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The 3rd International Conference on Public Health and Well-being

(PUBLIC HEALTH 2021)

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(PUBLIC HEALTH 2021)

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MESSAGE FROM THE CONFERENCE CHAIR PUBLIC HEALTH 2021



We wish you a very warm welcome to the third virtual International 2021 Public Health and Wellness Conference. Our hope is that over the next 2 days you will not only listen to and discuss important and timely issues in public health from around the world. We have keynote speakers from New Zealand, the USA, and Malaysia. Presenters come from the USA, the UK, Indonesia, Malaysia, Sri Lanka, Bangladesh, China, Pakistan, Taiwan, Japan, Saudi Arabia, Zambia and India. We have tried to arrange the presentations in specific areas of interest including: the COVID pandemic, Health Policy, Knowledge, Nutrition, dentistry, Prevention of Illness, In addition, please do not neglect to attend the poster session with a focus on COVID and health. Examining posters will give you a chance to ask questions not only about specific public health issues but also methods used in attempting to discover causes and solutions.

Astonishingly, some of the major health advances in the past century which were accomplished through Public Health research and measures are currently being challenged. The anti-vaccine or anti-vaccers as they are called have organized and disseminated through social media or non-peer reviewed journals their critiques that vaccination leads to autism or cancer. This leads to the fact that measles made a come-back in the USA and the fear stoked by the ‘alternate’ and non- science based media that the COVID vaccine will do you harm. As recently as this past- year health workers in other parts of the world have been murdered by religious extremists when attempting to vaccinate children against polio. Gun control is another public health measure which has been successfully fought against by gun manufacturers who put their profits above the health of the public. And the free and easy way that “pain killers” have been distributed leading to a continuous climb in drug overdoses and mortality can be attributed to big pharma’s search for profit above public’s health. Thus, we have many challenges ahead of us and much work to do. It is hoped that by continuing our work and meeting together periodically to discuss research methods and findings that we will further protect and secure the public’s health.

Prof. Sally Guttmacher

Conference Chair of PUBLIC HEALTH’ 2021

Emerita Professor of Public Health,

New York University, USA

Senior Technical Advisor: Community Rising Africa Network

MESSAGE FROM THE ACADEMIC PARTNER PUBLIC HEALTH 2021



My utmost appreciation to the organizing committee for inviting the Department of Community Health, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia to be the academic partner in this conference. Congratulations to the organizing and steering committee for their tireless effort in making this conference a reality, despite the current situation that has lasted for more than two years.

The pandemic has put an unprecedented challenge to medical fraternity in preserving Public's Health and wellness during the pandemic. This struggle is highly acknowledged and has been carefully selected as the conference theme for this year. While the world is continuing to react to the challenges of the pandemic, recovery and rehabilitation process are slowly taking place to enable the community to embrace new norms of living in co-existence with the COVID-19 virus.

To all colleagues and students, I would like to welcome you to the virtual conference, where interesting updates will be presented by the high-spirited participants. This conference will be one for us to share our thoughts and exchange ideas on how to chart our journey forward to reach new heights. We have an exciting program at this conference that will allow members to reflect upon and celebrate our past accomplishments, renew friendships, and extend our networks, and jointly explore current and future research directions. Together, we can enhance our knowledge in hopes of building the resilience of both healthcare workers and the public to aim for the well-being of the humankind.

Assoc. Prof Dr. Rosliza Abdul Manaf
Head
Department of Community Health,
Faculty of Medicine and Health Sciences
Universiti Putra Malaysia,
Malaysia

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VIRTUAL ORAL PAPER SESSION (A)

CONFRONTING A PANDEMIC

A1

[01]

VACCINE REFUSALS AMONG MALAYSIAN FACEBOOK USERS: THE SELF-PRESENTATION*Ghazali W.N.W.M¹*, Idris H², Nasir N.S.M¹, Mohamed S¹¹International Islamic University Malaysia, Malaysia²Universiti Pendidikan Sultan Idris, Malaysia

Vaccinations have been successful in eradicating infectious diseases like smallpox, diphtheria, and many others. However, the distrust towards vaccines on social media has led to an increase in anti-vaccination sentiment and vaccine hesitancy around the globe, including Malaysia. Facebook is known to provide a space for anti-vaxxers to engage and share distorted or unfounded views about vaccination. However, little data on who are the anti-vaxxers among Malaysian Facebook users. This study aims to identify the types of anti-vaxxers and how they portray themselves on Facebook to engage with other online users. A study was conducted to profile these Facebook users and the information used by them in constructing their online identities. This study only analysed the publicly available content on Facebook which was argued ethically acceptable. A total of 456 Facebook users who claimed to reject vaccines publicly on a selected Facebook page, *Malaysia Kene Tahu* (MKT), were quantitatively profiled. The results showed that the majority maintained genuine profile accounts using real photos and names. While Facebook allows users to disclose a variety of information, users mainly revealed gender and location which are perceived to enhance the trustworthiness of an online identity. The study argued that personal information disclosure on Facebook could build trust among users to further exchange disapproval towards vaccination and confirm each other's viewpoints. In conclusion, this study affirmed that Facebook is a platform that nurtures anti-vaccination sentiments. Hence, approaches regulating discussion among Malaysian Facebook users is needed and involvement of different stakeholders is required to address the vaccine hesitancy phenomenon specific to the Malaysian context.

Keywords: Anti-vaxxers, profiles, Facebook, online identity, vaccine hesitancy

A2

[02]

**PERCEPTION OF VACCINATION OF FILIPINO MOTHERS IN THE NCR AREA
POST-DENGVAXIA**

Naomi K. P, Patricia L. C, Wynona J.T.G.C , Jairone N.J, Jonel J.E.J, *Hosea M.F.L*, Melissa M.M.M, Julia A.M.P

University of Santo Tomas, Philippines

Vaccine hesitancy of mothers is a significant public health concern, especially after the Dengvaxia controversy in the Philippines. This cross-sectional study assessed the demographic profile, vaccination factors, and influences of Filipino mothers (n = 384) in the National Capital Region. Descriptive and inferential statistics were used to analyze the obtained data, and significant factors in vaccine hesitancy of mothers ($\mu = 42.12$ y/o) were revealed. Factors in the demographic profile such as educational attainment ($p = 0.035$) and monthly income ($p = 0.034$) have affected their perception of vaccination. High vaccine hesitancy (20.1%) of the participants is relatively increased in the Philippines despite their relatively high level of knowledge and a positive attitude regarding vaccination. Most of the participants trust the government and pharmaceutical companies for their vaccines ($p = 0.037$; $p = 0.002$). Majority followed the recommended vaccination schedule of their child ($p = 0.001$) and half suppose that there are more ways for disease prevention other than the disease ($p = 0.011$). Vaccine cost ($p = 0.012$) and accessibility ($p = 0.005$) also influenced the decisions of the participants. The participants show a positive perception towards vaccination despite high vaccine hesitancy prevalence. However, there remains a need for the government and health professionals to prioritize parental education not only to correct false information on vaccination but also to gain the public's trust while improving the public health system against its fight with vaccine hesitancy.

