

2ND INTERNATIONAL CONFERENCE ON  
PUBLIC HEALTH AND WELL-BEING 2021

21 – 22 January 2021| Online



# BOOK OF ABSTRACTS

“Current Public Health Practices: Building  
resilience and well-being.”

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# Book of Abstracts

## The 2<sup>nd</sup> International Conference on Public Health and Well-being (PUBLIC HEALTH 2021)

21<sup>st</sup> – 22<sup>nd</sup> January 2021, Online

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## MESSAGE FROM THE CONFERENCE CO-CHAIR PUBLIC HEALTH 2021



We wish you a very warm welcome to the first 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 South Africa, the USA, Malaysia and New Zealand. Presenters come from the USA, the UK, Indonesia, Malaysia, Sri Lanka, Bangladesh, China, Pakistan, Taiwan, Japan, Saudi Arabia and India. We have tried to arrange the presentations in specific areas of interest including: the COVID pandemic, Health Policy, Knowledge, Attitudes and Beliefs, Health Education, Risk, Youth. and Drugs, Nutrition, Prevention of Illness, Clinical Management, Methods of Research. In addition, please do not neglect to attend the poster session with a focus on maternal 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 is making 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 Co-Chair of PUBLIC HEALTH’ 2021

Emerita Professor of Public Health,

New York University, USA

Senior Technical Advisor: Community Rising Africa Network

## MESSAGE FROM THE CONFERENCE CO-CHAIR PUBLIC HEALTH 2021



A very warm welcome to all delegates,

It is a great pleasure for me to welcome the participants from all over the world who are participating for this exciting conference. Public health has been an important field in the medical profession focussing on improving and protecting community health and well-being, with an emphasis on prevention among large groups of people, through health promotion, disease prevention, early detection of diseases, child wellness, injury prevention, disaster relief, clean water, access to healthcare, and much more at various levels.

This conference is about looking and sharing the new realities and research findings that can be very beneficial to develop effective and inclusive public health policies and programs. Effective public health actions are based on scientifically derived with many of the advances in public health have become possible through research. Research will continue to be essential for identifying and anticipating health problems and the optimal strategies for addressing them. Although the magnitude and success of public health efforts will vary both in time and place in different areas of the world, the principles remain the same. The actions that should be taken are determined by the nature and magnitude of the problems affecting the health of the community. What can be done will be determined by scientific knowledge and the resources available. It is hoped that through this conference, relevant information can be shared and disseminated to relevant authorities, agencies and practitioners, particularly the public health experts and contribute to better understanding of the context and process of effective implementation of public health interventions and programs.

I wish you all a successful and enlightening conference.

**Dr. Halimatus Sakdiah Minhat**

Conference Co-Chair of PUBLIC HEALTH' 2021

Associate Professor and Public Health Specialist,

Department of Community Health,

Faculty of Medicine and Health Sciences,

Universiti Putra Malaysia (UPM), Malaysia



## 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 a year. The pandemic has put an unprecedented challenge to medical fraternity in maintaining Public Health. However, while the public health experts, together with scientists and clinicians from the vast disciplines of medicine are fighting for disease prevention, control and cure, the emergence of vaccines shows some hope of victory against the novel coronavirus. Thus, the conference theme "Current Public Health Practices: Building Resilience and Well-being" is certainly appropriate and timely. 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. 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

## MESSAGE FROM THE ACADEMIC PARTNER PUBLIC HEALTH 2021

It gives me great pleasure to congratulate all the participants and speakers at the “Second International Conference on Public Health and Well-being”. The title of the International Conference on Public Health and Wellbeing aims to discuss and promote the highest attainable standard of public health and wellbeing by:

- Protecting public health and preventing disease, illness, injury, disability or premature death
- Promoting conditions in which people can be healthy
- Reducing inequalities in the state of public health and wellbeing

and is certainly timely in view of the public health and medical challenges we have faced and continue to face in 2020-2021.

The major factors such as poverty, lack of education and socio-economic status are among the causes of inequitable health outcomes. Because of these factors, the health status of the people varies with the poor in every community facing the worst impacts and outcomes. Health inequality monitoring systems use data to identify disadvantaged subgroups within populations and inform equity-oriented health policies, programmes, and practices to improve the situation of inequality. Advocates of health equity strive to improve the situation of disadvantaged subgroups or health inequalities by ensuring that all have access to necessary health interventions, and addressing the underlying causes of discrimination and disadvantage. It is our moral and professional duty to promote concrete action toward achieving equity in health, in doing so we also impart other benefits to society through enhancing population health, improving economic and living conditions, and advancing social justice.

The Global Strategy for Health for All was adopted by the World Health Assembly in 1981, prioritizing the achievement of equity in the way that health resources and health care are distributed and accessed. Now, in light of the emerging sustainable development goals (SDGs), the importance of equity is gaining attention as the theme for all development-related spheres, including health.

I would like to take this opportunity to thank the speakers and the members of the organizing committee for the hard work in organizing this conference. I would like to thank the academic partners, universities and collaborating partners for providing the support to this conference

Thank you.

**Associate Professor Dr. Ganesh Ramachandran**  
Dean,  
Faculty of Medicine, Bioscience and Nursing,  
Mahsa University, Malaysia

## MESSAGE FROM THE ACADEMIC PARTNER PUBLIC HEALTH 2021



It is an honor for the Faculty of Public Health Universitas Indonesia to take part in the 2nd International Conference on Public Health and Well Being.

Public health holds important roles in protecting and improving the health of people and communities. Its roles ranging from promoting healthy lifestyle, disease and injury prevention, to detect, prevent and response to infectious diseases, non-infectious diseases, as well as preserve community's well-being in a healthier state.

Providing initiative to protect community health and well-being has become our responsibilities during this hard time. The Covid-19 Pandemic that has been going nearly a year is said as a public health emergency of international concern. It is then our time to give our best contribution to the community.

Hopefully we will have more opportunities to learn from each other, to have more collaboration in education, research, and community engagement in the future.

Have a fruitful conference. Stay healthy always

Warmest regards,

**Prof. Dr. Sabarinah, M.Sc**  
Dean of Faculty of Public Health  
Universitas Indonesia  
Indonesia

<b>ABSTRACTS OF FREE PAPER SESSIONS</b>
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<b>ABSTRACTS OF KEYNOTE SPEAKERS</b>
--------------------------------------

- |    |   |    |
|----|---|----|
| 01 | Vaccinating Hard to Reach Populations in The Time of Corona19: A Community-Based Intervention | 02 |
|    | <i>Guttmatcher S</i>  |    |
| 02 | Processed Foods and Health in A Global World: Challenges and Opportunities                    | 03 |
|    | <i>Parekh N</i>   |    |

<b>REPRODUCTIVE, MATERNAL, AND CHILD HEALTH (A)</b>
---

- |    |  |    |
|----|--|----|
| A1 | 03 Household Food Insecurity During The COVID-19 Pandemic: Results from A Nationwide Study among Social Media Users                      | 06 |
|    | <i>Parekh N, Ali S.H, O'Connor J, Tozan Y, Jones A.M, Capasso A, Foreman J, DiClemente R.J</i>   |    |
| A2 | 04 The Public Health Emergency Contingency Planning: The Case of The Balikpapan City, Indonesia  | 07 |
|    | <i>Rassi E, Sari N</i>   |    |
| A3 | 05 Food Insecurity among A Sample of Undergraduate Students at an Urban University During COVID-19: Findings from an Ongoing Pilot Study | 08 |
|    | <i>Murphy B, Ryan R, Deierlein A.L, Lal S, Bihuniak J.D, Parekh N</i>  |    |

A4	06	Preparedness and Response of Balikpapan Baru Hospital in Covid-19 Pandemic	09
		<i>Rhomadani L.W</i>	
A5	07	Covid-19 Implications for Healthcare System Efficiency	10
		<i>Subramanian L</i>	
A6	08	Contingency Nursing Management in Dirgahayu Hospitals During COVID-19 Outbreak	11
		<i>Lim I, Sari N</i>	
A7	09	Covid-19 Ambassador: Public Health Intervention in South Sulawesi, Indonesia	12
		<i>Sari N</i>	

#### HEALTH POLICY (B)

B1	10	Description of Ability to Pay and Willingness to Pay Health Care Service in Early Marriage Group in Purasari Village, Leuwiliang District, Bogor	14
		<i>Raharyanti F, Muchlisoh L, Fathimah A, Syamsuar F</i>	
B2	11	Impact and Utilization of Biomedical Research Findings in The Healthcare Policy of Malaysia: 2005-2015	15
		<i>Lai P.K, Nalliah S, Teng C.L, Chen N.L.P</i>	
B3	12	Surge Capacity of The Preventive Sector Healthcare Institutions for The Management of Dengue In Kurunegala District	16
		<i>Rajapaksha R.M.N.U, Abeysena H. T. C. S, Balasuriya A</i>	
B4	13	Financial Protection Coverage among Breast Cancer Patients In Malaysia	17
		<i>Mahmud A</i>	
B5	14	The Role of Military Odontology Forensic in Enforcement of Universal Human Rights	18

*Winarno S*

- B6 15 Transitioning from Minimum Initial Service Package for Sexual and Reproductive Health (MISP ON SRH) in Crisis to Comprehensive SRH Services in Protracted Emergency for Rohingya Refugee in Cox's Bazar, Bangladesh 19

*Manju K*

**KNOWLEDGE, ATTITUDES & BELIEFS (C)**

- C1 16 Prosthetic Satisfaction among below Knee Amputees in Sri Lanka 22  
*Nadeeshani K.M.D, Kisokanth G, Prathapan S*

