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# MJPHM

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## **KEYNOTE ADDRESS**

### **Covid-19 Pandemic: The Health System and Policy Response**

*Dato' Dr. Norhizan Ismail*  
*Deputy Director General of Health (Medical)*  
*Ministry of Health Malaysia*  
&  
*Dr. Hirman Ismail*  
*Medical Programme*  
*Ministry of Health Malaysia*

The COVID-19 pandemic has challenged the health system at all levels of delivery including secondary and tertiary care services. Hospitals have been put on severe pressure to meet the increasing demand for clinical care of COVID-19 cases, diagnostics, post-COVID-19 rehabilitation and forensic services; but at the same time maintaining the care for non-COVID-19 cases. Several steps were taken both at operational and strategic levels to increase hospital capacity and support the country's effort to control the pandemic. These include a wide range of functions such as governance, strategic plan, hospital facility, medical equipment, laboratory, surveillance and monitoring, infection control and prevention, occupational health and health technology assessment. Policy response is an important enabler to increase hospital capacity during the pandemic. Whole-of-government and whole-of-society approach would just remain conceptual without innovative and practical policy responses. Policy on outsourcing of services for both COVID-19 and non-COVID-19 cases for example, has allowed public hospitals to decant and divert patients fast to private hospitals thus providing more spaces within the hospital to treat the more severe cases. This presentation will describe some of these policy responses and challenges in the implementation.



## PLENARIES

### PLENARY I

## **Covid-19 Pandemic: How Effective and Efficient Are the Public Health Interventions?**

*Professor Dato' Dr Syed Mohamed Aljunid*  
*Chair of Health Policy and Management*  
*Faculty of Public Health*  
*Kuwait University*

Covid-19 pandemic is now in the second year of its appearance causing disruption in all aspects of life. As in other pandemics in the past, public health professionals were in the forefront of managing this pandemic. Both public and non-public health interventions were implemented in most countries in the world, but the number of cases and fatality is not seen to be decreasing. As of June 2021, the number of accumulative cases has climbed to 175 million with 3.78 million deaths. Top five countries with the greatest number of cases are USA, India, Brazil, France, and Turkey. The main public health interventions are based on primary and secondary prevention. The primary interventions include movement control order, promotion of personal hygiene, quarantine, and vaccination. The secondary prevention includes screening of cases, isolation, and early treatment of cases. Both types of preventions faced various form of challenges in ensuring their effectiveness and efficiency in controlling the epidemic. Government of countries in the world carried out movement control order to restrict the mobility of the population and break the chain of transmission. While this intervention seems to work by reducing around 17.5% in Rt, the socio-economic impact was great and damaging. The extend to the loss of jobs due to closure of businesses, impact on mental health of the population and weak enforcement of related laws makes this method unpopular. The policy makers faced hard decision to balance “live and livelihood” in this intervention. Vaccination seems to be the single most effective primary intervention that can provide as high as 95% protection to the population. However, the high price of the vaccines, lack of supply, poor vaccination roll-out programmes and influence of anti-vaccines advocates on the population are among the major challenges facing policy makers in most countries currently. In conclusion, primary prevention remains the most effective and efficient interventions in managing Covid-19 pandemic, albeit major challenges faced by the public health professionals and health system managers.

## PLENARY II

### **Strengthening Knowledge Translation Capacity of Academic Institutions to Support Pandemic Response**

*Professor Dr Yodi Mahendradhata*  
*Universitas Gadjah Mada*  
*Yogyakarta, Indonesia*

The Coronavirus Disease (COVID-19) pandemic has been an unparalleled test of health systems globally, particularly in low- and middle-income countries (LMICs). There have been 184,572,371 confirmed cases of COVID-19 worldwide reported by WHO as of July 8, 2021. The pandemic has amplified demand for knowledge about SARS-CoV-2, its transmission and control. It has thrust academic institutions into political debates. Although some academic institutions in LMICs are now relatively well-positioned to generate required knowledge through research, there are still significant barriers (e.g., lack of time, skills, and institutional support) to promoting knowledge utilization among decision-makers. Such barriers to knowledge translation (KT) pose considerable challenges for academic institutions in LMICs to take advantage of strategic opportunities to inform decisions for pandemic preparedness and response. There is thus an urgent need to invest in building academic institutions' capacity for KT in LMICs, to improve knowledge uptake for pandemic preparedness and response. Such institutional capacity-building initiatives for KT in LMICs can potentially impact future pandemic preparedness and response significantly.

## PLENARY III

### Equity Aspects of Covid-19 Pandemic and Policy Responses

*Professor Dr Supasit Panarunothai*  
*Centre for Health Equity Monitoring Foundation*  
*Thailand*

The pandemic of Covid-19 since the start of 2020 has exposed the problems of health inequity at all levels. The World Health Organisation before the pandemic pinpointed five main drivers of health inequities: health systems, financial security, living conditions, social and human capital, employment and work. The early phase of case detection, trace and test found high number of new cases in places with high travels. High income countries identified deepened inequity situations in deprived area, gender, race and ethnicity, people in detention and receiving care. Lower income countries have lower capacity to describe the problems. At the heights of sequential waves of pandemics, health systems in high income countries pass several episodes of resilient tests and return to the recovery tract faster than lower income countries. At the final episode of pandemic, countries with higher stock of knowledge and innovations can grab available resources in fighting with immunisations more efficiently than lower stock countries. Within each country boundary, people having lower capital living in lower living standards are hard hit that need rapid health, economic and social policy interventions to stabilise negative impacts and bring things back on track. Though equity aspects have been raised at the beginning of pandemic till the final action of vaccinations and immunity certifications, it is inevitable that time of access to policy effectiveness cannot be to all population groups at once. Social tolerance is also a measure of inequity problem solving.

## ORAL PRESENTATION

### OP1

## The Development of The Clinical Pathway for Influenza Among the Elderly at A Tertiary Teaching Hospital in Kuala Lumpur, Malaysia

*Nur Syazana MT<sup>1</sup>, Aniza Ismail<sup>1</sup>, Aznida Firzah Abdul Aziz<sup>1</sup>, Syed Mohamed Aljunid<sup>1,2</sup>*

*<sup>1</sup>Faculty of Medicine, National University of Malaysia, Kuala Lumpur, Malaysia*

*<sup>2</sup>Faculty of Public Health, Kuwait University, Kuwait*

Clinical Pathway (CP) is one of the most recommended tools to ensure the best quality of care and has been proven to reduce the cost and time spent in hospital. To date, there was no available evidence on the utilisation of CP in the clinical management of Influenza. The main aim of this study is to provide detailed guideline for each component of Influenza management specifically among the elderly in Malaysia. Expert group meeting was conducted involving family health specialist, public health specialist, geriatrician, respiratory physician, and infectious disease physician. There were five steps involved in developing Clinical Pathway for Influenza. Step 1) the formation of the team, 2) discussion and information gathering, 3) the development of CP draft, 4) refinement of CP draft, and 5) finalization of the CP. Two CP for Influenza were developed based on the type of services which are outpatient and inpatient care. The outpatient CP for Influenza consisted of mild and moderate Influenza cases, while the inpatient care CP for moderate Influenza cases was developed. Each of the CP consisted following activities: assessment, investigations, treatment, medications, diet plan, teaching, referral, outcome and discharge plan. The length of stay for inpatient developed in the CP was 6 days. The development of CK for Influenza supports existing treatment and in conjunction with the clinical practice guidelines. The implementation of CP for Influenza is required to optimize the care process with active participation from multidisciplinary health personnel.