Keywords: Perception; vaccination; vaccine hesitancy

A3

[03]

**LEVELS OF COMPASSION SATISFACTION, FATIGUE AND BURNOUT OF
MEDICAL AND NON-MEDICAL FRONT LINERS AMID THE COVID-19
PANDEMIC**

Dizer R, Raval K.M.R, Santelices J.M.S

University of the Philippines, Philippines

The purpose of this study is to investigate the levels of compassion satisfaction, burnout, and fatigue of Medical and Non-Medical Front liners. Significant differences and types of physical fitness and sport activities, exercises recreation and leisure during the Covid-19 pandemic were compared. One hundred fifty participants, eighty-nine Medical and sixty-one Non-Medical Front liners responded to a questionnaire entitled Compassion Satisfaction/Fatigue Self-Test. Descriptive statistics were used to determine the demographic profile and the levels of compassion satisfaction, burnout, and fatigue of Medical and Non-Medical Front liners. Independent t-test was also used to determine if there were no significant differences among Medical and Non-Medical Front liners on compassion satisfaction, burnout, and fatigue as well as the frequency of physical activity per week and the number of hours per exercise session. Result showed that Medical and Non-Medical Front Liners has high Levels of Compassion Satisfaction and low Levels of Burnout and Fatigue because they understood the feeling of the COVID 19 patients. Also, 72.6% of participants regularly engage in sports, recreation activities while 27.33% participants who do not regularly do physical activities. There is no significant difference between Medical and Non-Medical Front liners on frequency of physical activity per week and the number of hours per exercise session. Exercise is a global health initiative to fight Covid 19 infections. It is recommended for Front liners to continue engaging in sports and recreation and for the inactive Front Liners to start physical activities during their free time to maintain high level of compassion satisfaction, low level of burn-out and fatigue.

Keywords: COVID-19, compassion satisfaction, burnout, compassion fatigue, front liners

A4

[04]

THE MISSING RELATIONAL PERSPECTIVE: A RAPID REVIEW OF MENTAL HEALTH INTERVENTIONS FOR COMMUNITY DWELLERS DURING THE COVID-19 PANDEMIC

Min-Min T^{1,2}, Chiew-Way^{1,2}, Alexandre S³, Rachel Sing-Kiat T³, June J⁴, Jee-Kei C³, Tin T.S^{1,2}

¹South East Asia Community Observatory (SEACO), Monash University Malaysia, Malaysia

²Global Public Health Jeffrey Cheah School of Medicine and Health Sciences, Monash University Malaysia, Malaysia

³Department of Psychology, Jeffrey Cheah School of Medicine and Health Sciences, Monash University Malaysia, Malaysia

⁴Primary Care Clinical Unit, School of Medicine, The University of Queensland, Australia

To rapidly and systematically review and synthesize the evidence regarding the development and implementation of mental health interventions for community dwellers during the COVID-19 pandemic. We searched Ovid MEDLINE, Cochrane Central Register of Controlled Trials, PsychInfo and WHO COVID-19 Database for published interventions and clinicaltrials.gov for clinical trial protocols published in English between 1 March 2020 to April 2020. Of the 822 records identified by the search strategy, 18 (four published interventions where mental health outcomes were reported, five published protocols, six registered protocols, one concept paper, and two descriptive papers) fulfilled the inclusion criteria. Most of the interventions were conducted in Western countries and featured the interactive use of computer and mobile technology such as accessing smartphone apps for stress management, exercise etc, while the rest included were journaling, virtual dance class, non-personalized text messages etc. All the four published interventions showed positive association with improved mental health. All interventions identified focus on individuals and measure outcomes at individual level; none were on the relational aspect that was disrupted during the COVID-19 pandemic. The limited number of interventions were effective in improving mental health. However, there were very few mental health interventions during the COVID-19 pandemic that targeted the general population. Community relationships are pivotal to individual well-being, thus, there is also a need to develop community-based mental health interventions that aim to restore and strengthen community relationships disrupted by public health measures such as lockdown during the COVID-19 pandemic.

Keywords: Mental health, intervention, community, rapid review, COVID-19, relational

A5

[05]

AYURVEDA MEDICINAL HERBS AND ITS ROLE IN SARS-COV-2 PANDEMIC'S POSITIVE AND PROGRESSIVE OUTCOME MANIFESTATION*Nesamany B*, See J.P.L, Cheng A, Klokol D, Chan M, Wong M.B.F

European Wellness Academy, Malaysia

The massive loss of human lives resulted by the SARS-CoV-2 infection shifted the focus to glaring data that pointed to fatality among human with poor immunity and comorbidity. In these subjects, the SARS-CoV-2's pathophysiology manifestation was seen to be significantly alarming than that in subjects who had no comorbidities or major immunity issues. This presented an overdue wake up call to mankind to actively participate in strengthening immunity, overall wellness maintenance which allows comorbidity management or better, prevention. Food as the major source to serve nutritional needs appears to be a compromised phenomenon. SARS-CoV-2 pandemic presented a harsh reminder that now is the best time to be inclusive of herbs to human lifestyle alongside physical activities and hygiene. This led to enlarged worldwide interest in traditional medicine. Traditional Indian medicine, Ayurveda, stands as the most ancient yet living traditions, garnered spotlight for being positively and progressively contributing its therapies aiding SARS-CoV-2 pandemic. This further gain weight with more research and science-based approach. It is inevitable that it still requires more research and evidence base efforts to fill prevalent gap. This review was conducted to gain insight to Ayurveda herbal inclusion to SARS-CoV-2 infection management and the outcomes captured. This review aims to encapsulate the efforts documented and explorative data made-available. The hope is for this review to make available the option, probability of an inclusive solution that may be considered to co-stand with allopathy in efforts taken to improve human immunity as a prophylaxis measure, at a larger scale. The review led to a hopeful acceptance of Ayurveda medicinal herbs and its role in SARS-CoV-2 management as positive and reassuring.