- C2 17 It Is Food for The Soul...”: An Investigation on The Malaysian Intensive Care Nurses’ Perceptions in Spiritual Care 23

*Baharudin A.A, Nurumal M.S*

- C3 18 Perception of Death among Terminally Ill Patients Receiving Palliative Care and Their Caregivers in an Urban Slum of Bangladesh 24

*Akter SI, Hossain P, Zaman S, Sarker M*

- C4 19 Parental Knowledge and Practice on Usage of Antihelmintic Drugs and Associated Factors in Teaching Hospital, Sri Lanka 25

*Thanujah M, Nivethika B, Coonghe P.A.D, Sathiadas M.G, Thuvaragan S*

- C5 20 Perceived Social Support and Its Association with Coping Strategies among Parents of Children with Autism 26

*Sana R*

- C6 21 Knowledge on Pharmaceutical Wastage Management and Factors Influence on It among Pharmacy Personnel at Private Pharmacies in Jaffna Municipality Area 27

*J. Thivya, Thuvaragan S, Surenthirakumaran R*

## HEALTH EDUCATION (D)

- D1 22 Effectiveness of Health Educational Intervention on Knowledge and Practices Regarding Dengue Fever among Orang Asli in Selangor 29  
*Rajandra A, Alias H, Lee H.Y, Wong L.P*
- D2 23 Time to Pregnancy is Associated with Couples' Preconception Blood Pressure 30  
*Hong X, Zhao J, Ma X, Wang B*
- D3 24 Transformative Competency-Based Public Health Education for The Developing World: Ensuring Health Professionals' Skills Development 31  
*Islam M.I*

## RISK, YOUTH & DRUGS (E)

- E1 25 Community Participation to Promote Disaster Risk Reduction in Yogyakarta, Indonesia 33  
*Isni K, Rahmatun K.A.A*
- E2 26 The Moderating Effect of Beliefs on HPV Awareness and HPV Vaccination Acceptance among Female Patients in Islamabad City 34  
*Afzal A.M*
- E3 27 Are the Factors of Adolescents Taking-up Smoking and Vaping the Same? 35  
*Nurulhuda M.H, Abd Aziz A, Norwati D, Juhari, S.N, Pauzi M.F*
- E4 28 Tobacco Using Behavior among Youth Residing in Urban Slum Areas in Sri Lanka 36  
*Dhanapriyanka H.H.M, Kanthi R.D.F.C*

E5	29	Adolescent Friendly Health Service Best Practice: Malaysia Ministry of Health Initiative	37
----	----	--	----

*Zamzaireen Z.A, Nik Rubiah N.A.R*

## NUTRITION & HEALTH (F)

F1	30	Correlation of Omega-3 and Omega-6 Fatty Acids Intake Ratio with Muscle Mass among Institutionalized Elderly	39
----	----	--	----

*Nita, Jusman S.W.A, Andayani D.E.*

F2	31	Sugar-Sweetened Beverages Consumption and Its Association with Body Mass Index among College Student Living In Dormitory	40
----	----	--	----

*Wicaksari S.A, Chandra D.N, Khusun H, Sunardi D*

F3	32	Knowledge, Attitude, and Practice (KAP) about Dietary Adherence among Type 2 Diabetic Patients In Dhaka City	41
----	----	--	----

*Haque T, Bhuiyan M.M.R, Jahan N, Khanam S.Z, Rahman M.M*

## HEALTH PREVENTION OF ILLNESSES (G)

G1	33	Peka B40 Outreach Health Screening Program; A Successful National Initiative For The Poor	43
----	----	---	----

*Abdullah M.F, Mohd Yusoff M, Dalaiil,K.F, Abd. Rashid R.M*

G2	34	Impact of Oral Health on Quality of Life (QOL) of Toddler and Their Families	44
----	----	--	----

*Siti Zuriana M.Z*

G3	35	Birth Weight and Obesity in Children: Residence and Household Wealth as Effect Modifiers	45
----	----	--	----



*Andriani H*

- G4 36 The Influence of Job Satisfaction on Patient Safety Culture in 46  
Makassar Hospitals

*Syahrir P.A, Fridawati R, Irwandy, Nurmala S*

- G5 37 Planning for Communication for Behavior Impact on Dengue 47  
Prevention in Highly Dengue Epidemic Area in Kurunegala District

*Rajapaksha R.M.N.U, Abeysena H.T.C.S, Balasuriya A*

### CLINICAL MANAGEMENT (H)

- H1 38 Presumed Ocular Tuberculosis-Challenges in Diagnosis 49

*Sathyapriya S, Chin L.C, Wan Hitam W.H*

- H2 39 Antioxidant Activity of Siddha Formulation Senkaluneer Chooranam 50  
Against Chromium Induced Free Radicals in Rats

*Jegatheeswaran V, Kumutharanjan T.S*

- H3 40 Andragogy in Continuous Medical Education: Re-Evaluation for 51  
Competency Based Medical Learning

*Nesamany B, See J.P.L, Sivakumar S, Jayanandan S*

- H4 41 Anti-Hyperglycaemic Effect of Kadukkai Chooranam in 52  
Hyperglycaemic Induced Wistar Albino Rat Models

*Ajanthan R, Kumutharanjan. T*

## METHODS OF RESEARCH (J)

- J1 42 Mixed-Methods Research: A Novel Approach to Investigate Awareness, Treatment and Control of Young-Onset Hypertension in Malaysia 54  
*Khoo Y.Y, Nik D.N.F, Choo W.Y, Ng C.J, Azahadi O*
- J2 43 The Advent of Artificial Intelligence in Diabetes Diagnosis: Current Practices and Building Blocks for Future Prospects 55  
*Roy M, Jamwal M*
- J3 44 Comparative Evaluation of In - Vitro Anthelmintic Activity of Sap, Fruit Bulb And Root of *Borassus flabellifer* 56  
*Jayasinghe H.M.P.M, Thuvargaragan S, Murugananthan A*

## ABSTRACT OF POSTER SESSIONS (P)

- P1 45 Artificial Intelligence Model to Predict Pregnancy Rate and Twin Pregnancy Rate Following in Vitro Fertilization-Fresh Embryo Transfer 58  
*Wen J.Y, Liu C.F, Chung M.T, Tsai Y.C*
- P2 46 The Relationship Between Internet Use and Attachment and Maternal Consciousness of Mothers with Infants 59  
*Ogata S*
- P3 47 Calcium Intake and Growth of Indonesian School Age Children Bearing Specific Genotypes of Vitamin D Receptor (VDR) Gene 60  
*Angelin T.C, Bardosono S, Shinta D, Fahmida U*

P4	48	Assessment of Drug Use Pattern among Haji 1439h (2018) Pilgrims, in Saudi Arabia	61
		<i>Amer A, Almudarra S.S</i>	
P5	49	Maternal Determinant Factors of Anemia among Pregnant Women in Jakarta	62
		<i>Siregar D.A.S, Agustina R</i>	
P6	50	Self-Sampling Versus Clinician-Collected Sample For HPV-DNA Testing: A Systematic Review of Studies Examining Acceptability	63
		<i>Azzani M, Morgan K, Khaing S.L, Yut-Lin W, Tin Tin S</i>	

# **ABSTRACTS OF KEYNOTE SPEAKERS**

[01]

**VACCINATING HARD TO REACH POPULATIONS IN THE TIME OF  
CORONA19: A COMMUNITY-BASED INTERVENTION***Guttmatcher S\**

School of Global Public Health, New York University, USA

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To eliminate the infection and death rate from COVID19 we must reach herd immunity by vaccinating about 80% of the world's population, including those who, are hard to reach because they won't or can't come to a health center. People are hard to reach live in remote rural or marginalized urban communities; those who resist treatment due to fear or misinformation; young men who as a category are resistant to seeking health care; women who in some cultures can't seek care far away from their home village without a male escort; people who prefer 'alternative medicine'. Finding community leaders and developing a trusting relationship with them is the first step in community engagement for introducing vaccination in a mobile clinic. Support can be gained by involving community members in the planning and logistics of this health intervention. Looking for community leaders beyond community 'officials' may be necessary to include traditional healers or women, who are likely to be strongest supporters. Training community members as Community Health Workers attached to the clinic helps to gain acceptance of the clinic. Challenges in in this health intervention include: gaining the support of local officials such as those working for the regional health department and leaders of other organizations such as churches. A good way to reduce vaccine anxiety is to have community leaders vaccinated during a community meeting. Using mobile clinics may be the fastest and surest way to reach herd immunity in a population.

Keywords: Hard-to-reach populations, mobile clinics, corona vaccinations, community-based intervention, involving the community

[02]

**PROCESSED FOODS AND HEALTH IN A GLOBAL WORLD: CHALLENGES AND OPPORTUNITIES***Parekh N\**

School of Global Public Health, New York University, USA

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Poor diet is the leading factor related to the cardiometabolic disease burden globally. Ultra-processed foods (industrial formulations made with no or minimal whole foods), provide ~60% of calories in the U.S. diet and are generally of low nutritional quality. The rising global supply of industrially processed foods by large trans-national corporations, known as Big Food, is displacing traditional diets and local food systems in low- and middle-income countries (LMICs). There are 1.2+ billion youth worldwide who will experience this industrial food system. Young people in LMICs are particularly vulnerable to Big Food, as a result of aggressive marketing efforts and ubiquitous exposure during critical periods of growth, leaving them susceptible to poor health outcomes later in life. Despite accumulating epidemiologic evidence and putative biological mechanisms linking ultra-processed foods to cardiometabolic health outcomes, including obesity, hypertension and CVD morbidity and mortality, the health hazards associated with a range of ultra-processed foods remain largely unrecognized by clinicians, health professionals and the public. Reducing the consumption of ultra-processed foods at the population level requires a consistent, multi-pronged effort. More targeted educational messages regarding nutrition can be crafted to guide dietary behavior change. There are also important implications for clinicians, given the pivotal role they play in increasing patients' awareness of dietary guidance required to effectively achieve behavior change for the prevention of cardiometabolic diseases. While policies are being developed and concerted efforts are being made to promote a sustainable food system, such efforts are complex and take several years to achieve in LMICs.