**Keywords:** clinical pathway, influenza, elderly

## OP2

### **Measurement of Employees' Satisfaction with Importance-Performance Analysis Method at Prof. Dr. R. Soeharso Orthopaedic Hospital Surakarta**

*Frieda Ani Noor<sup>1</sup>, Meri Oktarini<sup>1</sup>, Lutfiyah Rizqulloh<sup>1</sup>, Anggi Putri Aria Gita<sup>1</sup>, Indra Komala<sup>2</sup>*

*<sup>1</sup>Universitas Kusuma Husada Surakarta, Indonesia*

*<sup>2</sup>Universitas Gajah Mada Yogyakarta, Indonesia*

The objective of this study is to identify the level of employees' satisfaction on the management. Survey to all of employees was conducted from February to August 2020 using a quantitative method. The aspect which has the highest level of dissatisfaction with a gap of 0.51 is the Employee Career & Development aspect. On the contrary, the aspect which has the lowest level of dissatisfaction is the Performance aspect with a gap of 0.26. Cumulative value of employees' satisfaction is 0.39, it means that they are satisfied with the management. These three last aspects tend to have a satisfaction score above average, and it is close to quite satisfied. The tendency of expected satisfaction assessment of employees reveals that they felt more hopeful on the EHS aspect with a value of 3.39 and felt less hopeful on the aspect of Award and C&B with a value of 3.13. In short, the employees' satisfaction assessment obtained an average of "Satisfied" with a cumulative average IPA score of 0.39. The aspect which is the focus of the hospital (quadrant I) is the Employee Career & Development aspect, while the aspect which needs to be maintained and improved (quadrant II) is EHS.

**Keywords:** hospital, employees' satisfaction, IPA

## OP3

# Inter-Ethnic Differences in Self-Reported Perpetration of Alcohol-Related Harm to Children in Households in Yunnan Province, China

*Yu Zhen<sup>1,2</sup>, Sawitri Assanangkornchai<sup>2</sup>, Wit Wichaidit<sup>2</sup>*

*<sup>1</sup>Faculty of Epidemiology and Statistics, School of Public Health, Kunming Medical University, Yunnan, China*

*<sup>2</sup>Epidemiology Unit, Faculty of Medicine, Prince of Songkla University, Thailand*

Alcohol consumption does not only harm the drinker, but also leads to harm to their family members. In this study, we assessed differences in prevalence of self-reported alcohol-related harm to children in households of Yi and Han caregivers in Yunnan Province, China. We conducted a community-based cross-sectional study in Chuxiong Yi Prefecture, Yunnan Province, China, where we randomly selected 21 villages including 7 Yi villages and 14 Han villages and invited 860 caregivers in families with a child aged 0-17 years to participate. We conducted a questionnaire face-to-face interview with one caregiver in each family and matched the sex distribution of the interview participants between Yi and Han villages. The questionnaire included 4 parts: 1) characteristics of participant; 2) the environment of household; 3) alcohol-related behaviors and attitude, and 4) alcohol-related harm to children. A total of 851 caregivers agreed to participate (refusal rate = 1.1%). Alcohol-related harm was reported by 20.3% of Yi caregivers and 17.9% of Han caregivers. The most common types of harm to children included witnessing domestic violence, verbal violence, creating an unsafe place. Parents/grandparents were the main perpetrators of the harms. Risk factors for alcohol-related harm to children included lenient attitude to underage drinking and having a family member who binge-drank. In conclusion, we found similar prevalence of alcohol-related harm to children between Yi and Han households. Caveats such as social desirability in self-reported responses and the cross-sectional study designs should be considered in the interpretation of our study findings.

## OP4

### Practice of Dementia Detection and Its Associated Factors among Primary Care Doctors in Public Health Clinics in Hulu Langat District, Selangor

*Norhayati Aziz<sup>1</sup>, Mohd Fairuz Ali<sup>1</sup>, Aznida Firzah Abdul Aziz<sup>1</sup>*

*<sup>1</sup>Department of Family Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia*

The prevalence of dementia in the Malaysian community is unknown, and available figures for the country are population estimates. Diagnosis of dementia at community level is often delayed or missed despite early symptom recognition at primary care. Malaysia lags behind its ASEAN neighbours in having a National Dementia Strategy. This study aims to determine the factors related to the delayed management and under diagnosis of dementia in the community by primary care practitioners (PCP). A cross sectional study will recruit 278 primary care doctors from 15 public health clinics within Hulu Langat district, Selangor. An online survey will be distributed to all registered PCPs. The survey will include the Knowledge, Attitude and Practice Questionnaire for Family Physicians (KAPQFP) by Arsenault-Lapierre. Practice assessment will include additional self-reported burden of dementia care in public primary care practice and reasons for delayed diagnosis of dementia. The participants' mean scores on dementia detection practice with different sociodemographic characteristics will be compared using T-test, ANOVA, Mann Whitney U test or Kruskal-Wallis test as appropriate. The association between knowledge and attitude mean scores with practice mean scores will be analysed using Pearson Correlation or Spearman Correlation test as appropriate. Self-reported burden of caring for elderly with dementia will be used to estimate dementia prevalence at public primary care clinic. This study findings will provide insight on dementia detection practices and its associated factors in public primary care settings to propel future large-scale research to support and expedite a National Dementia Strategy.

**Keywords:** primary healthcare, primary care, dementia

## OP5

# The Fidelity in Implementing Dengue Vector Control on *Pemberantasan Sarang Nyamuk* (PSN) Program During Corona Virus Disease-19 (COVID-19) Pandemic in Bantul District, Indonesia

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Considered a Dengue endemic area, Bantul District of Yogyakarta Province is also struggling to overcome the COVID-19 pandemic. The implementation of Dengue vector control through the national program of PSN is desired to effectively prevent Dengue outbreak during the pandemic. Therefore, the compliance and the change of the community and programmer on performing PSN in pandemic are highly required. By using a qualitative design method with a case study approach, this study collected the data from the community, the health cadres, the programmers of the public primary health care and the health department. The data were obtained from the interviews of IDIs and FGDs, and the documents. Mostly, the implementation of PSN had been routinely conducted before the pandemic, however, the free larvae index on ABJ did not reach the target of 95%. Panicking, new regulations, shifting the priority and focus to COVID-19, then made the PSN, mainly for the larvae monitoring, insufficiently implemented. It also influenced the ABJ report that probably became less representative. Until the end of 2020, the percentage of ABJ appeared not significantly different from 84.63% in 2019 to 85%. During the pandemic, routine communal work to clean the environment could not be performed, yet the community stated that practicing PSN more at the household level due to spending the majority of activity at home. Strengthening the self-monitoring at home is regarded as enable to discipline PSN practice in the community.