Keywords: Ayurveda, herbs, Covid-19, pandemic, awareness

A6

[06]

LEADING PUBLIC HEALTH DURING A DYNAMIC CRISIS*Zulu M*

Luapula Foundation, Zambia

Strengthened ability of three District Health Promotion Officers and 21 health frontier staff from seven health facilities to roll out ‘Community Organization model’ in health promotion. Health frontier staff in turn rolled-out skills to a total of 35 Community-Based Volunteers (CBVs) in Zambia, Africa. Health frontier staff and CBVs reached out to **231,000** households with awareness messages focused on community drivers to pandemic (social gathering in funeral ceremonies, weddings, and markets). 1) **Reduced anxiety at household level:** She said, ‘when we heard of the COVID 19 pandemic, I was very worried because I had no skills to prevent my family at household level. With the support of Community-based Volunteers (CBVs) trained by health staff from our local health facility, during the CBVs home-visits, my household received skills on how to disinfect the surfaces, making face masks at home, and skills on the use of the face mask unlike before’. 2) **Resilient to continue livelihood activities:** ‘I work in the market, I have three face masks-one for home, another one for market and the final one for church; this is to prevent transfer of infection from social groups where am found’. 3) **Strengthened community-based support system:** ‘The Community-Based Volunteers (CBVs) visited our home; they provided education on COVID 19; the team helped us to gain knowledge on COVID 19 such as ‘hands washing, cleaning surfaces and use of face masks’. Strengthened community members to take full control of pandemic is most efficient and effective approach in managing global; community organization model in Zambia, reduced anxiety, increased resilient and supported community-based systems to save lives among the 231,000 households.

Keywords: Household, community, abilities, resilience, anxiety and promotion

A7

[07]

PERSPECTIVES ON MENTAL HEALTH DURING A PANDEMIC: AN ONLINE NEWS PORTAL ANALYSIS*Grech P*

Department of Mental Health, Faculty of Health Sciences, University of Malta, Malta

During a pandemic such as the current one, mental health challenges constitute a parallel peak to the evolving physical difficulties. A range of emotions and attitudes can be identified and local research in Malta has shown that a greater need for mental health support was recorded. The research questions that were addressed during this study were:

- Which were the main local psychological attitudes visible during the first stage of the pandemic?
- Which were the main mental health concerns during the first stage of the pandemic?

A daily document analysis process was carried out in relation to local mental health issues and psychological attitudes during the first stage of the pandemic. Documents involved articles published on three major online news portals between March – June 2020. Thematic analysis of the selected daily articles was carried out to identify and explore mental health and psychological attitudes. Forty-five attitudes/emotions were identified. These were classified underneath five themes: Disaster-preparedness: The initial stages; Quasi-lockdown emotions and attitudes; Defiant Attitudes; The Surreal Normality. Conclusively, it is evident that the current impact on mental wellbeing needs the same focus that is being directed to the nation's physical health. An infrastructure that is strengthened by adequate preparedness and clear communication to the people has been an important factor that limited mental health challenges. Mixed messages and fragmentation of information need to be avoided as they are not conducive to positive mental well-being.

Keywords: Covid-19, Mental Health, Document Analysis, Malta

A8

[08]

KNOWLEDGE, PRACTICES AND ATTITUDE OF HEALTH CARE SUPPORT PERSONNEL ON COVID-19: A COMPARATIVE STUDY BHUTAN AND SRI LANKA*Jayasekera P, Dolkar D, Dissanayake T*

Department of Medicine, General Sir John Kotelawala Defence University, Sri Lanka

Health care support personnel provide essential service to the health care system and are more vulnerable to COVID-19 infection due to the nature of their work and lack of education. This study attempts to explore and compare the knowledge, practices, and attitude of health care support personnel in Bhutan and Sri Lanka. A descriptive cross-sectional study using purposive stratified sampling method (purposive sampling of hospitals due to pandemic and stratified sampling for occupation category) with questionnaire administered on knowledge, practices, and attitude conducted over September 2020 to June 2021. Cronbach's alpha was calculated to determine the sample of the entire support staff for Bhutan and for Sri Lanka. The analysis was run using SPSS 21. There were 775 (383 Sri Lankans, 392 Bhutanese) respondents. They consist of attendants (204), labourers (355), cleaners (140), ambulance drivers (35) and security guards (41). Their levels of education were Grade 12 (24.5%), Grade 10 (41.2%), Grade 8-5 (22.2%), and no formal education (12.1%). Majority (66.3%) had good knowledge (maximum score was 9/9) on COVID-19. Sri Lankan and Bhutanese mean knowledge score is 7.55 and 7.44 respectively ($p < 0.05$). Practices related to COVID-19 has not much difference in both countries. Sri Lankan has less fear in contact with COVID patients than Bhutanese ($p < 0.05$), but more Bhutanese feel safe at work than Sri Lankans ($p < 0.05$). More Bhutanese (90.8%) report satisfaction with measures taken by their hospital compared to Sri Lankans (49.3%). Sri Lanka reports slightly higher knowledge test means compared to Bhutan. Bhutanese has more fear of contact with COVID-19 patients. It is important to explore the low levels of appreciation perceived, fears reported, and study ways to improve psychological well-being of healthcare support staff.

Keywords: COVID-19, healthcare support personnel, Bhutan, Sri Lanka, knowledge, practice, attitude

A9

[09]

SAFEGUARDING COMMUNITY HEALTH IN TIMES OF PANDEMIC*Chen X.W*, Ruzlin A.N.M, Samsudin E.Z, Yunus R.MDepartment of Public Health Medicine, Faculty of Medicine, Sungai Buloh Campus,
Universiti Teknologi MARA, Malaysia

Given the prolonged movement restrictions which leads to sudden unfavorable lifestyle changes and rising mental health concerns, innovative ways of promoting health especially via virtual platforms are needed. 1) To provide insight on the use of online networking platforms as an effective public health service-learning tool 2) To increase public awareness through a virtual health promotion program. This innovative ‘Health-Fest UiTM’ project was organized by the Department of Public Health Medicine. Four key themes were identified based on a community health needs assessment with key informants from the communities. The themes included I) physical activity and healthy diet during the pandemic, II) mental health awareness, III) COVID-19 immunization, and IV) domestic violence awareness. Various activities were conducted on different social networking services and anonymity was allowed to enable more interactive sessions and minimise stigmatisation. In total, 214 fourth-year undergraduate medical students benefited in this service-learning program. Five virtual live events displayed favorable social media engagement metrics that ranged from 200 to 1000 participants and the total number of views and shares for the educational materials posted on social media exceeded 35, 000. From the feedback analysis, 80% of the participants concluded that the programs promoted awareness and improved levels of knowledge. The interactive participation between the community and organiser revealed a meaningful community engagement. The COVID-19 pandemic has triggered the demand for digital technology to play an effective role in providing access to relevant health information and education as an important driver of community engagement.

