcare factor

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**SCREENING PRACTICES FOR SOCIAL DETERMINANTS OF HEALTH AMONG
PHYSICIANS IN A TERTIARY HOSPITAL FOR CHILDREN**

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ABSTRACT

Social determinants of health (SDH) defined as the “conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life” are forces that exert important influence on health inequities, especially in the pediatric population. Screening for these SDH result in positive health outcomes. This research aims to determine the screening practices of physicians for social determinants of health of patients in a tertiary hospital for children in the Philippines. A descriptive survey-based study was done on pediatricians utilizing a tool adapted from “SDH Screening in the Inpatient Setting” [Schwartz, et al, 2020]. Of the 137 respondents, more than half screened for at least one SDH and most frequently screened were school and/or school services; income source; parent education/literacy; and access to healthcare. Some barriers to screening were discomfort in bringing up the SDH need, the focus on acute illness, and the short hospital stay, while enablers to screening included more training, access to resources that offered help, or prompts in the health record. Only few felt competent about screening and most agreed that it should be included in formal medical education. Pediatricians are becoming more aware of the importance of SDH screening in their inpatients as evidenced by the majority of the surveyed 137 primary care and subspecialist physicians who screen their inpatients. Improvements in training, knowledge on linkage to resources, and systems such as inclusion of SDH screening in the health record and providing validated tools for screening may enable more SDH screening. Knowledge on the current screening practices of pediatricians may help improve health service delivery for pediatric patients.

Keywords: social determinants of health, inpatient screening

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**FACTOR ANALYSIS OF FACTORS INFLUENCING TURNOVER INTENTION
AMONG CHILDCARE TEACHERS**

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ABSTRACT

This study analyzed data from a total of 300 early childhood teachers working at daycare centers located in Seoul and Gyeonggi Province to examine the relationships between factors influencing their turnover intentions. The collected data were analyzed using SPSS 27.0 and AMOS 21.0, employing descriptive statistics, correlation analysis, structural equation modeling, and bootstrapping methods to verify the direct and indirect path effects. Phantom variables were set to verify the significance of the indirect effects. The analysis revealed that social support for early childhood teachers did not have a direct impact on turnover intentions, but it did have an indirect effect through organizational commitment. Additionally, the organizational commitment of early childhood teachers had a direct negative impact on turnover intentions. On the other hand, the resilience and happiness of early childhood teachers did not directly influence turnover intentions. These findings highlight the importance of strengthening social support networks, including support from principals, colleagues, and parents, and enhancing organizational commitment among early childhood teachers as strategies to reduce their turnover intentions. Furthermore, it underscores the need to provide various programs to increase teachers' engagement with their organization.

Keywords: social support, resilience, organizational commitment, happiness, turnover intentions

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**EFFECT OF HUMANISTIC CARE COMBINED WITH TIME-SENSITIVE
MOTIVATIONAL NURSING ON NEGATIVE EMOTIONS AND SELF-EFFICACY
IN PATIENTS WITH LUNG CANCER COMBINED WITH COPD**

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ABSTRACT

To explore the effect of humanistic care combined with time-sensitive motivational nursing intervention on patients with lung cancer combined with chronic obstructive pulmonary disease (COPD). 100 cases of chemotherapy patients with lung cancer combined with COPD admitted to our hospital from January 2023 to January 2024 were selected as the study object, and they were divided into routine nursing group (control group) and humanistic care combined with timeliness incentive nursing group (combined group) by the random number table method, each with 50 cases. The conventional nursing group used conventional nursing measures (including time-sensitive incentive nursing intervention), and the combined group was given humanistic care combined measures on the basis of conventional nursing. Negative emotions [Self-assessment Scale for Anxiety (SAS), Self-assessment Scale for Depression (SDS)], self-efficacy [General Self-Efficacy Scale (GSES)], and quality of life [Quality of Life Core Scale (QOL-C30)] were compared between the two groups. There was no statistically significant difference in SAS score, SDS score, GSES score and scores of each domain in QOL-C30 before chemotherapy in both groups (all $P > 0.05$). After 3 months of chemotherapy, the SAS score (50.66 ± 5.54) and SDS score (49.48 ± 5.57) of the combined group were lower than the SAS score (54.98 ± 4.44) and SDS score (53.97 ± 5.14) of the control group, which were statistically significant (all $P < 0.05$). The self-efficacy score of the combined group was 31.88 ± 5.47 lower than the self-efficacy score of the control group was 28.47 ± 3.77 , all statistically significant (all $P < 0.05$). The implementation of humanistic care combined with time-sensitive motivational nursing for patients with lung cancer combined with COPD has a significant effect on reducing their negative emotions and improves self-efficacy and survival quality.