**Keywords:** dengue, fidelity, dengue vector control, *Pemberantasan Sarang Nyamuk*, PSN, COVID-19 pandemic



## OP6

# Oral Health-Related Quality of Life and Dental Problems During the Malaysian Movement Control Order (MMCO)

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The risk for COVID-19 transmission is apparent in dental practice and has sparked concerns among patients. The implementation of Movement Control Order by Malaysian government (MMCO) has added constraint to the access to dental clinics. The consequences of delayed dental care are significant, and the risks would be more pronounced in patients with periodontitis and diabetes. This study aims to identify oral health problems experienced by periodontitis and diabetes patients and the barriers to dental healthcare services during the MMCO 2020. 151 periodontitis patients and 215 diabetes patients from government dental school and public primary care were invited to join the study. A questionnaire comprises of Oral Health Impact Profile (OHIP-14) and perceived oral health problems were used to assess patients' Oral Health-related Quality of Life (OHRQoL) and the perceived barriers to treatment. Additive scores (ADD) ranging from 0 to 56 was used as method of assessment and a high score indicated poorer OHRQoL. Overall, 18% participants scored  $ADD \geq 14$ , with the most affected domains were psychological discomfort (mean, SD;  $2.05 \pm 2.060$ ), functional limitations ( $1.39 \pm 1.786$ ) and physical pain ( $1.14 \pm 1.597$ ). Only 35% patients decided to go see dentist for dental treatments, despite having dental problems. Among the barriers listed, "could not get dental appointment" was ranked highest followed by "problem not serious" and "fear of COVID-19". MMCO 2020 has high impact on the OHRQoL of periodontitis and diabetes patients. The finding highly supports the emphasis of supportive periodontal therapy in periodontitis patients and periodic dental assessment for diabetes patients, even during the COVID-19 pandemic.

**Keywords:** COVID-19, pandemic, movement control order, quality of life, dental health services

## OP7

### Full Paying Patient Service in Public Hospital: What Is The Patients' Trend and The Most Visited Discipline?

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The Strategic Framework of the Medical Programme, Ministry of Health Malaysia (MOH) 2021-2025, has announced the expansion of Full Paying Patient (FPP) Service nationwide and this has been the priority for 12<sup>th</sup> Malaysia Plan for 2021-2025 as a specialist's retainment scheme in the government sector. FPP Service in MOH public hospitals offer privileged quick access to clinical specialist care, private rooms, food, and other personalised care. Currently, there are 11 public hospitals implementing FPP Service. This review aims to show recent FPP patients' trend and to identify the most visited department by FPP patients. Secondary data analysis and literature review was carried out to show recent FPP patients' trend and to identify the most visited department by FPP patients. Review shows the number of FPP patients' encounters has increased by an average of 54% per annum from 2008 to 2019, with 12% increase in new FPP patients from 2017 to 2019. There are more than 30 clinical services offered at 11 FPP hospitals. Obstetrics and gynaecology service topped as the service with highest patients' encounter which accounts for more than 60% of patient's visit compared to other services for the year 2017 to 2019. As a conclusion, Malaysian mixed public-private healthcare system has evolved to improve individual wellbeing by offering a greater choice of provider and care options, and faster access for elective treatments. FPP patients' encouraging participation and number of visits indicate the clinical services with higher demand and potential for service expansion to other MOH hospitals.

**Keywords:** Full Paying Patient Service, FPP, specialist's retainment scheme, patients' trend, public-private healthcare system, public hospital, user-fee, revenue, patients' encounter

## OP8

# Acceptability of Tuberculosis Information System Among TB Officers of Primary Health Centre in Deli Serdang District: An Implementation Study

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Information System (IS) is crucial for tuberculosis (TB) program and control. Indonesia National TB Program started the implementation of an integrated TB information system - Sistem Informasi Tuberkulosis (SITB) to replace the previous electronic system. Exploring how the acceptability of the new IS among TB officers is required. This is a descriptive implementation study with qualitative research design. In-depth interview done among TB officers in primary health centres (Puskesmas) and TB program manager of district health office in Deli Serdang, North Sumatra. The acceptability of SITB is described in Theoretical Framework of Acceptability (TFA) constructs of affective attitude, burden perceived effectiveness, self-efficacy, and opportunity cost. TB officers feel SITB is a good system but complicated and confusing especially for senior age of TB officers. Since SITB parallel with manual system, issue of facilities availability, technical problems from the SITB itself, burden of TB program activities, and multitasking of other program, reporting, and recording works using SITB become challenging and burdensome. TB officers perceived some benefits of SITB in terms of help to improve data quality and completeness, easier of data access, helpful for TB patient monitoring and program evaluation. Young and middle age confidence using SITB, in contrast with the senior. Due to the system and facilities challenges, TB officers must be given up their time for SITB out of office hour. Ensuring availability of facilities and simplifying parallel existing platforms can increase the acceptability of SITB.

**Keywords:** Acceptability, Tuberculosis, Recording and reporting system, Electronic Information System

## OP9

# Can The 1CARE Concept of National Health Insurance for Malaysia Be Revived?

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Social Health Insurance (SHI) is one important form of health finance mechanism. In 2010, the Proposed Model for Malaysia - 1CARE Concept was presented, consisting of a combination of SHI and general taxation with minimal co-payments. This concept however was rejected by a significant number of the populace objecting to the “insurance component” i.e., social health insurance. The objective of this paper is to revisit this concept and analyse the various issues and solutions related to its possible reimplementation in Malaysia based on experiences of other countries. As part of an ongoing Scoping Review on recent updates of SHI over the last 5 years (2017-2021) selected articles from 3 databases - PubMed, EBSCO and Google Scholar, were studied in various aspects of the experiences of other countries as well as in a local context, which will have relevance to the Malaysian situation for a successful implementation. 2 articles from each of the 3 databases were analysed. These are related to exploring the effectiveness of different health financing mechanisms; the development of a checklist for designing health insurance programmes; acceptance of SHI in the formal sector; Willingness to Pay for SHI in the Sarawak experience; strategies for financing social health insurance schemes for providing universal health care; and finally, whether SHI effectively reduced financial burden. It is concluded that the implementation of SHI as part of a National Health Finance System in Malaysia requires a comprehensive and coordinated plan involving all the major stakeholders- the government, the providers and the citizens.

**Keywords:** social health insurance

## OP10

# Family Caregiver-Mediated Home-Based Therapy as An Approach for Continued Stroke Rehabilitation During COVID 19 Pandemic

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Before the COVID-19 pandemic, the provision of Home-based therapy (HBT) for stroke survivors involved regular home visits by a therapist's team. This therapy approach is impractical during the current pandemic time which emphasis on non-contact sessions. This study aimed to assess the feasibility and effectiveness of HBT when mediated by family caregivers, with distant monitoring by therapists. This experimental study involved 21 stroke survivors (mean age of 60.86 ± 9.02 years) who completed hospital-based physiotherapy sessions. They received a 12-week home-based, progressive therapy which focused on task-oriented exercises. The intervention was mediated by their family caregiver who received a session of training prior to home sessions. All stroke survivors and their caregiver were monitored weekly by a physiotherapist via telephone call. Feasibility of the HBT was assessed in terms of adherence rate and occurrence of adverse effects, while the intervention effectiveness was measured with regard to change in mobility and self-efficacy, using the 10-meter walk test (10-mWT), Timed Up and Go (TUG) test and Stroke Self-Efficacy Questionnaire (SSEQ). Data analysis were done based on the intention-to-treat approach, using the Wilcoxon Signed-Rank test. The group achieved a 83% adherence rate without major adverse events. Favorable responses were reported by the family caregivers. Significant ( $p < 0.05$ ) improvement was found in the comfortable gait speed (16.0%), fast walking speed (9.9%) of 10-mWT and TUG (-8.5%). In conclusion, the family caregiver mediated HBT is feasible and can be an option for therapy continuity for stroke survivors during the covid 19 pandemic era.