Keywords: Ultra-processed foods, cardiometabolic health, global nutrition transition, food system

# **ABSTRACTS OF VIRTUAL ORAL SESSIONS**

**VIRTUAL ORAL PAPER SESSION (A)**

**PUBLIC HEALTH IN THE ERA OF PANDEMIC**



A1

[03]

**TITLE HOUSEHOLD FOOD INSECURITY DURING THE COVID-19 PANDEMIC:  
RESULTS FROM A NATIONWIDE STUDY AMONG SOCIAL MEDIA USERS**

***Parekh N<sup>1, 2\*</sup>***, Ali S.H<sup>1</sup>, O'Connor J<sup>1</sup>, Tozan Y<sup>1</sup>, Jones A.M<sup>1</sup>, Capasso A<sup>2</sup>, Foreman J<sup>2, 6</sup>,  
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In the United States, 14.3 million households were food insecure before the COVID-19 pandemic, and food insecurity is predicted to increase sharply during the lockdown measures. The present study aims to describe the food insecurity situation in American adults during the pandemic. This cross-sectional study utilized social media as a recruitment platform to administer an original online survey that gathered information on demographics and COVID-related food insecurity. The survey was disseminated through an advertisement campaign on Facebook and affiliated platforms. Food insecurity was assessed with a validated six-item United States Department of Agriculture Household Food Security Survey Module, which was used to create a six-point numerical food security score, where a higher score indicates lower food security. Logistic regressions were performed to generate odds ratios (ORs) and 95% CIs for food insecurity and select demographic characteristics. Advertisements reached 250,701 individuals and resulted in 5,606 complete surveys. Overall, 14.7% of participants self-identified as having low or very low food security in their households; with higher rates (17.5%) among households with children. Unemployment (AOR: 1.76, 95%CI: 1.09-2.80), high school or lower education (AOR: 2.25; 95%CI: 1.29-3.90), and low income (AOR [\$30,000-\$50,000]:5.87, 95%CI: 3.35-10.37; AOR [<\$30,000]:10.61, 95%CI: 5.50-20.80) were associated with higher odds of food insecurity in multivariable models, in the whole sample and a subsample of households with children. These data indicate exacerbation of food insecurity during the pandemic and may be predictive of the enhanced obesogenic environment. The study will be instrumental in guiding time-sensitive interventions targeted towards vulnerable food insecure subgroups.

Keywords: Food insecurity, COVID-19, households with children, social media

A2

[04]

**THE PUBLIC HEALTH EMERGENCY CONTINGENCY PLANNING: THE CASE OF THE BALIKPAPAN CITY, INDONESIA***Rassi E\**, Sari N

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The Government of Balikpapan City has announced the Covid-19 outbreaks in March 2020. One of preventive attempts for preparedness and responses of the Covid-19, the government created a public health emergency contingency plan. This study aims to analyze the policies and strategies of the public health emergency contingency plan of the Balikpapan city. The data was collected through reports and region policies. The data was analyzed using input, process and output approaches. The results show that for input aspects, the government prepared some policies to control the spread of the Covid-19, selected leaders for Covid-19 task force, enhanced Corporate Social Responsibility roles and assessment of resources gaps. The processes focused on massive tracing, testing, treatment, socialization and education, and monitoring and evaluation. The output aspects focused on the positivity rates of Covid-19 cases in Balikpapan City. Based on the confirmed Covid-19 cases, the positivity rates and deaths cases were increased. Review of the public health emergency contingency plan is needed to enhance the capacity of government to control the spread of the Covid-19.

Keywords: Contingency plan, public health emergency, Covid-19

A3

[05]

**FOOD INSECURITY AMONG A SAMPLE OF UNDERGRADUATE STUDENTS AT AN URBAN UNIVERSITY DURING COVID-19: FINDINGS FROM AN ONGOING PILOT STUDY***Murphy B\**, Ryan R, Deierlein A.L, Lal S, Bihuniak J.D, Parekh N

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Food insecurity is characterized by a lack of physical and economic access to sufficient safe and nutritious food to meet dietary needs. With food insecurity estimated to be higher among college students in the United States (U.S.) than the national household average, our ongoing pilot study sought to determine the prevalence of food insecurity and associated health behaviors on an urban campus. In March 2020 an unexpected lockdown was implemented in New York City due to COVID-19. During this time, we circulated a survey that included questionnaires measuring health behaviors and food insecurity from the validated U.S. Household Food Security Survey tool. Our survey was completed online by 193 students between June and September 2020. Students were mostly female (85%), non-Hispanic Asian (45%), and enrolled full-time (95%). During this time, 26% of students were categorized as food insecure. Students who met criteria for food insecurity reported poorer physical health, higher sugar-sweetened beverage intake, and lower fruit and vegetable intake than their peers with high food security. Respondents with self-reported food insecurity were 3.16 times more likely to have poor sleep quality (sleep score >5) as compared to respondents who met criteria for high food security, controlling for age, gender, and ethnicity (adjusted odds ratio 3.16; 95% Confidence Interval: 1.48-6.76). Food insecurity among college students is associated with consequences including poor health behaviors and outcomes. This survey will be scaled-up for administration in a larger sample of students across multiple college campuses.

Keywords: Food Insecurity, food intake, health behaviors, college campus

A4

[06]

**PREPAREDNESS AND RESPONSE OF BALIKPAPAN BARU HOSPITAL IN  
COVID-19 PANDEMIC***Rhomadani L.W\**

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Since the first Covid-19 case was reported on March 2020 in Balikpapan, Indonesia, the inpatient and emergency patient's rate at Balikpapan Baru Hospital has significantly decreased. However, hospital has to maintain its critical function while prepare a sudden significant increase of covid-19 patients. This study aims to describe preparedness and hospital response to provide covid-19 services in Balikpapan Baru Hospital. The Data was collected through hospital policies, meeting reports and hospital performance report. This study revealed that there are three important phases to response covid-19 pandemic in Balikpapan Baru Hospital. The first phase was when the first Covid-19 case was reported in Balikpapan and the hospital was not assigned as a covid-19 specialized hospital. The second phase was when the number of confirmed covid-19 patients significantly increased and most of covid-19 specialized hospitals were over capacity. The Balikpapan Baru Hospital prepared for surge capacity. Some strategies to prepare and response covid-19 services were creating covid-19 task force, redesigning hospital infrastructure, managing outpatient and emergency departments, managing supporting issues such as updating guidelines and issues of covid-19, Personal Protective Equipment (PPE) training, managing human resource and marketing strategy. The third phases, when the hospital response for hospital business continuity. This phases start with create special team to make simple hospital business continuity plan to prepare the hospital from another business impact of Covid-19 pandemic. Hospitals can maintain the functions, shown by increase of revenue and number of patients, although an evaluation of strategy in these 3 phases is still needed.

Keywords: COVID-19, preparedness, response, hospital, function

A5

[07]

**COVID-19 IMPLICATIONS FOR HEALTHCARE SYSTEM EFFICIENCY***Subramanian L\**

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**Purpose:** The main objective of the study is to investigate and understand how the ongoing pandemic ravaging the world has had an impact on the efficiency of the healthcare system of different countries. **Methodology:** The study maps the healthcare system efficiency by constructing simple efficiency measures using proxy input (healthcare spending) and output (life expectancy) variables for a sample of approximately 135 countries and ranks the countries based on the efficiency scores during pre-Covid times. To include the impact of the Covid-19 to the original ranking, adjustments are made to include changes in GDP due to the pandemic and Covid-19 toll. **Results:** The study provides a ranking of health system efficiencies before the pandemic and how relative ranks have changed depending on the countries' responses in combating the spread of the pandemic. The study provides a classification of how some of the advanced nations have struggled to provide equitable healthcare amidst the pandemic, and some of the resource-constrained countries have performed better through proactive planning and scaling up lessons learned from a previous similar experience. **Conclusions:** The study is a preliminary investigation to track health inputs and outputs to determine which healthcare systems have the best health outcomes, even amidst the ongoing pandemic. The finding will be useful to recognize how various interventions have been able to keep the cases and deaths low. Countries that have performed relatively better in the post-Covid era have prioritized evidence-based policies and relied on people's potential coupled with clarity of public messaging.