Keywords: Service-learning, virtual health promotion, community health, pandemic

A10

[10]

**CONSUMER ATTITUDE TOWARDS DIGITAL HEALTH TECHNOLOGY
MODERATED BY FEAR OF COVID-19 - A STATISTICAL ANALYSIS***Afzal A.M, Naz I*

Riphah International University, Pakistan

This paper investigates and describes how consumer attitude has affected the digital health market as COVID-19 has caused a fear in the population to visit healthcare centers. It will help us understand the attitude consumers have towards these Digital Health products and services and allow us to figure out the loopholes. A quantitative study was conducted using SPSS 25 as the tool for analysis. Out of 210, 3 responses were excluded as their surveys weren't completed. The participants were picked by the convenient sampling method who filled an online survey out of which 144 were females and 66 males. The univariate, bivariate, and multivariate analyses indicated that the results were not conclusive with the hypothesis. This probably stems from the fact that while the digital health sector is an expensive start-up which in the long run is beneficial and inexpensive, if the products and services are blindly provided without understanding the consumers' needs and wants, potential growth chances may be lost. It is important to note that the pandemic is an opportunity for many healthcare service providers to see new forms of income and support which will not just benefit now but also in the long run.

Keywords: Consumer Behavior, digital health, COVID-19, market, healthcare

A11

[11]

**THE DEVELOPMENT OF BIOLOGICAL HEALTH RISK ASSESSMENT TOOL
FOR WORKERS EXPOSED TO KNOWN PATHOGEN***Samsuddin N*, Rahman N.A, Taib I.A, Sohaimi N, Hassan N.A, Zahaba M, Yosof D.S

International Islamic University Malaysia

At present, infectious diseases like COVID-19 are becoming serious and complex, which brings difficulties and challenges to the prevention and control measures in the community and at the workplace. Biological hazards risk assessment tool at the workplace has not been well established because of the nature and dynamics of the pathogen. Therefore, a study was conducted by considering all these challenges in developing Biological Health Risk Assessment tool for workers exposed to a known pathogen at the workplace. The tool development has considered careful selection and description of variables and risk categories of risk matrices through a qualitative method and validation studies. The tool used matrices of severity (Pathogen Severity Rating) and probability (Likelihood of Infection Rating) incorporating Modifying Factor to give extra weightage to the outcome, either protection or risk factors and provides the outcome of Risk Ranking. The study has come out with a validated Biological Health Risk Assessment tool for workers exposed to a known pathogen. The use of this tool requires public health expert judgment among others, on the current epidemiological status of infections in the workplace and community. The newly developed Biological Health Risk Assessment tool is useful in executing effective biological hazard prevention and control measures at the workplace. However, the risk ranking shall not be the sole information for decision-making, but assessors and workplace managers should consider reducing the risk score of each risk matrix, suites to the availability of the resources in the workplace.

Keywords: Biological, health, risk assessment, pathogen, matrix

A12

[12]

**PREVALENCE AND MANAGEMENT OF DIABETES IN COVID -19 PANDEMIC
IN JAGDALPUR IN INDIA***Rani S*

OPJS University, India

Diabetes is the most common non communicable disease globally. Majority of the patients diagnosed late. There is a limited data on diabetes in rural areas and also it is important to understand the special aspects of COVID-19 infection in people with diabetes. The virus affected all age groups; the incidence was particularly shifted towards older age groups especially in those with underlying chronic health conditions. The main objective of the present study was to explore the prevalence of diabetes in COVID-19 patients above 25 years of age in Jagdalpur, Batar district Chhattisgarh, India, and also assess management of patients with diabetes who develop COVID-19 infection. We undertook a detailed literature search with full assessment of relevant articles by searching the following databases: Google Scholar, Medline and Embase. We used Medical Subject Heading (MeSH) terms: diabetes mellitus, COVID-19, infection, prevalence, and glycaemic control from December 1, 2019 to March 31, 2020 to identify relevant observational study that investigated the prevalence of diabetes among COVID-19 patients. The prevalence of diabetes in COVID-19 patients appears similar to that in the general population. The progression of the disease into acute respiratory distress syndrome, the requirement for intensive care admission or mechanical ventilation and mortality all have been increased by the presence of diabetes. Patients with diabetes at risk of COVID-19 appear to be obese, of older age, have uncontrolled glycaemia and have coexisting co morbidities especially cardiovascular disease and hypertension. The C present study shows that there was a high prevalence of diabetes in COVID-19 patients. Diabetes is associated with increased incidence and severity of COVID-19 among adult population. Patients with diabetes who are at risk of COVID-19 tend to be obese, of older age, have uncontrolled diabetes and co morbidities, in particular cardiovascular disease and hypertension. Further research is still required to investigate appropriate management of people with diabetes and COVID-19 and develop novel ways of management including telemedicine.

Keywords: Prevalence, diabetes, Covid -19, management, blood glucose

VIRTUAL ORAL PAPER SESSION (B)

HOSPITAL POLICY AND MEDICAL ISSUES

B1

[13]

FACTOR AFFECTING FAILURE OF INNOVATION IN HOSPITAL: SCOPING REVIEW*Rezeki S.F*, Pasinringi S.A, Saleh L.M

Department of Public Health, Public Health Faculty, Hasanuddin University, Indonesia

Hospitals are health care organizations that are very complex and provide complete individual health services. In facing free market competition, hospitals must be able to survive, need to formulate appropriate marketing strategies, by making various innovations according to community needs. However, innovations carried out by hospitals often failed. The aim of this study is to determine the factors that influence the failure of innovation in hospitals. This type of research was a scoping review to map the factors that influence the failure of innovation in hospitals. This scoping review adopted the concept by *Joanna Briggs Institute (2020)*. Literature sourced from *science direct, proquest, pubmed and google scholar*. The number of literature entered was 27 conducted in fifteen countries. The results of the study was scope the factors that influence innovation failure based on external and internal factors. Policy and customers was external factors that influence innovation failures in hospitals. Leadership, budget, technology, and human resources was found as internal factors that affect the failure of innovation in hospitals. An empirical study is needed to examine what factors have the stronger influence on implementation failure in hospitals.

Keywords: Innovation, failure factors, hospitals

B2

[14]

**FACTORS ASSOCIATED WITH LENGTH OF STAY AMONG
POSTPROCEDURAL INFECTED PATIENTS IN A TERTIARY TEACHING
HOSPITAL IN MALAYSIA**

ABD Ghani S.R¹, Ismail A¹, Azit N¹, Ahmad N¹, Aminuddin N¹, Syed Nor S¹, Jaafar S¹,
Salleh S², Muhammad Nur A³, Aljunid S³

¹Department of Community Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia

²Department of Microbiology and Medical Immunology, Faculty of Medicine, Universiti
Kebangsaan Malaysia

³International Center for Casemix and Clinical Coding, Universiti Kebangsaan Malaysia

Post-procedural infections following medical or surgical procedures are a common cause of morbidity, increased length of stay (LOS) in hospitals, and even cause mortality. Length of stay is indicative of resource consumption in healthcare which must be borne by the government or the patients. We aim to assess the factors associated with LOS among patients in a multidisciplinary department in a tertiary hospital in Malaysia. This cross-sectional study analyzed case-mix data from Hospital Canselor Tunku Mukhriz (HCTM) between 2016 and 2017. Data analysis using SPSS 20 software involved 226 samples with the diagnosis of postprocedural infection (ICD code T81.4). We performed bivariate analysis using t-test and one-way ANOVA and calculated the regression coefficient using multiple logistic regression. Factors are considered significant if the p-value is less than 0.05 with a 95% confidence interval. Post-procedural infected patients with underlying diabetes mellitus and admission in the medical ward were independently associated with LOS in the hospital. Findings suggested maximizing opportunities to empower multidisciplinary management approach and teamwork to provide high-quality care with optimum cost.