**Keywords:** stroke, home-based therapy, carer-mediated, mobility, self-efficacy

## OP11

### **Comorbidity and Disability Scores Among Elderly with Cognitive Frailty in Malaysia: Findings from the Community**

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Recently, there is a concern on cognitive frailty (CF) as an age-related syndrome. CF syndrome is considered a potential risk factor for functional disability among the elderly. Additionally, it is associated with increased comorbidities and economic burden. The aim of the study is to identify the morbidity and disability scores among elderly Malaysians with cognitive frailty. The study included all participants of the third phase of LRGS-TUA Malaysian community-based study. Different types of data were collected through a structured interview questionnaire. The disability score was based on the assessment schedule 2.0 (WHODAS 2.0) developed by the World Health Organization, while the morbidity score was based on the total count of health-related problems out of 24 common problems among elderly. The most common comorbidity scores among CF participants were 4, 6, and 5 comorbidities with 30.3%, 24.2%, and 15.2%, respectively. The CF participants had comorbidities more than that for both robust and pre-frail participants ( $P < 0.001$  and  $P < 0.013$ , respectively). Around 20% of the interviewed elderly participants had high disability scores (above 9). The mean disability scores among the robust, prefrail, other frailties, and CF participants were 2.52, 3.03, 4.23, and 5.3, respectively. The CF participants had a disability score more than that for both the robust and pre-frail participants ( $P < 0.001$  and  $P < 0.001$ , respectively). In conclusion, CF syndrome is associated with an increased probability of morbidity and disability compared to others. Working on managing and reducing age related morbidities among CF elderly is crucial for public health experts to handle.

**Keywords:** cognitive frailty, elderly, Malaysia, comorbidity, disability

## OP12

### **Video Observed Therapy System to Improve Monitoring of Tuberculosis Treatment in Thailand During the COVID-19 Pandemic: A Mixed Methods Study**

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A directly observed therapy (DOT) program for monitoring tuberculosis (TB) treatment in Thailand is not sustainable, especially during the COVID-19 pandemic. The current video observed therapy (VOT) system called TH VOT was developed and measured usability in a small area of Thailand before upscaling. The objective of this study was to detect areas for improvement of the TH VOT system before upscaling. A mixed-method study was conducted. The quantitative data were firstly collected with the TH VOT session records and six dimensions of the user experience questionnaire (UEQ). Then, the score of each dimension was magnified by the qualitative data, which contained the reflections and suggestions from three groups of users: the observers and the TB patients. The qualitative data were thematically analyzed based on those six dimensions. Finally, the quantitative data records in the TH VOT system were retrieved and analyzed. Overall, the user experience scores of attractiveness, dependability, and novelty indicated good usability, but the scores of perspicuity, efficiency, and stimulation reflected the areas for improvement. Both the observers and patients needed an appropriate online notification system. The video session records showed 85.71% and 61.67% of the compliance in the patients and the observers, respectively. In conclusion, an audit system and online notification system to remind the patients and observers should be set up to integrate the TH VOT system into the TB control program.

**Keywords:** VDOT, video enhanced therapy, tuberculosis

## OP13

### **Telemedicine Services Under the National Health Insurance Scheme During the Pandemic COVID-19: What Were the Obstacles?**

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The Social Security Agency for Health (BPJS Kesehatan) and Ministry of Health are working on telemedicine services between primary care and specialists in Indonesia using the national health insurance (JKN) payment scheme. This was also reinforced by the government's recommendation during the COVID-19 pandemic. This study aims to assess the feasibility of telemedicine services, payment scheme and health providers' perspective. Exploratory descriptive research was conducted to assess the implementation challenges of telemedicine services. The asynchronous telemedicine services were tested in 5 regions (involving 5 primary cares and 10 referral hospitals) using P-Care (electronic medical records) and a telemedicine application (TEMENIN) which are interoperable. In-depth interviews with 11 respondents and 3 FGD with representing stakeholders. There were 131 tele-EKG and tele-USG services conducted from September to December 2020. Lack of personal notification of telemedicine requests and the limited number of specialists impacted the long response time. The non-capitation payment of telemedicine services that went to the primary care facility could only apply for private and some government-owned primary care facilities. Lack of resources in primary care facilities to follow up on advice from specialists. Perspective of providers who prefer conventional referral care due to the limited telemedicine services that can be provided during the pilot implementation. The telemedicine service should expand to chronic disease including facilitating teleconsultation between patients and their primary care physicians. It is suggested that telemedicine services as part of capitation payment in primary care, while claims apply to the hospital which their specialist provides the tele-consultation service.

**Keywords:** telemedicine, interoperability, payment scheme, providers perspective



## OP14

### **From Good to Great: Understanding the Adaptation Process of Newly Graduated Nurses**

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The transition continues to remain a difficult time and challenging for many new nurses as they were unable to adapt to the workplace. Adaptation is important to help new nurses adopt and accept the organisation's culture and behaviour. Therefore, this study aims to determine the factors associated with the successful adaptation process of new nurses in the transition phase. The study adopted an integrated methodology from protocols suggested by the Joanna Briggs Institute (2014). Four electronic databases were searched: Ovid (2463), EBSCOhost (3594), WOS (161), Scopus (201). The quest was limited to papers published in English in 2010-2020, and the total number of articles found was 6419. After eliminating unrelated studies, a total of 24 articles were transferred to ATLAS Ti 8 for further analysis. Based on thematic analysis, factors influence successful adaptation across three stages; (first stage) familiarisation; (second stage) acquisition of theoretical and practical, and finally (third stage) social formation. Three main themes were associated with successful adaptation stages; (1) Organisation contribution: social capital, organisational culture, work characteristics, work readiness, work commitment, and professional role. (2) Personality traits: self-embodiment, unreasonable personality, proactive and confidence value. (3) Academic institutions: pre-entry knowledge and theoretical-practice gap. The findings explained the integration of occupational, educational institutions and personality values to guarantee the successful adaptation. However, existing transition programs inadequately support new nurses to adapt and adjust to the working atmosphere. As a result, incorporating professional and social factors into transition programs may aid in the successful adaptation of new nurses.

**Keywords:** adaptation, professional, social, transition, new nurses

## OP15

### **Web-Based, Game-Focused Circuit Exercise as A Therapy Method for Stroke Survivors: A Case Study**

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Stroke survivors require continuous exercise therapy to minimize post stroke weakness and functional decline which will eventually affect their quality of life and motivation level. However, frequent hospital-based therapy has become less feasible during this covid-19 pandemic era due to fear of infection. Therefore, a web-based exercise method is needed as an alternative. This study aimed to determine the effects of a web-based, game-focused circuit exercise on quality of life and motivation level of stroke survivors. This was a case study involving a chronic stage post-stroke patient (age = 58 years old; mean Montreal Cognitive Assessment score = 28) conducted between February and May 2021. The participant performed game-focused circuit exercise using web-based Checkercise board for 45 minutes, twice per week for 8 weeks. The outcome of the intervention was measured with regard to quality of life and motivation level, with the use of Short Form-36 and Intrinsic Motivation Inventory questionnaire, respectively. Game-focused circuit exercise using web-based Checkercise board was found to be feasible and yielded satisfactory outcome with improvement in physical and mental component of quality of life from 29% to 60%, respectively. Overall motivation level increment by 32.9% was found, in the domain of interest/enjoyment, perceived competence and perceived choice subscales. Further, participant felt less pressure/tension with 22% reduction in this subscale. In conclusion, web-based, game-focused circuit exercise seems effective in improving quality of life and motivation level of stroke survivor and may be used as a therapy option for this population during this covid-19 pandemic time.