Keywords: Healthcare system efficiency, Covid-19, stringency

A6

[08]

**CONTINGENCY NURSING MANAGEMENT IN DIRGAHAYU HOSPITALS  
DURING COVID-19 OUTBREAK***Lim I\**, Sari N

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Since early March 2020, the cases of COVID-19 were identified in Indonesia. Dirgahayu Hospital redesigned hospital services to provide COVID-10 services particularly nursing management. As the largest health personnel in the hospital, nursing management is a very essential during COVID-19 outbreak. This study aims to describe the nursing management process in the face of COVID-19 in Dirgahayu Hospital. We collected data of nursing management in the strategic phase of COVID-19 in Dirgahayu Hospital since April 2020. Through hospital reports, we found the nursing management was consisted of two main strategies such as redesigning bed allocation for surge capacities and emergency nursing management. The hospital started designing screening and isolation facilities. All medical and nurses were placed in employee official homes and rotated regularly in red zone and yellow zone. Since last July, the COVID-19 patient significantly increased 90%, the nursing department focused on nursing human resource management and nursing quality management. The nurses assigned to the red zone and yellow zone must meet certain requirements and have attended training such as standard precautions, screening and triage, Covid-19 Nursing Care, and mortuary. Through some strategic phases, all covid-19 patients were cured. Effective nursing management revealed up-skilled and trained personnel within a very short period of time and motivated nurses to be resilience nurses during COVID-19 pandemic.

Keywords: Contingency, nursing management, covid-19 outbreak

A7

[09]

**COVID-19 AMBASSADOR: PUBLIC HEALTH INTERVENTION IN SOUTH SULAWESI, INDONESIA***Sari N\**

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Public awareness and community compliance in implementing health protocols is the key to preventing exposure to the Covid-19 virus. One of main challenges in the public health intervention is self-isolation. In order to prevent indiscipline while undergoing self-isolation at home, the provincial government of South Sulawesi developed the Covid-19 Ambassador program. This study aims to describe the Covid-19 Tourism Ambassador in South Sulawesi. Data was collected through reports of the South Sulawesi task force and provincial health policies. The “Covid-19 Ambassador” is an effort to concentrate covid-19’s isolation places for non-symptomatic Covid-19 patients. Centralized separation of patients with mild symptoms is also aimed at preventing overloads in the hospital. There are 6 hotels with a total of 610 beds provided. 90% of patients have returned home and only about 1% (57 patients) who were referred to the hospital. During their stay in quarantine, the patients receive education on how to prevent Covid-19 infection. After quarantine, the patients have a role as an educational staff known as the Covid-19 Ambassadors who will provide education to the public regarding the understanding of Covid-19. Recently, the program is still being evaluated according to the development of the Covid-19 cases in the South Sulawesi.

Keywords: COVID-19, public health intervention

**VIRTUAL ORAL PAPER SESSION (B)**

**HEALTH POLICY**



B1

[10]

**DESCRIPTION OF ABILITY AND WILLINGNESS TO PAY HEALTH CARE SERVICE IN EARLY MARRIAGE GROUP IN PURASARI VILLAGE, LEUWILIANG, BOGOR**

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Based on Law of the Republic of Indonesia No. 1 of 1974 for Marriage and Revitalized Law No. 16 of 2019, the minimum age for marriage in Indonesia is 19 years old. The prevalence of early marriage in Indonesia and West Java has reached the highest rate in the last five years (14.14% and 12.14%, SUSENAS 2018). The common problem in the early marriage group is low income; so, the basic need is prioritized more on the primary needs. Meanwhile, the need for proper health care must be obtained. The objective of this study is to describe the ability to pay and the willingness to pay health-care service in the early marriage group in Purasari Village, Leuwiliang, Bogor. The method in this study was a survey design, i.e. by distributing questionnaires to married respondents. This study was completed in March 2015. The reason for choosing the place was because West Java was second ranked in Java Island of early marriage; adjacent to Jakarta as the nation's capital city. Purasari village consisted of 8 sub-villages. The sample was selected purposively with the assumption that each sub-village has more distinctive characteristics compared to another; so, 3 representative sub-villages were selected. From the three places, there were 124 populations. The sample involved were 54 respondents with proportional probability to size. The results of this study were that the variable to describe the concept of the ability to pay was found in the average expenditure of food and non-food items of Rp.1,456,179.63. It was below the minimum standard of remuneration in 2015 (Rp.2,590,000.00) and the average expenditure for health services was Rp.35,833.33, this was still upper from of the insurance health contribution of Rp.25,500,00 in 2015. The variables to describe the concept of willingness to pay were that the access to medical health care was greater than the use of traditional doctors (81.5%), the transportation used was preferable to motorbikes than to public transportation (66.7%) birth attendants to the medical personnel were greater than those to the traditional healers (72.2%) and more of the selected treatments used trivial drugs than generics (88.9%). The conclusions of this study were the early marriage group was still considered to be able to pay for primary health-care service and also performed some willingness to pay variables from preferred medical health care, transportation, birth attendant by professional, and using the trivial drugs. The recommendations of this study were counseling to prevent early marriage and increasing skill and education level for a better quality of life.

Keywords: Ability to pay health-care service, early-marriage group, willingness to pay health care-service

B2

[11]

**IMPACT AND UTILISATION OF BIOMEDICAL RESEARCH FINDINGS IN THE HEALTHCARE POLICY OF MALAYSIA: 2005-2015***Lai P.K\**, Nalliah S, Teng C.L, Chen N.L.P

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Research impact occurs when there are benefits resulting from the undertaking of research. The aim of this study was to look into the impact of funded biomedical research between years 2005-2015 from the aspects of knowledge production, research targeting and capacity building, as well as health system policy and decision making. This study employed a convergent parallel mixed methods research design incorporating both quantitative and qualitative research approaches. Only biomedical projects related to breast cancer, coronary heart disease and dengue as well as funded by the Ministry of Health (MOH), Ministry of Higher Education (MOHE), and Ministry of Science, Technology, and Innovation (MOSTI) between year 2005 and 2015 were included in this study. From the questionnaire responses (N=58), on average each funded project managed to produce two outputs and one higher degree student. More than half (61.4%) of the questionnaire responses agreed that their funded projects would lead to subsequent future research. However, only 6 projects (10.3%) were reportedly cited in systematic reviews, 4 projects (6.9%) were cited in health policies, and 3 projects (5.2%) were cited in CPGs. In-depth interviews with the KOLs also saw that most of the local research findings were found to be irrelevant to be adopted into policies by the policymakers. Impacts on knowledge production as well as research targeting and capacity building had been reasonably well achieved but impact on health system policy and decision making had not been well attained.

Keywords: Impact, utilization, biomedical research, health policy

B3

[12]

### **SURGE CAPACITY OF THE PREVENTIVE SECTOR HEALTHCARE INSTITUTIONS FOR THE MANAGEMENT OF DENGUE IN KURUNEGALA DISTRICT**

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**Background:** The Surge Capacity is defined as the ability to obtain adequate “Staff, Supplies, Structures and Systems” to provide sufficient care to meet immediate needs of an influx of patients following a large-scale incident or outbreak. **Aim:** Aim of the study was to describe the surge capacity of the preventive health care institutions for the management of dengue in Kurunegala district. **Methods:** A descriptive cross sectional study was conducted among all Medical Officers of Health areas (n=28) in the district on May to September 2019. A pre-tested, validated, interviewer-administered tool was used to collect data which was formulated according to the “Science of Surge Theory” and “CO-S-TR Model”. There was basic level (26 to 50%), moderate level (51 to 75%) and high level (>75%) surge capacities for 10 broad areas of the assessment and the overall “adequate surge capacity” was considered as  $\geq 50\%$  for the all components of the tool. Adequate staff capacity was taken  $\geq 75\%$  of the required cadre for the institutions. **Results:** Response rate was 92.9% (n=26). The majority of the preventive sector healthcare institutions (69.2%; n=18) had inadequate staff capacity. The higher proportion (n=19; 73.1%) of them had focal points for disaster management, three fourth (76.0%; n=19) did not have written plan for disaster preparedness and only 8% (n=2) had medical disaster preparedness. The basic level capacity was existed in the higher proportion of institutions in the areas of staff mobilization (53.8%; n=14), management of the stuff (76.9%; n=20), triage of case (76.9%; n=20), and transportation (46.2%; n=12). The moderate level capacity was existed in the higher proportion including in the areas of commanding system (42.3%; n=11), controlling of the incidence (38.5%; n=10), coordination of activities (61.5%; n=16), supplying of special needs (50.0%; n=13) and tracking of the cases (76.9%; n=20). There was no high level of capacity in place. The higher proportion (84.6%; n=22) had inadequate overall surge capacity for the management of disasters. **Conclusion and recommendations:** There is a need for improvement of the surge capacity and capacity development programmes should be initiated along with the results of the study.

Keywords: Surge capacity, preventive sector, capacity development

B4

[13]

**FINANCIAL PROTECTION COVERAGE AMONG BREAST CANCER PATIENTS  
IN MALAYSIA***Mahmud A\**

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The incidence of breast cancer in Malaysia has been increasing among younger women and they are diagnosed at later stages of the disease. If these patients are experiencing financial difficulties while undergoing treatment of cancer, the effects on the wellbeing of their households especially their young children, could be devastating. In spite of this disturbing situation, the prevalence of catastrophic health expenditure and impoverishment among breast cancer patients and their households is not clear. The study aimed to determine the financial protection coverage for breast cancer in Malaysia. This hospital-based study was carried out in four referral hospitals, among female breast cancer patients. Data on out-of-pocket health expenditure for breast cancer management was obtained from the respondents using questionnaire-guided interview. A total 329 respondents were included in the analysis. The results show that the prevalence of catastrophic health expenditure was 6.99%; while for impoverishment, the overall headcount for impoverishment was 9.12%. This meant that financial protection coverage for breast cancer management in Malaysia was good. Based on the current health system, the majority of the respondents in this study had good protection against financial hardship: 93% protection against catastrophic health expenditure (CHE) and 91% protection against impoverishment.