Keywords: humanistic care, time-sensitive, self-efficacy, lung cancer, COPD

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INVESTIGATION OF ACCESS FACTORS TO INCREASE THE UTILIZATION OF TRADITIONAL MEDICINE SERVICES IN COMMUNITY HEALTH CENTERAni LS^{1*} and Widari KL²*¹Department of Public Health and Preventive Medicine, Faculty of Medicine, Universitas Udayana, Bali, Indonesia**²Master of Public Health Study Program, Faculty of Medicine, Universitas Udayana, Bali, Indonesia***seriani@unud.ac.id***ABSTRACT**

The utilization of traditional health services (THS) in Community Health Centers (PHCs) still has not reached the expected target. The access factor is a factor that is suspected to play a role in the use of traditional health services. The purpose of this study is to investigate the access factors to the utilization of THS in PHC. This study is qualitative research with an exploratory approach. The research was conducted in South Denpasar. Samples were selected using the purposive sampling technique. The study informants consisted of seven main informants who used THS in PHCs and private medical practices, and two supporting informants, namely healthcare workers in PHCs and traditional healers in medical practices. Data collection uses in-depth interviews and observation methods, which are then analyzed using thematic methods. Public interest in the use of traditional medicine consists of 6 themes, namely, aspects of availability, benefits, costs, service procedures, costs, and information. Trust factors, habit factors, and aspects of making traditional medicine a companion or even a substitute for medical treatment methods. Access factors play a role in the utilization of THS services in PHC. This study contributes to providing an understanding of the factors that play a role in improving the THS service integration program. Therefore, it is recommended to THS providers to improve the quality of access to THS services at PHC.

Keywords: exploration study, access, health center, utilization, traditional health services

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**NURSES' SATISFACTION WITH AND DEMAND FOR THE NATIONAL CANCER
PATIENT HOME-CARE PILOT PROGRAM**

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ABSTRACT

The "National Cancer Patient Home-Care Pilot Program" was launched in South Korea. However, there were medical institutions with low participation and where services were not provided. This study aimed to investigate the satisfaction with, and needs of nurses' regarding a pilot program for home care of cancer patients with a stoma. Data were collected through a survey administered to nurses from November 13, 2022, to January 19, 2023; 196 nurses were included in the final study population. The questionnaire sought information on the characteristics of the respondent, status of management of stoma patients, satisfaction with the program, and needs of the nurses. R software (version 4.2.1; University of Auckland, Auckland, New Zealand). A total of 196 nurses participated in the survey, of whom 42 nurses (21.4%) participated in the home-care pilot program. Thirty-five nurses (85.4 %) were satisfied with the home-care pilot program. Thirty nurses (71.4%) reported that implementation of home care had to be expanded and standards of care improved. To assess the current status and identify potential improvements for the National Cancer Patient Home-Care Pilot Program, we conducted a questionnaire survey among nurses experienced in stoma care. To vitalize the pilot program for home care for cancer patients with a stoma, better medical services must be provided by improving the medical fee standard. This will enable more patients and medical institutions to participate in the pilot program.

Keywords: ostomy, home care services, nurses, pilot projects, survey



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