**Keywords:** stroke, game-focused circuit exercise, web-based

## OP16

# Fertility Desire Among People Living with HIV: Qualitative Analysis of The Influence of Chinese Culture, HIV-Related Constraints and Reproductive Health Policy and Service Availability

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Pregnancy and childbirth are associated with HIV transmission between partners during conception, and HIV transmission from mother to child during birth. In Chinese society, childless couples may be pressured to produce offspring under threat of being ostracized by their family and community. It is likely that the nature of fertility desire among couples with at least one partner living with HIV is unique and different from couples not living with HIV. However, few studies have described fertility desire in this unique population in the context of Culture, HIV-related constraints and reproductive health policy and service availability. We sought to assess how these factors affect fertility desire of people living with HIV in view of the increased coverage of prevention of mother-to-child intervention (PMTCT) for HIV patients and implementation of the two-child policy. We conducted a qualitative study using in-depth, semi-structured interviews in 34 reproductive-aged persons living with HIV receiving HIV antiretroviral therapy at a tertiary hospital in Kunming, China, from October to December 2020. Analysis of meaning units revealed the following key domains in fertility desires in the study population: 1) Chinese culture, 2) HIV-related constraints, 3) reproductive health policy and service availability. Concerns regarding prognosis, cultural and health policy imply that misconceptions about HIV still prevail even among those living with HIV.

**Keywords:** fertility desire, people living with HIV, Chinese culture, HIV-related constraints, reproductive health policy, service availability

## OP17

# Willingness To Pay for Healthcare Services and National Health Financing Scheme among the Elderly and Factors Associated with It

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Population aging has an impact on rising healthcare costs. This will result in catastrophic health expenditure among the elderly. Malaysia, a country with tax-based public funding will incur higher healthcare costs. Therefore, a more sustainable health financing system such as the National Health Financing Scheme (NHFS) needs to be introduced. The main objective of this study is to find out the willingness to pay (WTP) for health care services and NHFS among the elderly and the factors related to it, further, to find an explanation about the WTP for healthcare services and NHFS. This study was conducted in four states in Malaysia, namely Selangor, Kedah, Sabah, and Sarawak, using a mixed method of sequential explanation using cross-sectional method conducted throughout August 2020 to May 2021. Face-to-face and telephone interviews were done using a validated structured questionnaire form. A total of 153 respondents were interviewed for quantitative and 10 respondents for qualitative research. More than 70% respondents are WTP more for government health care services and more than 50% for private. The majority of elderly (85.6%) agreed for NHFS with 73.2% WTP for NHFS contributions of 1.0-2.0% of monthly income. Elderly with Malay ethnicity, higher income, higher education level and having insurance have higher WTP for healthcare services and NHFS. Qualitatively, five (5) themes were identified: health services, health financing scheme criteria, NHFS implementation conditions, requirements for NHFS and alternatives/complements to NHFS. For a more sustainable health financing system, the elderly is WTP more for healthcare services and NHFS.

**Keywords:** willingness to pay, elderly, national health financing system, health financing, national health insurance, healthcare services

## OP18

### **Assessing The Acceptability of The Health Education Program in Dengue Prevention and Control in Buon Ma Thuot City in Dak Lak Province, Vietnam**

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Dengue fever is a serious human arboviral infection that globally spreads and is top of concern amongst health care professionals and governments including Vietnam. The best measure to prevent and control dengue is vector control which is supported by social mobilization and health education. This study assessed the acceptability of health education program in dengue fever prevention and control for the first time in Dak Lak Province, which is in the endemic area of dengue fever in Vietnam. This study was an implementation research with qualitative method. Nine in-depth interviews and six focus group discussions were conducted at province, district, and ward level. The acceptability was analyzed based on seven components of the Theoretical Framework of Acceptability. Six components namely affective attitude, perceived effectiveness, intervention coherence, ethicality, and self-efficacy were coded in all transcripts. Overall, the acceptability of the health education program in dengue fever prevention and control was positive. However, the transformation from education to behaviour would take time and require the persistence of the education program. The theoretical framework of acceptability was useful to evaluate both health staff and community perceptions of the program's acceptability.

**Keywords:** dengue fever, health education, acceptability, Dak Lak

## OP19

### Effectiveness of Educational Intervention in Improving Dental Clinic Attendance and Glycaemic Control of Diabetes Patients (UKM-DARE<sup>®</sup> Trial)

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Diabetes mellitus and periodontal disease are both chronic non-communicable disease with bidirectional relationship, but current evidence regarding oral health awareness and dental clinic utilization with glycaemic control of diabetes mellitus patients is limited. We aim to study the effects of increasing oral health awareness among patients with diabetes receiving treatment at primary care clinic, to promote utilization of oral health services and its association with glycaemic control. In this cluster, randomized, single blinded trial, we will recruit 376 adult diabetes patients (aged  $\geq 18$  years) during their routine follow up for diabetes at primary care clinic. Patients will be cluster randomised to receive either conventional dental education materials (mainly posters), or Senyumanis<sup>®</sup> a web-based app educational tool developed by the research team. After 4 months, when patients return for diabetes follow-up, patients will be interviewed for a history of dental utilisation post recruitment. Blood tests done during study period for diabetes monitoring taken at recruitment and post recruitment will be traced from medical records and analysed. History of dental utilisation will be subcategorised to cover intention and actual visit to the dental clinic, due to restrictions related to Covid19 pandemic. We anticipate that the awareness of the link between diabetes and oral health will improve the intention to utilise the dental health services, but assessment of actual practice may be influenced by pandemic restrictions. In patients with diabetes, increasing oral health awareness help to promote utilization of dental clinic service and improvement of glycaemic control.

**Keywords:** primary care, dental healthcare, diabetes, periodontal disease, cluster randomized trial

## POSTER PRESENTATION

PP1

### **Barriers and Challenges of Teleconsultation Service for Non-Communicable Disease (NCD) Follow Up During COVID-19 Pandemic in Malaysia**

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COVID-19 pandemic is forcing healthcare system providers to change the usual doctor-patient consultation method. Healthcare provision for non-COVID-19 cases have been compromised especially for non-communicable diseases (NCD). By utilizing an alternative interactive system such as teleconsultation service, the delivery of care will not be jeopardised for this vulnerable group. The aim of this study is to determine the use of teleconsultation services for NCD follow-up and explore the benefits and challenges of the service implementation during COVID-19 pandemic in Malaysia. In this qualitative study, we will recruit 20 Medical Officers with experience in teleconsultation services and working in selected public primary care clinics across Malaysia. They will be divided into two groups according to the types of teleconsultation method used, i.e., videoconferencing or telephone call. Focus group discussions (FGD) will be held via videoconferencing methods. Participants will be selected from different regions of Malaysia. FGD proceedings will be transcribed verbatim and analysed using NVivo. Framework analysis will be employed, using deductive methods from literature and research objectives. We anticipate that by identifying the benefit and challenges of teleconsultation services, we can propose a change in policy and improvement of the system for future practice beyond COVID-19 pandemic in Malaysia. Knowledge on the benefits and challenges of teleconsultation service implementation in public primary care clinics may optimise healthcare delivery for patients with NCD during and beyond the pandemic period.