Keywords: post-procedural infections, length of stay, multidisciplinary teamwork, factors associated, infectious control

B3

[15]

LUNG FUNCTION, URINARY HEAVY METALS AND ITS OTHER INFLUENCING FACTORS AMONG COMMUNITY IN KLANG VALLEY*Haddi A.A.A, Jaafar M.H*

Universiti Kebangsaan Malaysia, Malaysia

Heavy metals are elements naturally presented in the environment that can cause adverse effect to health. But not much literature was found on effects toward lung function, where impairment of lung function may lead to various lung diseases. The objective of the study is to explore the lung function impairment, urinary heavy metal level and its associated factors among community in Klang valley, Malaysia. Sampling was done in Kuala Lumpur suburb public and housing areas during community events throughout March 2019 till October 2019. Respondents who gave the consent were given questionnaire to answer and was proceeded with lung function test. Urine samples were obtained at the end of session and sent for inductively coupled plasma mass spectrometry (ICP-MS) analysis for heavy metal cadmium (Cd) and lead (Pb) concentration. A total of 200 samples were analyzed and of all, 52% of respondents were male; Age ranging from 18 years old to 74 years old with mean age of 38.44. Urinary samples show that 12% of respondent (n=22) has Cd level above than average, and 1.5 % of respondent (n=3) has urinary Pb at above normal level. Bivariate analysis show that there was a positive correlation between urinary Cd and urinary Pb ($r= 0.309$; p

Keywords: Lung function, heavy metals, community

B4

[16]

**ANTENATAL DEPRESSION AMONG PREGNANT WOMEN SEEKING
ANTENATAL CARE SERVICES AT REGION I MEDICAL CENTER PHILIPPINES***Polkotuwa P.G.A.U.De.S*

Virgen Milagrosa University Foundation, Philippines

This study was conducted to determine the extent of depression among pregnant women and to determine the associated factors that predispose depression as to obstetric characteristics, psycho-social characteristics, and special characteristics. It also studied the correlation between demographic profile and the extent of antenatal depression and associated factors and the extent of antenatal depression. A descriptive method of study was utilized. The study was conducted on 137 pregnant women who sought antenatal care services at Region I Medical Center during February - March 2018. The data were collected using a standardized validated questionnaire which included the depression screening tool Patient Health Questionnaire 9 and the psycho-social characteristics measuring tool Multidimensional Scale of Perceived Social Support. As to the study population the majority were in their late adulthood, married, high school graduates, employed and earned the minimum wage. It was identified that in general pregnant women seeking antenatal care services at the aforementioned institution had moderate depression. As to the factors that contribute to antenatal depression marital status, number of pregnancies, number of children, previous abortions, social support, smoking, history of depression and history of chronic diseases were identified. The study results show that antenatal depression is common during pregnancy and it is suggested that screening pregnant women for antenatal depression at least once during the course of the pregnancy using a standardized validated tool is timely. Further studies are suggested using study populations from other settings and using other depression screening tools.

Keywords: Antenatal, depression, mental health, pregnancy, Philippines, patient health questionnaire 9

B5

[17]

CAN HYPNOTHERAPY IMPROVE HEALTH-RELATED QUALITY OF LIFE PROFILES AMONG PEOPLE WITH EXCESS WEIGHT PROBLEM?*Roslim N.A*¹, Aryati A², Mardiana M³, Aung M.M.T³, Farrahdilla H³, Lua P.L¹¹Faculty of Pharmacy, Universiti Sultan Zainal Abidin (UniSZA), Malaysia²Faculty of Health Sciences, Universiti Sultan Zainal Abidin (UniSZA), Malaysia³Faculty of Medicine, Universiti Sultan Zainal Abidin (UniSZA), Malaysia

Individuals with excess weight problem often experiences poor social acceptance and serious social stigma, leading to poorer quality of life. Hypnotherapy is one of the alternative psychological-based therapies to revive their positive phase in life. Hence, this pre-and post-study attempts to evaluate the impact of hypnotherapy on weight loss and health-related quality of life (HRQoL) profiles among staff and students with BMI \geq 25kg/m² of a public university in Terengganu, Malaysia. Participants were randomly assigned to either the intervention group (IG=53) or the control group (CG=54) for 12 weeks. All participants received health education (diet + exercise + behavioural recommendations), while those in IG underwent hypnotherapy sessions (one session per month). Bodyweight, physical component score (PCS) and mental component score (MCS) of the Short Item Health Survey (SF-12) were measured at week 1 and 12. For SF-12, higher scores indicated better quality of life. Descriptive and repeated measures analysis of covariance (ANCOVA) were utilized (SPSS 23.0). Of the 107 Muslim participants (age=26.3 \pm 8.01; female=82.2%; students=71.0%; BMI=31.4 \pm 4.89), 104 of them managed to complete the post-intervention phase. A significant weight loss was observed in the intervention (-4.61%) and control (-3.04%) groups (mean difference = -1.57; 95%CI: -2.59, -0.54; $p=0.003$) after 12 weeks. Although no significant differences of PCS and MCS were exhibited between groups, participants in IG had better PCS (mean=50.40 \pm 5.3 versus 49.44 \pm 6.5) and MCS (mean=48.48 \pm 7.2 versus 45.85 \pm 8.49) compared to CG. Essentially, these positive outcomes indicated the promising potential of hypnotherapy as an alternative tool in improving body weight and HRQoL of excess weight individuals.

Keywords: Health-related quality of life, obesity, overweight, hypnotherapy

B6

[18]

**ENVIRONMENTAL HEALTH RISK ASSESSMENT CARCINOGEN AND NON
CARCINOGEN ANALYSIS: ARSENIC IN RICE***Islamiati D*

Public Health Center of Lebung Bandung, Indonesia

Rice is the staple food of most Indonesian people. The process of planting rice using pesticides can cause contamination, one of which is arsenic contamination. Arsenic is a heavy metal that can cause various health problems such as disorders of the nervous system, respiratory system, digestive system, cardiovascular and kidney. This study aims to assess the health risks of both carcinogenic and non-carcinogenic risks due to consumption of rice containing arsenic. This research uses environmental health risk analysis method. The sample in this study amounted to 9 samples of rice which were analyzed by the Inductively Coupled Plasma (ICP) method. The sample of respondents was 96 people who were taken by purposive sampling method. Through this study, it was found that the average concentration of arsenic was 0.01 mg/kg, the respondent's body weight was 45.74 kg, the frequency of exposure was 365 days, the intake rate of 200 grams and the duration of exposure adjusted for each respondent's exposure. The final result of the calculation of the carcinogenic analysis (ECR) was 1.02×10^{-4} and the non-carcinogenic analysis (RQ) was 0.29. The results of these two analyzes indicate that the consumption of rice containing arsenic is still within safe limits. Continuous efforts should be made to keep arsenic concentrations within safe limits.