Keywords: Financial protection coverage, breast cancer, catastrophic health expenditure, impoverishment

B5

[14]

**THE ROLE OF MILITARY ODONTOLOGY FORENSIC IN ENFORCEMENT OF UNIVERSAL HUMAN RIGHTS***Winarno S\**

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Forensic identification of victims of an incident is a humanitarian operation that aims to establish the identity of the victim, which is a universal basic right of everyone. One of the identification methods is the use of dental facilities, but the problem until now is that its success greatly depends on the speed in providing ante mortem data. This study aims to find alternative solutions to these problems through digitizing dental ante mortem data and designing an information system integrated Quick Response Code. The research used a mix method, Qualitative methods are needed to analyze the needs of information systems with the approach of Performance, Information, Economics, Control, Efficiency, Services and Fishbone diagrams, field observations, in-depth interviews and questionnaires on a Likert scale. Quantitative method in the experiment with Randomized the Posttest Only Control Group Design to determine the effectiveness of digitization and use of integrated information system Quick Respond Code in victim identification. Participants had given better answers by 47% with a value of 3.52. Performance is good (3.48), communication is better (3.64), Economics is quite good (3.08), Controls is better (3.64), Efficiencies is good (3.55), and Services is good (3.69). Ante mortem data digital and using an integrated information system with Quick Respond Code had been successful and more effective than manually. Military odontology forensic has played a significant role in victim identification of military members and considered to be one of the most reliable and economic scientific methods.

Keywords: Identification, forensic odontology, Quick Respond Code, personal identity, human rights

B6

[15]

**TRANSITIONING FROM MINIMUM INITIAL SERVICE PACKAGE FOR SEXUAL AND REPRODUCTIVE HEALTH (MISP ON SRH) IN CRISIS TO COMPREHENSIVE SRH SERVICES IN PROTRACTED EMERGENCY FOR ROHINGYA REFUGEE IN COX'S BAZAR, BANGLADESH**

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**Background:** The Rohingya influx in August 2017 increased the target beneficiaries to almost 1.3 million refugees including host community located in Ukhiya and Teknaf sub districts of Cox's Bazar, Bangladesh. An estimated 299,000 were women of reproductive age (WRA) was urgent need of life-saving sexual and reproductive health (SRH) services. The United Nations Population Fund (UNFPA) a lead UN agency for SRH services provided the Minimum Initial Service Package (MISP) for SRH in acute crisis immediately after influx in 2017 in order to save the lives of women and girls (3-6 months) and then transitioned to comprehensive SRH services with well-coordinated manner through SRH-Working Group coordination body lead by UNFPA under Health Sector responding protracted emergency integrating with existing primary health care services. **Objectives:** The objectives of the implementation of MISP for SRH in acute crisis is in between 3-6 months only focusing on lifesaving services and provision of comprehensive SRH services is to ensure addressing the needs of WRA including maternal morbidity such as Obstetric Fistula and Cervical Cancer screening services in Protracted emergency. **Methodology:** To increase universal access to SRH services, SRH-Working Group (UNFPA) provides technical strategic guidance and capacity building with RH kits distribution to the all SRH partners working in the Rohingya crisis response with evidenced based planning, interventions, monitoring and evaluation for the provision of midwife led Comprehensive SRH services at the 24/7 health facilities. The services include; antenatal, institutional delivery, postnatal, newborn care, family planning, post abortion care, clinical management of rape survivor, screening and treatment of obstetric fistula and cervical cancer in the supply side. To increase the utilization of the SRH services, 1600 community health workers/volunteers (CHWs/Vs) mobilized throughout the camps to liase between community and health facilities with strengthened referral pathways. **Results:** With the vigorous support of UNFPA through their implementing partners and more than 50 SRH partners of the SRH-Working Group; the utilization of the SRH services increased significantly. The institutional delivery in 2018 was 22% and it increased to 47% in 2019. Similarly, contraceptive prevalence rate was 32.7% in 2018, increased to 35.5% in 2019 with strengthening both short acting and long acting family planning services in the health facilities as well as nineteen Women Friendly Spaces (WFS) through trained midwives. For life saving Comprehensive Emergency Obstetric and Newborn Care (CEmONC) services, UNFPA supported Obstetricians/Gynaecologist and Anesthesiologist at referral level hospital with 13 referral hubs established to provide emergency ambulance from community to health facilities and also to referral hospital. As part of the comprehensive SRH services, SRH-WG partners expanded Adolescent Friendly Services for Adolescent Sexual and Reproductive Health and Rights in the health facilities to increase access to vulnerable adolescents group and selected health facilities provided Obstetric Fistula (OF) and Cervical cancer (through VIA-Visual Inspection using Acetic acid) screening

service after building the capacity of midwives in 2019. As a result, more than 70,000 WRA screened for OF with diagnosis of 132 OF by trained Gynecologist and 67 received OF surgery in 2019. Similarly, about 7,000 women above age 25 screened for pre-cancerous lesions of the cervix and found 154 VIA Positive referred to Gynecologist for colposcopy followed by cold coagulotherapy at the Refugee camp. Of the total 1,600 CHWs/Vs, about 1,000 trained on Comprehensive SRH education with cascade and also distributed Comprehensive SRH pictorial education tool to all CHWs/Vs to educate community during their household visit as part of their key role and also to liaise with referral hub for emergency. **Conclusion:** SRH-WG Coordination saves life of women and girls with timely implementation of MISP for SRH in acute crisis and comprehensive SRH services in protracted emergency addressing the needs of WRA of Rohingya refugee and host community which proved vital in response to protracted emergencies, including COVID19.

Keywords: Rohingya, reproductive health, MISP, comprehensive, crisis, protracted emergency

**VIRTUAL ORAL PAPER SESSION (C)**

**KNOWLEDGE, ATTITUDES & BELIEFS**



C1

[16]

**PROSTHETIC SATISFACTION AMONG BELOW KNEE AMPUTEES IN SRI LANKA***Nadeeshani K.M.D<sup>1</sup>\*, Kisokanth G<sup>2</sup>, Prathapan S<sup>3</sup>*<sup>1</sup>Faculty of Graduate Studies, University of Sri Jayewardenepura, Sri Lanka<sup>2</sup>Faculty of Nursing, University of Colombo, Sri Lanka<sup>3</sup>Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka\*Email: [dill.nad.research@gmail.com](mailto:dill.nad.research@gmail.com)

**Background:** Prosthesis are used to compensate a loss of a limb aesthetically and functionally. But, the extent to which the prosthesis does its job, is questionable. **Purpose:** The purpose of this study was to determine the prosthetic satisfaction among the unilateral below knee amputees in Sri Lanka. **Methodology:** Hundred male and female participants in the age of 20-80 years with a below knee amputation were interviewed using the satisfaction with prosthesis subscales of the Trinity Amputation and Prosthesis Experience Scales– Revised (TAPES-R). **Results:** A majority of the participants was males (70%) and 41% of them were in the age category of 41-60 years. Most of the participants are married (n=69, 69%) and have a transtibial amputation (n=54, 54%). The aesthetic satisfaction of prosthesis was measured with its colour, shape and the appearance. The mean scores (out of a total score of 3) for each aspect were 2.1 ( $\pm 0.6$ ), 2.1 ( $\pm 0.5$ ) and 2.1 ( $\pm 0.5$ ) consecutively. The functional satisfaction was measured in the aspects of weight, usefulness, reliability, fit and comfort and the mean values (out of a total score of 3) for each were 2.0 ( $\pm 0.7$ ), 2.3 ( $\pm 0.6$ ), 2.1 ( $\pm 0.6$ ), 2.2 ( $\pm 0.6$ ) and 2.0 ( $\pm 0.6$ ) respectively. The mean score of the prosthetic satisfaction using a 0-10 scale was 8.35. **Conclusion:** The results of this preliminary study suggest that the prosthetic satisfaction in both the aesthetic and functional aspects is high among unilateral below knee amputees in Sri Lanka.

Keywords: Prosthetic satisfaction, below knee amputees, TAPES-R

C2

[17]

**“IT IS FOOD FOR THE SOUL...” AN INVESTIGATION ON THE MALAYSIAN  
INTENSIVE CARE NURSES’ PERCEPTIONS IN SPIRITUAL CARE**

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**Introduction:** Evidence shows that the critically ill patients and their family members have spiritual needs in the intensive care unit. Spirituality is an abstract concept in clinical field. Its subjective nature makes its aspects of care that are provided by the clinicians’ suboptimum. **Purpose:** This article is a preliminary report of a qualitative study that was conducted to explore the perceptions of the intensive care nurses on spirituality and care that they gave to the patients and their family members. **Methodology:** Interviews were conducted with nurses who worked in a 25-bed intensive care unit of a tertiary government hospital in Malaysia. Data from the discussions were recorded and transcribed. Thematic analysis was used to generate codes and themes. **Results:** A total of 18 nurses were included in this study. The central theme was interfaith connection, emerged through three themes: 1) Spirituality and illness are interconnected to healing, 2) Classification of spiritual care interventions in the intensive care unit, 3) Intercepting barriers. **Conclusions:** Nurses deemed spiritual care as beneficial to the critically ill patients and their family members. Barriers to spiritual care can be overcome with a model of spirituality. Further research is needed to explore the experiences of the critically ill patients and their family members in receiving care in the intensive care unit, particularly in addressing their spiritual needs ensuring their mental health. Further studies should also include the perceptions of other professionals in the intensive care in order to develop a concise model of spirituality and spiritual care in the intensive care context.