**Keywords:** teleconsultation, primary care, COVID-19, non-communicable disease (NCD)

## PP2

### A Preliminary Findings: Exploring Healthcare Professionals View on the Preconception Care for Women with Diabetes in Nigeria

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Preconception care, in particular, diabetes aspect, has been found to improve fetomaternal outcome. It is beneficial for women with pre-existing diabetes, past pregnancy difficulties, or chronic illness. Good glycaemic control before conception and adequate pregnancy preparation could be achieved through preconception care. The preconception care would improve individual health status and reduce behavioural and environmental factors that contributing to poor maternal and child health outcomes. However, it is yet to be implemented as it is virtually clinically not in existence in the routine management of diabetes among women of reproductive age in Nigeria. The study aims to explore healthcare professionals view on uptake of preconception care for women with diabetes. A qualitative study was conducted in two tertiary health institutions among health care professionals involved medical doctors and nurses (n=20) by using an in-depth semi-structured interview. Respondents were purposively selected between February 2020 until November 2020. The data were transcribed verbatim and analysed using thematic analysis. The findings explored the key themes that emerged were (1) Involvement; including collaboration among the healthcare specialities, policymaker, and non-governmental organization, (2) Knowledge and Information; among the healthcare professional, populace and the government; and (3) Enlightenment; including training and re-training, use of mass media, policy backing. In conclusion, it is pertinent to consider the providers' knowledge, the political will of the government, and individual financial and sociocultural aspect for actualization and optimization of diabetes preconception care services into the health system.

**Keywords:** preconception care, diabetes, healthcare professional, view, childbearing women



PP3

## A Time-Series Analysis of Incidence of Suicide and Suicide Attempt Trends in Thailand in 2013-2019 and Predictors of Suicide Attempt

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The present study sought to examine trends of annual incidence of suicides and suicide attempts in 2013-2019 in Thailand and predictors of suicide attempt. A secondary data analysis of two national-level databases was conducted: 1) The National Health Security Office (NHSO) database consisting of records of 513,240 inpatients aged 10 years old and over, of which 27,246 records were related to suicide (ICD-10CM codes X60-X84 and 2) the National Death Certification Registry System, Ministry of Public Health consisting of 31,185 dead cases aged 10 years and over whose causes were recorded as ICD-10CM codes of X60-X84. We calculated age-standardized annual rates of suicide and suicide attempt per 100,000 population and used join-point regression to calculate time trends. Predictors for suicide attempt and death were calculated using multiple logistic regression. The study reveals that annual age standardized incidence of suicides slightly increased from 6.12 in 2013 to 8.95 in 2019, whereas annual age standardized suicide attempts decreased from a peak of 7.83 in 2014 to 4.61 in 2019. Predictors of suicide attempt were being in adolescent and young adult age group (15-34 years), female, presence of alcohol or substance related disorders, and presence of psychiatric illness. Predictors of suicide deaths were male, increasing age, and suicide attempt by lethal method. In conclusion, trend of suicide and suicide attempt are increasing in Thailand. Effective public health and clinical strategies are urgently needed to combat the problems.

**Keywords:** suicide attempt, incidence, trends, time-series analysis, Thailand

PP4

## Modelling A Predictive Factors for Utilisation and Satisfaction of PeKa B40 and *mySalam* Schemes Among Beneficiaries in Malaysia

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In Malaysia, a growing concern on the low healthcare service utilisation offered through two government-funded health protection schemes among the poor. Underutilisation and less satisfaction among the beneficiaries of PeKa B40 and *mySalam* will translate as a loss to the policymakers and schemes' beneficiaries. Studies have shown that utilisation and satisfaction are mediated by predisposing, enabling and need factors. However, many factors may underpin mediating factors between the factors mentioned earlier with utilisation and satisfaction on the schemes. This study aims to determine the predictive factors drive utilisation and satisfaction on PeKa B40 and *mySalam* schemes. A cross-sectional using explanatory sequential mixed-methods design will sampled 850 samples B40 households in all states and federal territories in Malaysia using multistage random sampling in the first phase of study. Quantitative data from the survey will be analysed with univariate and multivariate analysis to examine a predictive model which would explain factors contributing to utilisation and satisfaction on PeKa B40 and *mySalam* schemes among B40 group income. Simultaneously, qualitative data will also be collected during in-depth interviews to understand and clarify expected and unexpected findings from the initial quantitative results to predict factors drive utilisation and satisfaction on the schemes. This study will develop a predictive model for utilisation and satisfaction of Malaysia's government-funded health protection schemes. Thus, it will provide tailor-made strategies to help policymakers effectively improve the schemes' implementation to meet its intended objectives. This study was approved by the Research and Ethic Committee UKM, Project Code FF-2021-168.

**Keywords:** PeKa B40, *mySalam*, utilisation, satisfaction, health protection scheme

PP5

## **Knowledge and Attitude of Expectant Fathers Towards Breastfeeding**

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Breastfeeding confers many benefits for both mother and baby. World Health Organization (WHO) recommends exclusive breastfeeding for the first 6 months and continuing breastfeeding for up to 2 years and beyond with the introduction of safe and adequate complementary food. However, there are many factors that contribute to successful breastfeeding. This includes various types of partner support towards breastfeeding, which can contribute to an increase in breastfeeding initiation, higher rates of exclusive breastfeeding and continuation of breastfeeding. We are proposing a study on expectant fathers attending maternal and child clinics under Pejabat Kesihatan Daerah Seberang Perai Utara, Pulau Pinang, to ascertain their level of knowledge and attitudes towards breastfeeding and its association with the sociodemographic factors. A set of questionnaires that contains the expectant fathers' sociodemographic details and the Knowledge and Attitude Breastfeeding Questionnaire (KA-BFQ) will be given to expectant fathers. From this study, we are expecting to identify the gaps in the knowledge among expectant fathers and address their misconceptions on breastfeeding. We are also looking at the association of the sociodemographic factors with the expectant fathers' level of knowledge and attitudes towards breastfeeding. The results from this study can be used as a basis for developing an educational package on breastfeeding solely for expectant fathers which subsequently may improve the rates of successful breastfeeding.

**Keywords:** breastfeeding, expectant fathers, knowledge, attitude

PP6

## Protocol for Economic Evaluation on mHealth App for Managing Urinary Incontinence Among Pregnant Women: Single Centre Assessor Blinded Pilot Feasibility Randomised Controlled Trial

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Mobile health applications are increasingly popular in clinical settings for supporting self-management practices with good clinical outcomes. However, economic evaluation on mHealth apps is scarce. Urinary incontinence (UI) is prevalent during pregnancy with low quality of life. An mHealth app is developed to manage UI among pregnant women. A single centre, assessor-blind randomized pilot feasibility will be conducted to evaluate its preliminary effectiveness. The objective of this study protocol is to describe the necessary steps conducting an economic evaluation of the app used in primary care clinic settings. This deterministic cost-utility analysis with a 1-year societal perspective, will compare the intervention app group and waitlist control group among 64 incontinent pregnant women. The app will educate and prompt users to conduct three-times daily pelvic floor muscles training (PFMT) for 8-week duration. Direct medical costs, direct non-medical costs and indirect costs related to the PFMT will be estimated. The quality of life will be measured using International Consultation on Incontinence Modular Questionnaire on Lower Urinary Tract Symptoms and Quality of Life and the quality-adjusted life years (QALYs) gained will be determined. The costing data will be collected for 8 weeks and used to extrapolate costs for one year. The incremental cost-effectiveness ratios comparing app and control groups will be determined. One-way and multiway sensitivity analyses will be conducted. Findings from this study will provide input for full powered RCT study of the app usage in ten selected primary care clinics. Protocol registration: ClinicalTrials.gov NCT04762433.