Keywords: EHRA, Arsenic, rice

VIRTUAL ORAL PAPER SESSION (C)

NUTRITION

C1

[19]

IMPACT OF INTEGRATED APPROACH OF WATER, SANITATION AND HYGIENE, HEALTH AND NUTRITION INTERVENTIONS ON DIARRHEAL DISEASE EPIDEMIOLOGY IN NAROK, KENYA

Apondi E.W¹, Kathiiko C¹, Muriithi B¹, Wachira M¹, Mutunga F¹, Nono J², Tinkoi J³, Meiguran M³, Akumu P³, Ndege V³, Mozichuki R⁴, Inoue S⁵, Kaneko S⁵, Morita K⁵, Ouma C², Ichinose Y¹

¹Institute of Tropical Medicine, Nagasaki University-KEMRI, Nairobi, Kenya

²Department of Biomedical Sciences and Technology, Maseno University, Maseno, Kenya

³Lake Region, World Vision Kenya, Nairobi, Kenya

⁴Africa Region, World Vision Japan, Tokyo, Japan

⁵Institute of Tropical Medicine, Nagasaki University, Japan

The World Vision is implementing a Mother-to Mother Project in a resource-constrained rural area in Narok, Kenya with an aim of improving the health and well-being of mothers and children in this area through an improved integrated approach of water, hygiene and sanitation, health, nutrition and early childhood development. We assessed the impact of these interventions on diarrheal disease burden and epidemiology in the area through a controlled intervention study, in which Elangata-Enterit sub-location was the implementation site whereas the neighboring Maji-Moto sub-location was the control site. Baseline and endline measurements of diarrheal disease prevalence, etiological agents and microbial quality of water were compared for both study and control sites. Following the interventions, diarrhoea prevalence declined from 27% to 11% in Elangata-Enterit and from 13.5% to 10.5% in Maji-Moto, indicating a reduction rate of 58.2% and 22.2%, respectively. Pathogenic *E. coli* was the leading cause of diarrhoea in both site before and after the interventions, with Enterotoxigenic *E. coli* replacing Enteroaggregative *E. coli* in predominance post-intervention. Whereas rotavirus prevalence declined significantly in Maji-Moto (from 9% to 1.2%), it did not vary significantly in Elangata-Enterit. Rotavirus G1P[8] strain, which predominated before the interventions, was displaced by G3P[8] after the interventions. Water sampled from Elangata-Enterit showed fewer potential diarrheal-causing bacteria than Maji-Moto, indicating improved water quality in the area by 81.7%. Thus, the significant drop in diarrhoea prevalence and improved microbial quality of water in Elangata-Enterit following the interventions, indicates a direct public health impact of these interventions.

Keywords: Water, hygiene, sanitation, diarrhea, impact, Kenya

C2

[20]

SUGAR-SWEETENED BEVERAGES' TAX EFFECTIVENESS ON HEALTH AND HEALTHCARE COSTS: A SYSTEMATIC REVIEW*Selimin D.S*, Safian N, Hassan M.R, Manaf M.R.A

Department of Community Health, Faculty of Medicine, Universiti Kebangsaan Malaysia

Taxing sugar-sweetened beverages (SSB) is one of many other best strategies to reduce consumption of SSB among populations. It is known that SSB consumption is the main contributor which cause obesity and further lead to non-communicable diseases. This study aimed to gather the evidence on the effectiveness of sugar-sweetened beverages tax implementation, in terms of health outcome and healthcare cost benefit. A systematic review was done related to literature that reported about effectiveness of sugar-sweetened beverages tax implementation, in terms of health outcome and healthcare cost benefit. Four databases were used to identify the literature, namely PubMed, Cochrane, Scopus and Ovid and Medline. PRISMA flow checklist was used as a guide to search for the eligible articles. In total, there were sixteen eligible articles included in this systematic review. All studies are simulation studies. Results show that both excise and ad valorem tax are effective to reduce healthcare costs and could avert diseases related to high sugar intake. Other than that, it is proven that implementing tax will gain favorable health outcome rather than do nothing. Better results seen when the tax is increased. As a conclusion, SSB tax is proven as an effective public health intervention in terms of giving benefit to the health outcome and healthcare cost.

Keywords: Sugar-sweetened beverages tax, effectiveness, health, healthcare costs

C3

[21]

THE EFFECT OF NUTRITION EDUCATION ON FEEDING PRACTICES AND UNDER-TODDLER NUTRITIONAL STATUS*Fatmah*

Disaster Management Study Program, School of Environmental Sciences, Universitas Indonesia

To assess the effect of maternal nutrition education on the feeding practice and nutritional status of underweight children. Quasi-experimental one-group pre-post test design was used in the study. A total of 30 mothers of underweight children under five were given balanced nutrition education for 8 weeks. Some printed media in the form of leaflets, flipcharts, and videos were used to convey messages of balanced nutrition to the mothers. Education was carried out every 2 weeks using different media each week. Measurement of maternal nutritional knowledge level, macronutrient intake of children under five, and the nutritional status of children under five with Z index score of W/A was carried out before and after the study. Mothers' knowledge on balanced nutrition of children under five was significantly different at the end of the study. The improvement in the Z score of W/A before and after the study was significantly different (-2.17 + 0.81 and - 1.8 + 0.94, respectively). There were significant differences in the mean intake of energy, carbohydrate, and fat, as well as the feeding practices of children. The mean weight and height of children increased by 0.4 kg and 1.98 cm, respectively. There were no significant differences in the socio-demographic characteristics of mothers under five (age, education) with increased knowledge of balanced nutrition. Intake of energy, carbohydrate, fat; and feeding practices of children affecting the improvement of nutritional status of children. Intake of energy, carbohydrate, and fat, as well as feeding practices for children, are associated with changes in the nutritional status of under-fives to become normal

Keywords: Underweight children, nutrition education, feeding practice, macronutrient intake

ABSTRACTS OF VIRTUAL POSTER SESSION

P1

[22]

EFFECTIVENESS OF A SCHOOL-BASED TOBACCO FREE INTERVENTION ON ADOLESCENTS' KNOWLEDGE AND EXPOSURE TO SECOND HAND TOBACCO SMOKE – A RANDOMISED CONTROLLED TRIAL*Rao A^{1,2}*¹Manipal College of Dental Sciences, India²Manipal Academy of Higher Education, India