Keywords: Nursing, health, spirituality, religion critical care, mental health

C3

[18]

**PERCEPTION OF DEATH AMONG TERMINALLY ILL PATIENTS RECEIVING  
PALLIATIVE CARE AND THEIR CAREGIVERS IN AN URBAN SLUM OF  
BANGLADESH**

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There is a very low recognition of the importance of effective palliative care delivery in low and middle-income countries. The provision of palliative care, or the care of the terminally ill, is a basic human right and fundamental to health and human dignity. Various socio-cultural understanding about dying and end of life care is increasingly seen as key inhibitors for effective palliative care delivery. For the terminally ill patients, process of death and death itself are apparent and impending experiences and, therefore, for a comfortable transition towards death, it is important to understand their perception of death. In Bangladesh, there is hardly any research on the perception of death among palliative care patients and their caregivers. This study explored the social and cultural understanding of death, dying and end of life care through a focused ethnographic approach. Findings from participant observation and nineteen semi-structured in-depth interviews with palliative patients and their caregivers show that all the respondents differentiated between a 'good death' and a 'bad death' even though death as an event has a negative connotation. All respondents believed the diligent practice of religious rituals can enhance the chances of a good death. All of them expressed hope for a painless and comfortable process of death that requires context-specific palliative care. More research is needed to contextualize the languages of death and process of dying to design effective palliative care interventions for securing a dignified life for those who may benefit from it.

Keywords: Bangladesh, caregivers, experience, palliative care, terminal illness

**PARENTAL KNOWLEDGE AND PRACTICE ON USAGE OF ANTIHELMINTIC DRUGS AND ASSOCIATED FACTORS IN TEACHING HOSPITAL, SRI LANKA**

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Worm infections are one of the major health problem, affecting children in developing countries. It is more prevalent among poverty-stricken communities due to poor hygiene. It affects the quality of life of children. Objective of this study was to assess the knowledge and practice on usage of anthelmintic drugs and influence of socio demographic factors and knowledge on worm infection on them among parents of pediatric patients attending OPD at Teaching Hospital, Sri Lanka. It was a descriptive cross-sectional study. A pretested and validated interviewer-administered questionnaire was used to collect data. Systematic random sampling method was used to select the 422 participants. The data were analyzed using SPSS software. Chi-square test was used to assess association between variables. The response rate was 79% (n=334). Pre-determined cut off values used to assess the knowledge on worm infection and knowledge on anthelmintic drug usage were 60% and 50% respectively. Using these cut-off values, level of knowledge was categorized as good and poor. Most of the participants were females (85.6%, n=286) and mean age was 32(±5) years. 60.2% (n= 201) had good knowledge on worm infection while, 86.8% (n=290) manifested good knowledge on anthelmintic drug usage. Only 66.4% (n=215) respondents used anthelmintic to their children as self-medication or prescribed drug. Age of the participants was statistically associated with anthelmintic drug knowledge (p<0.05). Knowledge on worm infections could be further improved by educating parents by healthcare professionals and public health workers.

Keywords: Anthelmintic drugs, worm infection, knowledge, practice

C5

[20]

**PERCEIVED SOCIAL SUPPORT AND ITS ASSOCIATION WITH COPING STRATEGIES AMONG PARENTS OF CHILDREN WITH AUTISM***Sana R\**

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**Background:** A limited number of studies have explored the social support and issues faced by parents with children of autism spectrum disorder (ASD) in Malaysia. This study aimed to explore the perceptions of social support and its association with coping strategies among parents of children with autism. **Method:** A cross sectional study was conducted among 103 parents of Autistic children in one of the Non-Profit Organization in central region of Malaysia. Data were collected through self-administered standard Tools-Multidimensional Scale of Perceived Social Support and BRIEF-COPE. For statistical analysis descriptive statistics, correlation and regression analysis were used. **Result:** From the perception of parents, the most support given was from significant others ( $5.52\pm 0.96$ ) and family ( $5.50\pm 0.90$ ). However, mostly emotion- focused coping ( $27.7\pm 3.6$ ), dysfunctional coping ( $25.4\pm 5.3$ ) and lastly problem-focused coping ( $18.09\pm 2.4$ ) were used by parents of children with autism. The results of the regression analysis indicated that emotional support ( $p=.001$ ), and religion ( $p=.031$ ) predict better perception of social support while self-blame ( $p=.038$ ) predicts lower perception of social support. **Conclusion:** For the perception of social support, coping strategies are essential, as the findings found that parents experienced social support with greater coping with emotional support, religion / spiritual belief and used dysfunctional coping as self-blame. The findings of this research could also direct health professionals and programme planners to create effective approaches to facilitate the use of coping strategies to strengthen the perception of social support for parents.

Keywords: Autism, social support, coping, parents, ASD Children

**KNOWLEDGE ON PHARMACEUTICAL WASTAGE MANAGEMENT AND FACTORS INFLUENCE ON IT AMONG PHARMACY PERSONNELS AT PRIVATE PHARMACIES IN JAFFNA MUNICIPALITY AREA**

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Improper pharmaceutical waste management is one of the reasons for environmental hazards and affect all living organisms in the world. Pharmacy working personnel's knowledge on pharmaceutical waste management plays important roles in the provision of proper wastage management to secure the ecosystem in the country. Aim of the study was to assess the knowledge of pharmaceutical wastage management and influence of sociodemographic and work-related factors on it at private pharmacies in Jaffna Municipality Area. A descriptive cross-sectional study was conducted in private pharmacies. Pre-tested and validated self-administered questionnaire was used to collect data. Knowledge level of participants was categorized as good, adequate and poor. Data were analyzed using SPSS version 23. Chi-square test was performed to analyze the variable and 95% confidence interval was set for the test and results were significant if p value <0.05. Respondent rate of pharmacy personnel was 78.71% (n = 122) and most of them were female 59% (n = 72). Majority of the participants (67.2%, n = 82) were pharmacy assistants. In this study, most participants (76.2%, n = 93) had poor knowledge on pharmaceutical waste management. 10.7% (n = 13) had good knowledge and 13.1% (n = 16) had adequate knowledge. Age, marital status, educational level, position in the pharmacy and work experience (p< 0.001) had statistically significant influence on level of knowledge. Continuous education programs should be initiated and periodically conducted among pharmacy personnel to improve knowledge regarding pharmaceutical waste management. Existing guidelines should be strengthened and monitored for implementation by regulatory authorities.

Keywords: Pharmaceutical waste management, private pharmacies, pharmacy personnel, knowledge

**VIRTULA ORAL PAPER SESSION (D)**

**HEALTH EDUCATION**

D1

[22]

## EFFECTIVENESS OF HEALTH EDUCATIONAL INTERVENTION ON KNOWLEDGE AND PRACTICES REGARDING DENGUE FEVER AMONG ORANG ASLI IN SELANGOR

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**Background:** Dengue cases are increasing at alarming rate and poses a threat to the community well-being. Health education is the most effective tool in controlling the spread of dengue and reducing the disease burden **Aims:** This study aims to assess the effectiveness of health education in improving knowledge, practices in the control of Dengue Fever. **Methodology:** The study design was a quasi-experimental community- based health educational intervention. The study was conducted at nine selected Orang Asli villages in Selangor and participants were selected randomly from July 2017 to July 2018. The pre intervention was taken by using a structured questionnaire. A health educational calendar was developed by a panel of experts for the intervention. The post intervention was conducted after 6 months using same questionnaire. The self-administrated questionnaire includes questions on socio-demographic factors, knowledge and practices regarding dengue fever. **Results:** A total of 609 complete responses were obtained. Majority of the study respondents were Temuan (58.9%) and average monthly income of less than RM1000 (60.8%). The findings show the median knowledge score of the pre- intervention (26.0 (IOR 19.0-30.0)) increased to (32.0 (IOR 26.0-36.0)) during post-intervention. The median self-reporting dengue prevention practices score of the pre - intervention (25.0 (IOR 21.0-29.0)) increased to (43.0 (IOR 36.0-48.0)) during post-intervention. **Conclusion:** The findings deduce that health educational calendar increases knowledge and prevention practices regarding the dengue fever. Thus, health educational programme should be conducted at regular interval in other Orang Asli villages in Malaysia to increase their knowledge and proper prevention practices to fight against dengue.

Keywords: Educational intervention, Dengue fever, orang asli, knowledge, prevention practices



D2

[23]

**TIME TO PREGNANCY IS ASSOCIATED WITH COUPLES' PRECONCEPTION BLOOD PRESSURE***Hong X\**, Zhao J, Ma X, Wang B

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Human fecundability decline is an important public health issues. The association of abnormal blood pressure levels (including hypertension and prehypertension) with reduced fecundability among young childbearing-age couples is not yet completely elucidated. A total of 2,234,350 eligible couples participated in the National Free Pre-conception Check-up Projects from January 1, 2015 to December 31, 2016 were included. Couples' preconception blood pressure levels were measured, and time to pregnancy was recorded. Cox models for discrete survival time were used to estimate fecundability odds ratios and their corresponding 95% confidence intervals after adjusting for potential confounding facotrs. Compared with normotensive females, those with hypertension (systolic blood pressure $\geq$ 140 mmHg or diastolic blood pressure $\geq$ 90 mmHg) had a 21% lower pregnancy rate (FOR=0.79, 95% CI: 0.78-0.81). A similar finding was found among males (FOR = 0.89, 95% CI: 0.88-0.90). Prehypertension (120 mmHg  $\leq$  systolic blood pressure <140 mmHg or 80 mmHg  $\leq$  diastolic blood pressure <90 mmHg) in both male and female partners was slightly associated with reduced fecundability odds ratios. Compared with couples in which both partners were normotensive, the pregnancy rate was reduced by 27% (FOR = 0.73, 95% CI: 0.69-0.77) among couples in which both partners had hypertension. Abnormal preconception blood pressure levels were associated with prolonged time to pregnancy among couples attempting to conceive their first pregnancy, and the mechanism is worth further investigation.