**Keywords:** mHealth App, pelvic floor muscle training, urinary incontinence, health economic evaluation, cost utility analysis

PP7

## Social Media-Driven: Recruiting Participants for Periodontitis Self-Assessment Study Via Facebook Ads

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Facebook is gradually being used as part of mass media campaigns in public health, including the New Norms campaign in Malaysia. Researchers are confronted with many problems in recruiting participants, including declining response rates and increased difficulties in reaching participants through traditional modes. The current study aimed to address these issues (1) to investigate the usage of an engagement with the web-apps, (2) to illustrate the greatest unmet periodontal treatment needs to be based on population perceived need. Using the Facebook Ads Manager, Ads content messaging was targeted by directly promoting the web apps through image-based advertisements displayed on the news feed or side panel. Substance users aged 13-65 was recruited through Facebook and Instagram, and referrals. From February - April 2020, we reached over 5538 users (8,824 impressions) with generated a total cost of RM 20.50. During the one-week recruitment period, 471 participants agreed to the survey with 285 completions. Compared with user distribution, our ads were unexpectedly overrepresented in the Central Region and were underrepresented in the Eastern Sarawak region. Less than half of users with self-perceived lowest risk of periodontal disease (44.2%), and about 42.2% are potentially at moderate risk of periodontitis. Sadly, 13.6% of the user were falling under the case of periodontitis uncontrolled for professional care. Our results suggest that the alarming increase in the prevalence and severity of periodontal disease. More work remains before we can tap the full potential of social media to improve individuals' quality of life and burdens on healthcare systems.

**Keywords:** Facebook, social media, engagement, self-assessment, periodontitis

PP8

## **Perception and Views of Primary Care Doctors Regarding Screening of Depression among Elderly Patients Attending Public Healthcare Clinics in Kuching District: A Qualitative Study**

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Depression in the elderly constitutes 7.3% of the total Malaysian national prevalence for depression. However, depression is commonly underdiagnosed by primary care physicians, which may impact coexisting comorbid conditions and general well-being. As depression in the elderly increases with age, its prevalence is expected to become even more significant due to the increased life expectancy and also due to isolation during pandemic. In this study, we aim to determine the perceptions, views, and barriers encounter among primary care physicians on screening for depression among the elderly and the impact of COVID-19 on screening. This qualitative study will be conducted in selected public healthcare clinics in the Kuching district (5 clinics). Semi-structured interviews and in-depth discussions will be conducted via videoconferencing. One representative will be selected from each clinic at initiation, followed by snowball method for subsequent subject selection until saturation of themes is achieved. Interviews will be transcribed verbatim and analysed using NVivo software. Themes will be analysed deductively according to study objectives and evidence from literature. We anticipate obtaining insight into the primary healthcare doctors' perception of depression in the elderly, screening strategies and barriers, and how this may impact patient care. Suggestions on how to improve the detection of depression among elderly patients may be forthcoming. Findings from this study will shed information on methods to improve the detection of depression among elderly patients attending primary healthcare clinics and suggest appropriate remedial measures.

**Keywords:** perception, primary care doctors, screening, depression, elderly patients, healthcare

## PP9

### Empowering Parents of Children with Autism Spectrum Disorder in Caring for Their Children's Oral Health Via a Home-Based Teledentistry Module

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Autism spectrum disorder (ASD) is a persistent neurodevelopmental condition with early childhood onset. Like any normal children, a child with ASD is often affected by oral disorders such as dental caries and periodontal diseases. Although currently there is no cure for autism, early diagnosis of autism followed by early intervention and prevention programmes for all health concerns, including oral health care, are crucial to ensure the well-being of the child. This study aimed to develop and validate a newly developed teledentistry module for oral health home-based care for parents of young children with ASD. Participants will be invited to join the study and respond to questionnaires/interviews on their socio-demographic data. Parents will then be assisted to follow the newly developed home-based mobile application to improve child's oral health care at home. Feedback on and acceptance and usability of the application by the parents will be evaluated to validate the teledentistry module. It is expected that the module will improve parents' awareness on oral health care for their special needs children and essentially empower them to advocate appropriate and optimal home-based oral care as well as access to oral healthcare. Using teledentistry module on the parents of autism spectrum disorder may provide appropriate and optimal home-based oral care, and which will help in access to oral healthcare.

**Keywords:** developmental disabilities, dental preventive care, teledentistry, web-based module

## PP10

# Sweet Taste Perception and Dental Caries Experience among Pre-School Children: A Literature Review

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Early childhood caries (ECC) is a common dental disease that affects children worldwide. It is well-established that frequent sugary food consumption could lead to ECC. This review aims to gather findings on sweet taste perception, preference, and dental caries experience among pre-schoolers. A comprehensive literature search was conducted using combination of these keywords; “taste perception”, “sweet taste”, “dental caries” and “dental decay” through four databases, Cumulative Index of Nursing and Allied Health Literature (CINAHL), Dentistry and Oral Sciences Sources (DOSS), Scopus, and PubMed. Three documents that reported relevant data among preschool children and written in English were included in this review. No significant association was seen between sweet taste preference and dental caries among pre-schoolers. Mother’s taste perception, which was assessed by using 6-N-propylthiuracil (PROP), does influence children caries status as PROP non-tasters are sweet likers with increased caries risk. Mother’s knowledge towards oral care is vital in determining children’s dental status. Researchers also validate the efficacy of PROP as tester for sweet taste test including on children. It is also found that genetically, the number and distribution of fungiform papillae on tongue between taster and non-taster are different. High incidence of caries and soaring trend of sugary food consumption were recorded due to easy access towards sugary food. In conclusion, no evidence seen on link between taste perception, preference and ECC. More focused studies are needed to identify the pathway towards sweet food consumption. Future research should include larger sample size and consider other factors influencing caries as well.

**Keywords:** sweet taste; taste perception; taste preference; dental caries; dental decay; early childhood caries (ECC)



## PP11

### Awareness of Pre-exposure Prophylaxis and Non-occupational Post-exposure Prophylaxis among People at Risk for HIV in Guilin, China

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Post-exposure prophylaxis for non-occupational exposure to HIV (nPEP) involves a 28-day course of antiretroviral medicine starting within 72 hours after an uninfected person believes that he/she has been exposed to HIV. Pre-exposure prophylaxis (PrEP) is the use of daily antiretroviral drugs to block the acquisition of HIV infection by uninfected people. To estimate the awareness of PrEP and nPEP among key populations at high risk of HIV exposure in Guilin city, a cross-sectional survey using a structured questionnaire was conducted from November 2020 to April 2021. We recruited 219 MSM, 286 FSWs and 260 IDUs using respondent-driven sampling. Eligibility criteria included being aged 18 years and over, having engaged in behaviors that might have increased risk of HIV infection within the last 12 months, able to give informed consent, living in Guilin for at least one year, and reporting HIV-negative or status unknown. The awareness of PrEP was 18.8% (95% CI: 11.4, 27.7), 5.2% (95% CI: 2.1, 9.9) and 28.6% (95% CI: 20.0, 41.0), in MSM, FSWs and IDUs respectively. The corresponding proportions for nPEP in these groups were 14.7% (95% CI: 8.9, 24.4), 4.1% (95% CI: 1.3, 8.3) and 35.9% (95% CI: 27.3, 49.5), respectively. In multivariable analyses, the determinants of awareness of PrEP and nPEP were different between groups. Among the three groups, FSWs had the lowest awareness while IDUs had the highest awareness of both PrEP and nPEP. Strategies to promote awareness of these prophylactic interventions are needed for these high-risk population.