The World Health Organization has stressed that 100% smoke-free environments are the only effective way to protect the population from the harmful effects of exposure to SHS. To determine if a school based 'tobacco free' educational intervention program would be effective in reduce their Salivary Cotinine level and improve their knowledge, attitude and avoidance behavior towards second hand tobacco smoke. A randomized controlled trial (RCT) was done with 30 participants each in the experimental and control arms. A knowledge, attitude, avoidance behavior and self-efficacy of avoidance questionnaire was administered followed by estimation of salivary cotinine levels before and after the intervention. The experimental arm received the 'tobacco free' intervention, which comprised of a 40 minute health education session delivered at baseline of Phase 2, with a first follow-up at 15 days and the second at 30 days after the intervention. The percentage of children exposed to SHS at home was 16.4%. The present study has shown to be effective in improving the knowledge, attitude and avoidance behavior of adolescents towards exposure to second hand smoke. When the mean Salivary cotinine levels was compared pre and post intervention, it was found that although the mean post intervention salivary cotinine levels increased in both the intervention and control group, the increase was less in the intervention group compared to the control group. A sustained health education program incorporated into the school curriculum is the need of the hour to increase awareness with the hope of reducing the number of adolescents taking up the tobacco habit, thus contributing to the building of a tobacco-free India and World.

Keywords: Adolescent, cotinine, environmental exposure, randomized controlled trial, second hand tobacco smoke

P2

[23]

ASSOCIATION OF PASSIVE SMOKING ON THE PHYSICAL, DENTAL AND BEHAVIOURAL GROWTH OF CHILDREN -CROSS SECTIONAL ANALYTICAL STUDY.*Rao A^{1,2}*¹Manipal College of Dental Sciences, India²Manipal Academy of Higher Education, India

Passive smoking is the inhalation of the cigarette smoke of another individual or the exhale of a smoker. It has been hypothesized that the developing foetus is exposed to higher quantities of nicotine as it rapidly transcends the placenta into the foetal bloodstream and this can cause a variety of adverse effects. These high levels of foetal nicotine can cause a variety of adverse effects such as restricted intra-uterine growth, delayed physical and dental development along with lowered cognitive development and disruptive behavioural disorders. The objective of this dissertation was to collectively compare the physical, dental, and behavioural differences in 12 year old children, based on the presence or absence of tobacco exposures. It was a cross sectional analytical study. The sample size was calculated with an effect size of 0.5, at 90% confidence interval and 80% power using G* Power 3.1.2. The sample size was determined as 45 children per group using a mutli-stage sampling technique. Children were divided into passive smoking (PS) and non-smoking (NS) based upon their tobacco exposure levels. Each child was evaluated for physical, dental and behavioural development. BMI was calculated for assessing physical development, Nolla's dental age estimation for dental development and Brief Impairment Scale Questionnaire was used to evaluate behavioural growth. The Student 't' Test, Chi-square test and regression analysis were applied to assess the data. The differences in socioeconomic status and education levels of the parents between the PS subjects and control subjects were not statistically significant. The mean height of the children who were exposed to tobacco smoke was lesser than that of the non-exposure group, by 0.07mtres being observed more in boys than girls. The overall mean weight of the non-exposure group was 5.73 Kgs more than that of the passive smokers and boys showed a more drastic weight difference as opposed to the girls. BMI was thus lower in PS group. 67% of the children in passive smoking groups exhibited slower dental development and was statistically significant. The mean BIS score of the passive smoking group was greater than that of the non-exposure group but was not statistically significant. Passive smoking during prenatal and the formative years of the child can adversely affect their physical and dental development. It can also shape their behaviour negatively.

Keywords: Passive smoking, physical growth, dental growth, behaviour

P3

[24]

EFFECT OF WHITENING TOOTHPASTE ON SURFACE ROUGHNESS AND MICRO HARDNESS OF HUMAN TEETH - A SYSTEMATIC REVIEW AND META-ANALYSIS

*Navodita J^{1,2}*¹Manipal College of Dental Sciences, India²Manipal Academy of Higher Education, India

Whitening toothpastes exert a whitening effect on teeth through higher surface cleaning effectiveness resulting from the abrasive properties of the paste or specific chemical components, such as silica, aluminium oxide, sodium bicarbonate, carbamide peroxide and hydrogen peroxide. Most whitening toothpastes contain abrasives of different sizes and shapes and as the size of the abrasive particles increases, the abrasiveness of a toothpaste also increases leading to increased surface roughness and reduced micro hardness of the enamel. This systematic review and meta-analysis was conceptualised to examine the relationship between whitening toothpastes and surface roughness as well as micro hardness of human teeth and to clarify the evidence base available around this relationship by conducting a systematic review and meta-analysis of studies in this topic area, looking at in-vitro study designs. Criteria for including studies in the review were done based on PICOS. Studies were identified from the electronic databases of Scopus, Embase, PubMed / MEDLINE, Springer Link, Web of Science and Cochrane Library. Covidence® was used for data screening and data extraction. The CONSORT tool¹⁵ was used for checking relevant content and methodology used in each of the papers reviewed. Systematic review was done followed by meta-analysis, using Review Manager (RevMan). A total of 125 articles were obtained on key word search. When the 30 duplicates were removed, we got 95 articles selected for level 1 title screening. After title screening, 17 articles were eligible for full text review. Finally, 7 studies were included for systematic review and meta-analysis was conducted on 4 studies. The forest plot for surface roughness showed that the meta-analytic effect was statistically significant with surface roughness value being higher in the intervention group. The forest plot for microhardness showed that the meta-analytic effect was statistically significant with the microhardness value being lesser in the intervention group. Although whitening toothpastes typically can lighten tooth color by about one or two shades, there is some evidence to show that these toothpastes also affect the mineral content of teeth by increasing surface roughness and reducing micro hardness. Therefore, dental professionals need to educate their patients to be cautious regarding the prolonged use whitening toothpaste at home. More evidence and further research are needed to identify the type of whitening agent which will whiten the tooth effectively while maintaining the integrity of the tooth structure.