Keywords: Blood pressure, hypertension, preconception, fecundability, time to pregnancy

D3

[24]

**TRANSFORMATIVE COMPETENCY-BASED PUBLIC HEALTH EDUCATION  
FOR THE DEVELOPING WORLD: ENSURING HEALTH PROFESSIONALS'  
SKILLS DEVELOPMENT***Islam M.I\**

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Public Health Education needs radical innovation if our professional workforces are to tackle the critical 21st century health challenges. A fundamental disconnect persists between the academic classroom and community health needs, particularly in what students learn and what skills our health sectors demand. Whether addressing health priorities such as Nutrition, Stress, Violence, and NCDs; or emerging health crises within Urbanization, Poverty and Climate Change, a new health education paradigm is proving essential. To develop the requisite technical and management skills that deliver genuine health impact, Public Health students urgently require more contextualized, applied community-based Learning. By engaging with the 'real-world classroom', students empathetically comprehend a community's own socio-economic environment and facilitate local health priorities with solutions accordingly. This session shares the Public Health Learning Strategy underpinning a real-world Competency-based MPH, focused on indigenous health challenges within Developing World contexts. Through experiential, community-immersive Learning; intensive Urban and Rural Fieldwork and Pilot Health Solution Projects; students develop crucial demand-driven Public Health skills, including Health Empathy, Human-Centric Design, Systems Thinking, Patient-centric Care, Health Marketing, Solutions Design and Collaborative Teamwork Skills. The session then elaborates the holistic student-centric design informing the MPH's Learning Ecosystem. It is only developing and then integrating Competency-based Curriculum, Skills Learning Methodologies, Faculty-Facilitator Development and Student Skills Assessment; that enable genuine health professionals' skills development. The session concludes with insightful experience-sharing on the practical 'rough and tumble' execution of this pioneering MPH, from faculty resistance and content downsizing; to iterative teaching and learning improvements that lead to transformative student success.

Keywords: Community-based, competency-based, learning, design, skills-development

**VIRTUAL ORAL PAPER SESSION (E)**

**RISK, YOUTH & DRUGS**

E1

[25]

**COMMUNITY PARTICIPATION TO PROMOTE DISASTER RISK REDUCTION  
IN YOGYAKARTA, INDONESIA***Isni K\**, Rahmatun K.A.A

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Yogyakarta is one of the regions in Indonesia that is often struck by disasters. A large number of disasters that have occurred in this region raises the awareness of the government to implement the Disaster-resilient Village development program. Ledoksari Village in Yogyakarta, Indonesia has been chosen by the government to be the Disaster-resilient Village because many disasters often struck this village. Then, to develop Ledoksari to be the Disaster-resilient Village, active participation from the community is entirely needed. The purpose of this study is to find out the community participation in developing Disaster resilient Urban Village as a Measure to Promote Disaster Risk Reduction. This research applied qualitative research with the interview method and the document review. The interviewees were 15 people with purposive sampling technique. The activities in Ledoksari are preparation, profiling, disaster risk analysis, mapping, community action plan, simulation, and review. The forms of community participation are participation in planning, implementing, evaluating, and utilizing the results. Meanwhile, the barrier is the lack of public awareness to be actively involved in each activity. The community has participated well and actively in the implementation and utilization of the results. But we show the whole community has not been completely involving in the planning and the evaluation.

Keywords: Disaster-resilient Village, community participation, community empowerment, health promotion

E2

[26]

**THE MODERATING EFFECT OF BELIEFS ON HPV AWARENESS AND HPV VACCINATION ACCEPTANCE AMONG FEMALE PATIENTS IN ISLAMABAD CITY**

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The aim of this research was to study the effect of awareness on acceptability of human papillomavirus vaccination with belief acting as a moderator between the two variables. A quantitative research was conducted in a hospital with specific focus on gynecological operations and family planning. The method of data collection comprised of a questionnaire, which was filled out by 50 women from various religious and cultural backgrounds. SPSS was used to conduct statistical analysis. The univariate, bivariate, and multivariate analyses indicated that the results were not conclusive with the hypothesis. As opposed to the hypothesis, the participants had no pre-existing information regarding vaccinations and the knowledge of the diseases being studied. This research brings focus towards a deeply neglected area of reproductive healthcare in Pakistan. This includes a lack of awareness amongst the population regarding HPV. Lack of concrete and accurate knowledge directly affects the amount of awareness present in Pakistan regarding HPV, which, as indicated by this study, is close to zero. This absence of awareness means that we, as healthcare practitioners, cannot research on the current topic and expect it to produce any conclusive results.

Keywords: Human papillomavirus, vaccination, HPV, awareness, acceptability, beliefs

E3

[27]

**ARE THE FACTORS OF ADOLESCENTS TAKING-UP SMOKING AND VAPING THE SAME?***Nurulhuda M.H\**, Abd Aziz A, Norwati D, Juhari, S.N, Pauzi M.F

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Smoking remains one of the hazardous acts to health, which is important to prevent in adolescents. Nowadays vaping has also become a worrying trend with similar hazards. Are the factors of adolescents taking-up smoking and vaping the same? This study compares the associated factors of smoking and vaping among school-going adolescents in Terengganu, Malaysia. This cross-sectional study was done from December 2018 to September 2019. A validated questionnaire adapted from Global School Health Survey (GSHS) was administered to 732 school-going adolescents aged 13 to 18 years old. Secondary schools and classes were selected using cluster random sampling. Data were analyzed using SPSS ver23, using multiple logistic regression for both dependent variables of smoking and vape. Independent variables include age, gender, race, family income, parents' marital status, and family members smoking. More students (22%) had tried vape, compared to smoking (13.2%). Majority (54%) of those who tried vape were virgin vaper, who had never tried smoking. Vaping was significantly associated with increase age ( $p<0.001$ , OR:1.54, CI:1.34,1.79), male gender ( $p<0.001$ , OR:9.92, CI:6.11,16.12), parents' marital status ( $p=0.005$ , OR:2.57, CI:1.34,4.94) and family members smoking ( $p=0.003$ , OR:1.11, CI:1.04,1.19). Smoking was significantly associated with increase age, male gender, poorer family income and family members smoking. In conclusion, vaping is an emerging worrying trend among adolescents, with some similar significant associated factors with smoking, but majority had never tried smoking before. A dual-target approach should be taken to curb the initiation of both smoking and vaping as there is a similar target population and there should be more emphasis towards education regarding the dangers of vaping among adolescents.

Keywords: Smoking, Vape, Adolescents, Vaping, E-cigarettes

E4

[28]

**TOBACCO USING BEHAVIOUR AMONG YOUTH RESIDING IN URBAN SLUM AREAS IN SRI LANKA***Dhanapriyanka H.H.M<sup>1</sup>\*, Kanthi R.D.F.C<sup>2</sup>*<sup>1</sup>Faculty of Dental Sciences, University of Peradeniya, Sri Lanka<sup>2</sup>Retired, Ministry of Health, Sri Lanka\*Email: [dhanapriyankahhm@gmail.com](mailto:dhanapriyankahhm@gmail.com)

**Background:** Tobacco usage among underprivileged youth has an increasing trend and has not been researched adequately. **Objective:** The study was aimed to assess the prevalence of tobacco using behaviour among youth (15-24 years old) residing in the Colombo district urban slum areas in Sri Lanka. **Methods:** A descriptive cross-sectional study was conducted among a sample of 1435 youths using a cluster sampling technique combined with probability proportionate to size technique and data was gathered using an interviewer-administered questionnaire. A current user was defined by usage during the past 30 days. **Results:** Mean age of initiation was 15.44 years (95% CI 15.29 - 15.58). Thirty percent of the sample did not have any type of tobacco using behaviours while 51% were current users. The current smokers were found as 20% (95% CI 18.6-22.2). Among them, 49% were daily users and the commonly used product was cigarettes (92%). The current betel chewers were found as 21.6% (95% CI 19.5-23.8). Among them, 47.9% were daily users. The most common type of betel quid was the quid with betel leaves, tobacco, areca nut, and lime (63.6%). The current tobacco and areca nut packet chewers were found as 32.9% (95% CI 30.5-35.3). Among them, 40.3% were daily users and the commonly used product was mawa (71.9%). **Conclusions & recommendations:** The youth residing in urban slums should be identified as a high-risk and priority group and special programmes should be conducted to them targeting quitting and initiation of tobacco behaviours.

Keywords: Youth, urban slums, tobacco, smoking, smoke less type

E5

[29]

**ADOLESCENT FRIENDLY HEALTH SERVICE BEST PRACTICE: MALAYSIA  
MINISTRY OF HEALTH INITIATIVE***Zamzaireen Z.A\**, Nik Rubiah N.A.R

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Malaysia Ministry of Health (MOH) introduced Adolescent Friendly Health Services (AFHS) as best practice in 2019 in health clinics with the objective to strengthen the provision of AFHS in government primary healthcare facilities nationwide. Two health clinics were selected from each state. A checklist with scoring was developed for assessment. The criteria to assess AFHS were adapted based on WHO Global Consultation on Adolescent Friendly Health Services (2001) and MOH existing Standard Operating Procedures (SOP) on managing AFHS. A multidisciplinary audit team was established to assess the performance of selected clinics based on the checklist. Findings revealed 34 out of 38 (89.5%) health clinics met the pre-determined criteria. Scoring were given based on five main components namely commitment on AFHS clinic management, commitment of healthcare providers (HCPs), optional activities, innovation/creativity/research including intra and interagency collaboration. The scoring were further classified based on average marks scored and star rating. A score of 80%-89% were classified as best practice (4 stars) and a score of 90%-100% with innovation was classified as best practice (5 stars). Majority fulfilled the criteria of at least 4 stars. In conclusion, this checklist is a comprehensive, replicable and sustainable mechanism to objectively assess the AFHS based on WHO criteria and local SOP. A whole clinic approach involving HCPs, adolescent clients and community is vital in the provision of effective, efficient and quality AFHS.