**Keywords:** HIV, PrEP, nPEP, awareness

PP12

## Benefits of Siwak Use on Personal Mouth Hygiene: A Narrative Review of the Literature

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The use of siwak as an oral hygiene device is gaining popularity across the globe. People either use it exclusively or in conjunction with a regular toothbrush. While siwak use has been clinically proven to eliminate dental plaque and improve gingival health, it has also been associated with damage to the supportive structure of the teeth mainly gingival recession and loss of clinical attachment. This review aims to highlight the advantages and adverse effects of siwak on periodontal health, and the effects of various methods of siwak practises on clinical dental outcomes. The literature search was conducted in EBSCOHOST, PubMed, SCOPUS and Google scholar databases using the search associate terms for “siwak” as intervention and “periodontal health” for outcome. Articles published between 1990 to 2021 were selected to also include the historical information of siwak. Articles not written in the English language were excluded. Siwak is consistently found to be effective to remove dental plaque and improve periodontal health. However, gingival recession and clinical attachment loss were significantly more common in siwak users, with varied methods of siwak practice being assumed as contributory causes. There is evidence that the personal preference for siwak use is influenced by religious beliefs and culture. The lack of standardised instructions for effective use of siwak has led to the conflicting findings between its benefit and adverse effects. As such, it is important that these instructions are developed based on an integrative approach between scientific evidence and cultural aspects of siwak use.

**Keywords:** siwak, method of siwak practice, periodontal health, religious beliefs

PP13

## **Cost-effectiveness Analysis Of mRNA-based Versus Inactivated Virus COVID-19 Vaccines in Malaysia Using Decision-Tree Model**

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Vaccination is an important primary prevention strategy for COVID-19. To date, there are approximately 150 COVID-19 vaccines of different types, and in various stages of clinical trial globally. Among them are the mRNA-based and inactivated virus vaccines, that is currently used in Malaysia. The aim of this study is to perform a cost-effectiveness analysis (CEA) of mRNA-based vaccine versus inactivated virus vaccines, using available evidence of the efficacy, potential side effects of the vaccines and epidemiological data. The CEA will be based on a static decision-tree modelling method. The costs will account only direct medical costs from the provider's perspective. The estimation of cost will be obtained from literature review, expert opinion and cost estimate information from a health provider vaccination facility and a reference hospital. The effects will be number of COVID-19 infections averted. The outcome will be calculated as incremental cost-effectiveness ratio (ICER) for one case averted. Sensitivity analysis will be conducted to measure for model uncertainty. The knowledge from this study will assist in resource allocation for future vaccination policies.

**Keywords:** COVID-19, cost-effectiveness, vaccine, decision-tree model, Malaysia

PP14

## **A Systematic Review of Implementation of Artificial Intelligence (AI) in Healthcare: Issues & Challenges**

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The purpose of this systematic review is to review articles involves the issues and challenges of implementing artificial intelligence (AI) in healthcare. It could be a guidance for policy marker in Malaysia. The systematic review was conducted using three databases, i.e., PubMed, Google Scholar and Web of Science to evaluate issues and challenges of implementing AI in healthcare in 2010 until 2020 with inclusion of original full text English article which employed a qualitative method, but the exclusion criteria are case study articles, systematic and narrative review paper article, and articles did not include the issues or challenges in implementing AI in Healthcare. We identified 191 articles, only 42 articles met the inclusion criteria for this review. The biggest challenge in applying the AI is the data safety. The concern of patients is on how their data are being handled due to the automation nature of AI and involvement of third party to manage their records. Next major issue is the “black box”. This is an automated system where all data are input and decisions will be made, but with one catch; not knowing how the output is generated. This turns the concern to the issue of data bias. With a large number of data or too little data being input in the system, one will not know if the results generated is wrong and how to rectify them. The next issue is loss of human touch also one of the challenges faces when automation takes place where comforting and assurance are almost non-existence. Other issues AI may lead to neglecting clinical judgement also a concern arises when AI is incorporated in the practise. This will open a gate to legal and ethical issues in practise. The other issue is concern on the cost of adopting the technology and adequate training for the workforce. Globally, usage of artificial intelligence in healthcare brings along with clear opportunities and promising results. However, there are issues on data governance, resource limitation, ethical issue, and patient-doctor relationship. The authority/policy marker play an important role when on this matter.

**Keywords:** artificial intelligence, AI, healthcare, medical, issues, challenges

PP15

## **The Psychological Impact of COVID-19 3rd Wave in Malaysia Towards the Undergraduate Students of UMS**

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Malaysia once again reported a sudden increased number of cases which is then called the 3rd wave of COVID-19 infection, which began in September 2020 until the present. The COVID-19 pandemic has caused worldwide disruptions not only to the healthcare system but also to medical education which is implications on students' psychological well-being. Thus, the aim of this study is to determine the psychological impact of COVID-19 3rd wave among the undergraduate students in UMS. An online self-administrated questionnaire study was conducted among students of UMS. This questionnaire consisted of three sections, for collecting information on sociodemographic data and Depression, Anxiety and Stress Scale-21 (DASS-21) as well as the Impact of Event Scale-Revised (IESR). Data were statistically analyzed using IBM Statistical Package for Social Sciences (SPSS). The DASS-21 found 47.2% of students are suggestive of having depression, 7.2% of students are suggestive of experiencing anxiety, 62.3% of students are suggestive of having stress while the IESR found 43.7% of participants are suggestive of PTSD diagnosis. Psychological distress is prevalent among students in UMS during the COVID-19 3rd wave; screening for adverse mental and emotional outcomes and developing timely tailored preventative measures with effective feedback are vital to protect their psychological well-being, both in the immediate and long term.

**Keywords:** COVID-19, depression, undergrade student, anxiety, stress

PP16

## Full Paying Patient Service in Public Hospital: An Overview

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Globally, the expansion of private health sectors has caused movement of specialists from the public to private sector, causing a disproportionate manpower distribution between the public and private health sector. Retention of clinical specialists in the public sector has become a major problem in Malaysia. The pressure of increasing economic burden, scarce financial resources and increasing rate of medical specialist attrition to the private sector have led the Malaysian Government to introduce Full Paying Patient (FPP) Service as the Ministry of Health Malaysia (MOH) specialists' retention scheme in 2007. These initiatives have raised the level of payments to public sector doctors. Literature review of MOH documents and secondary data analysis was carried out to provide an overview and better understanding of FPP services implementation practices in MOH hospitals. Findings show the progress in MOH FPP Services' governance and service operation for achieving the service objectives and noticed an increase in the understanding of the complexities involved in implementing FPP service. As of the end of December 2020, there are 11 public hospitals implementing FPP Service. By December 2018, there were 360 registered FPP Specialists compared to 71 FPP Specialists in the year 2009. The 26,739 patients who opted for this service in 2018 contributed to more than RM22 Million revenue in 2018. Thus, the establishment and operation of FPP Service has brought a considerable number of specialist retention, contributing to the government revenue, indirectly reducing the government subsidy for patients who can afford to pay, and giving patients alternatives in health service options at public hospitals.

**Keywords:** Full Paying Patient Service, FPP, specialist's retainment scheme, public hospital, public-private healthcare system, overview, governance, revenue, afford to pay, implementation