Keywords: Dental enamel, in-vitro study, meta-analysis, micro hardness, surface roughness, systematic review, whitening toothpaste

P4

[25]

Koh K¹, Ahmad Annuar A², Taib F³, Koh C.L⁴, Lim E.S.C⁵, Gaik Siew C⁶

¹Clinical Research Centre, Hospital Kuala Lumpur, Malaysia

²Department of Biomedical Science, Faculty of Medicine, University of Malaya, Malaysia

³Department of Paediatrics, Hospital Universiti Sains Malaysia

⁴HELP University, Malaysia

⁵Persatuan Kebajikan Ceriajaya Kuala Lumpur Dan Selangor (WeCareJourney)

⁶Genetics Department, Hospital Pulau Pinang, Malaysia

Spinal muscular atrophy (SMA) is a recessively inherited neuromuscular disorder resulting in muscle weaknesses. With no available cure, the impact of this condition can be manifold. The objective of this study is to understand the impact of living with SMA from the Persons with Spinal Muscular Atrophy (PWSMA) and their caregivers' perspectives. Nationwide participants were recruited through SMA advocacy organization. This was a mixed -method study whereby consented participants answered a validated questionnaire and DASS 21 tool, followed by an In-depth Interviews (IDI) or Focus Group Discussions (FGD). The sessions were audio-taped, and the verbatim transcripts were analyzed thematically. In the quantitative study, participants were reported to experience stress, anxiety, and depression. In the qualitative component, the impacts of living between the PWSMA and the caregivers include issues at the time of diagnosis, poor information delivery and the absence of supportive services. Participants' expressed their concerns living with self-doubt and turmoil with having to modify their lifestyles, familial relationships, and social lives. When exploring about future hope, themes emerged pointed towards having a united desire for better access to treatment, clinical trials, holistic care post diagnosis, improved medical care services and disability access in public areas. The current COVID-10 pandemic is expected to further compound the plethora of issues and challenges experienced by PWSMA and their caregivers in Malaysia. Sustained efforts from all stakeholders are required to bring about changes and thus lessen the burden of living with SMA in post-pandemic Malaysia

Keywords: Spinal Muscular Atrophy, neuromuscular disease, Malaysia, PWSMA, caregiver, independence, quality of life

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RESEARCH ON WAYS TO IMPROVE HOSPITAL MANAGEMENT SYSTEM

Jha A

Indian Institute of Health Management and Research Jaipur, India

To review about the current scenario of “Hospital Management System” in India and to comment upon ways to improve so as to increase patient satisfaction. Research methodology – Systematic Literature Review. Upon systematic literature review of (18) articles, we found that hospital management system is a software curated especially for effective management of hospital in various aspects ranging from scheduling of staff to operation management, patient discharge etc. Study reveals the great advantages of Hospital Management system along with various usage of different software designed for various tasks in hospitals in collaboration with Hospital Administrators

Keywords: Hospital Management System, effective management of hospital, advantages, software

P6

[27]

POPULATION-LEVEL ANALYSIS OF COVID-19 IN OHIO*Adik A*

Northeast Ohio Medical University, USA

The US had the most COVID-19 cases/deaths in the world in April 2020. Within Ohio, prevalence rose to a peak in December of 2020. COVID-19 spread asymmetrically, showing disparities by race, socioeconomic status, and prior illnesses. Studies have shown that older people, those in rural areas, counties with higher levels of African Americans population, counties with higher social vulnerability, and those facing social determinants had higher incidence and mortality rates due to COVID-19. We explored these patterns in Ohio. Population-level data at the county level ($n = 88$) was collected to examine the association among COVID-19 fatality rate and variables of interest, including classification of the county (rural, urban, Appalachian), race/ethnicity (percent black or African American), gender (percent female), age (percent of population over age 65), rates of overdose and suicide, poverty, and social vulnerability index. Bivariate correlations between each of these variables and the county COVID-19 fatality rate were completed using SPSS V. 26. Population age (% 65 and older, $r = .606$, p -value .000) and median household income ($r = -.409$; $p = .000$) were significantly correlated with the COVID-19 fatality rate. Rural counties ($r = .300$, $p = .005$) and Appalachian counties ($r = .291$, $p = .006$) had a positive correlation, and urban counties having a negative association ($r = -.468$; $p = .000$) with the COVID-19 fatality rate. The findings suggest that COVID-19 fatality rates in Ohio are higher in rural counties, Appalachian counties, in counties that have lower median income or in those counties with an older population.

Keywords: population, COVID-19

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[28]

**EFFECT OF DISASTER PREPAREDNESS TRAINING ON KNOWLEDGE
REGARDING FLOOD AND LANDSLIDE DISASTER MANAGEMENT IN
FAMILIES WITH OLDER PEOPLE**

Fatmah

Disaster Management Study Program, School of Environmental Sciences, Universitas
Indonesia, Indonesia

This study aimed to assess the effect of disaster preparedness training on knowledge on flood and landslide disaster preparedness and management in families with elderly in a sub district in Indonesia. This was a quasi-experimental pre-post study on 30 respondents participating in natural disaster preparedness training using videos, flipcharts, and leaflets. Data were collected using pre-post questionnaires to observe changes in knowledge and practice on flood and landslide disaster preparedness and management. A significant change in general knowledge on disaster, flood, and landslide (12.9, 20, and 12.4 points, respectively) was identified when the results of the pre- and post- questionnaire were compared. Disaster preparedness practice was good among respondents as reflected in actions performed before, during, and after disaster. Before flood occurs, families prepare a disaster preparedness bag for important/valuable documents as well as logistics (food) for emergencies and equipment for evacuation while also store valuable goods in a safe place. During flood, families prioritize elderly evacuation while seeking information on the flood through neighbors, handy talky, hand phone, television, and radio and ensure the availability of sufficient logistics. After disaster, families clean their properties and house; provide clean water and toilet facilities for the family; check the health of family members that may be impacted by the flood; and make sure that all electrical panels safe. Conclusion: Disaster training affects the knowledge of flood and landslide disaster management in families with older people.

Keywords: Disaster preparedness training, flood, landslide, knowledge, older people

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A THE IMPACT OF COVID-19 PANDEMIC ON LIFESTYLE AND DIETARY PATTERNS: A REVIEW*Bhagya H.M.V*, Nayomi D

Faculty of Science, Horizon Campus, Sri Lanka

COVID-19 has an impact on every factor in human existence, including food consumption and lifestyle patterns. Changes in food production and distribution mechanisms have affected the worldwide dietary patterns. This review was aimed to assess the impact of dietary and lifestyle of individuals during COVID-19 pandemic lockdown. The narrative review consisted of thirty-five primary studies published during the years 2020 and 2021 relating the impact of food consumption and dietary patterns irrespective of age group. The findings suggest significant shifts in nutrition how people consume food. Dietary patterns and nutrition around the world were influenced both negatively and positively by COVID-19 lockdown, poor diet habits were linked to other poor lifestyle patterns such as lack of physical activity resulted in weight gain, non-communicable diseases and mental health issues. Diet quality and food security is another factor that has been influenced by the current economic crisis. This raises issues about the long-term impact on nutritional, healthy diet access and accessibility, as well as the health implications in individuals. The findings highlight the urgent need for action plans to cater the promotion of nutritional status of individuals amid a public crisis.

Keywords: pandemic, COVID-19, nutrition, dietary, lifestyle