Keywords: Adolescent friendly health services, best practice



**VIRTUAL ORAL PAPER SESSION (F)**

**NUTRITION & HEALTH**

F1

[30]

**CORRELATION OF OMEGA-3 AND OMEGA-6 FATTY ACIDS INTAKE RATIO WITH MUSCLE MASS AMONG INSTITUTIONALIZED ELDERLY**Nita<sup>1</sup>, *Jusman S.W.A*<sup>2\*</sup>, Andayani D.E<sup>1</sup><sup>1</sup>Faculty of Medicine, Universitas Indonesia, Dr. Cipto Mangunkusumo General Hospital, Indonesia<sup>2</sup>Faculty of Medicine, Universitas Indonesia, Jakarta, Indonesia\*Email: [sriwidiaaj@gmail.com](mailto:sriwidiaaj@gmail.com)

The phenomenon of muscle mass deterioration appeared in the elderly called sarcopenia, one of the reasons was the inflammatory process. The ratio of omega-3 and omega-6 fatty acids are known to influence the inflammatory process. However, the relationship of this ratio with muscle mass are still conflicting. This cross-sectional study aimed to explore the correlations of omega-3/ omega-6 fatty acids intake ratio with muscle mass among the elderly in five registered nursing homes in South Tangerang, Indonesia. This study involved 101 elderly from the proportional random sampling method. The ratio of omega-3 and omega-6 fatty acids intake was assessed using a semi-quantitative food frequency questionnaire (SQ-FFQ). Moreover, muscle mass was examined using bioelectrical impedance analysis. We used Spearman analysis to investigate the correlation. The mean age of the participants was  $75.5 \pm 7.6$  years. Most of the participants were female (73.3%), graduated from elementary/junior high school (40.6%), did not smoke (92.1%), had sedentary physical activity (48.5%), had normal body mass index (37.6%), did not have dyslipidemia (65.3%), did not have diabetes mellitus (76.3%), did not have cardiovascular disease (73.3%), but had hypertension (68.3%). Furthermore, the median value of omega-3 and omega-6 fatty acid ratio intake and muscle mass were 0.08 (0.05 – 0.2) and 35.5 (22.8 – 63.5) kg, respectively. In conclusion, we did not find strong correlation between omega-3 and omega-6 intake ratio with muscle mass ( $r = 0.01$ ,  $p = 0.9$ ). A prospective study is recommended to know better the relationship between omega-3 and omega-6 intake ratio with muscle mass.

Keywords: Fatty acids, muscle mass, elderly

F2

[31]

## SUGAR-SWEETENED BEVERAGES CONSUMPTION AND ITS ASSOCIATION WITH BODY MASS INDEX AMONG COLLEGE STUDENT LIVING IN DORMITORY

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The prevalence of overweight–obesity increases every year globally, including in Indonesia. High energy intake from sugar becomes a global concern since it causes weight gain, tooth decay, and non-communicable diseases. Recently, 10.9% of Indonesian adults gaining their energy from sugar-sweetened beverage exceeding the World Health Organization recommendation. This cross-sectional study was conducted to assess the association between body mass index and sugar-sweetened beverage consumption among college students, adjusted to other factors. Data collection was conducted at Universitas Indonesia, Depok, Indonesia during March – June 2019. Research subject was collected consecutively among college students living at the dormitory of Universitas Indonesia. Anthropometric measurement was taken to calculate body mass index, and 7-days fluid record for assessing sugar-sweetened beverage consumption. Sociodemographic, total energy intake, physical activity level were also assessed. SPSS version 20 was used for data analysis. The result shows median body mass index was 20.6 (15.11–41.29) kg.m<sup>-2</sup> and added sugar intake in beverage was 23.4 (0–134.4) gram per day. Meanwhile, 24.2% of respondents have overweight-obesity status and 11.8% of respondents consumed added sugar in beverage more than 50 gram per day. Most of respondents have inadequate total energy intake and low physical activity level. Adjusted to total energy intake, physical activity level, and gender, body mass index significantly has association with SSB consumption based on added sugar in sugar-sweetened beverage ( $\beta=1.810$ , 95% 0.014–3.606 of CI,  $p=0.048$ , adj  $R^2=0.028$ ). Thus, it is necessary to include sugar-sweetened beverage consumption reduction strategy in all health promotion programs.

Keywords: Sugar–sweetened beverage, young adult, added sugar, free sugar intake, overweight–obesity

F3

[32]

**KNOWLEDGE, ATTITUDE, AND PRACTICE (KAP) ABOUT DIETARY ADHERENCE AMONG TYPE 2 DIABETIC PATIENTS IN DHAKA CITY***Haque T<sup>I</sup>\*, Bhuiyan M.M.R<sup>1</sup>, Jahan N<sup>1,2</sup>, Khanam S.Z<sup>1</sup>, Rahman M.M<sup>3</sup>*<sup>1</sup>Department of Public Health American International University, Dhaka, Bangladesh<sup>2</sup>Bangabandhu Sheikh Mujib Medical University, Dhaka, Bangladesh<sup>3</sup>Department of Medical Biotechnology, Bangladesh University of Health Sciences, Dhaka, Bangladesh\*Email: [tasnimaraka5@gmail.com](mailto:tasnimaraka5@gmail.com)

**Purpose/Objective:** The present study targets to assess the knowledge, attitude and practice of Bangladeshi diabetic patients in respects to self-management. **Methodology:** A cross sectional studies were done with 328 patients visited at BIHS General Hospital from October 2019 to December 2019. Data were collected with structured pretested questionnaires with the consent of patient who have diabetes. The collected data was analyzed by using SPSS 22.0. **Results:** Approximately 34.77% (n=114, 52 were female) had good knowledge on diabetes. Among 328 patients, 166 (50.61%) were female, mean ages of male and female were 47.14±16.87 and 45.63±16.47 years respectively. Around half of the respondents (47.56%) were between 36 and 59 years old. In studied population, as expected, 209 (63.72%) of the patients had a family history of diabetes and 23.48% (77) were involved in any kind of physical activity. Mean body mass index (BMI) score of respondents were 25.88±3.8 and 28.41±4.72 kg/m<sup>2</sup> for men and women respectively. **Conclusions:** As expected, patients with no education did not have the good knowledge; however, percentages of knowledge of all other levels of educations are nearly similar with one exception. Average BMI of good knowledge patients were lower compare to poor knowledge patients. No significant association is found between knowledge and attitude. Results are comparable with other research findings. It can be said in the conclusion that the overall knowledge is low, attitude is not up to the mark yet, but those who have good knowledge they keep the good practice toward controlling diabetes.

Keywords: KAP, diabetes, Dhaka, Bangladesh

**VIRTUAL ORAL PAPER SESSION (G)**

**HEALTH PREVENTION OF ILLNESSES**

G1

[33]

**PEKA B40 OUTREACH HEALTH SCREENING PROGRAM: A SUCCESSFUL NATIONAL INITIATIVE FOR THE POOR***Abdullah M.F\**, Mohd Yusoff M, Dalaiil,K.F, Abd. Rashid R.M

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PeKa B40, an acronym for “Skim Peduli Kesihatan untuk Kumpulan B40” which was introduced by the Ministry of Health Malaysia and managed by ProtectHealth Corporation Sdn. Bhd, is one of the successful national health initiatives for the poor population. It aims to reduce the burden of non-communicable diseases (NCDs) through early detection via health screening in public and private clinics. Within that, PeKa B40 Outreach Program was introduced to target the poor in rural areas. This program has become an important platform to provide opportunities for the B40 group (lowest 40 per cent household income) to undergo free health screening. It is conducted nationwide from May 2019 in collaboration with multiple agencies, public and private clinics and labs, and the local communities. Central level agencies engagement sessions were held to get buy-in, approval, and support. Further engagement sessions were organized with state-level officers for program planning. Discussions and site visits involving community leaders, service providers and local community volunteers were carried out. Various promotional activities were done at the community level via personal invitation letters, promotional collaterals, social media, announcement in local radio and newspapers, as well as public announcement and awareness talk in mosques. As of 31st March 2020, a total of 8,858 recipients were screened through 49 health screening outreach programs nationwide. Through this program, MOH was able to detect new cases of NCDs, among this targeted poor population. PeKa B40 Health Screening Outreach Program is an effective effort to encourage and facilitate PeKa B40 recipients to do health screening, especially those in the rural areas facing various challenges such as financial, time and transportation constraints. A successful health screening outreach program requires buy-in, networking, collaboration, and active involvement, not only at the top management level but more importantly at the grass-root level, community leaders and the community.

(This is an abstract based on Best Practice, therefore no statistical data is provided)

Keywords: Health screening, outreach, non-communicable disease, poor

G2

[34]

**IMPACT OF ORAL HEALTH ON QUALITY OF LIFE (QOL) OF TODDLER AND THEIR FAMILIES***Siti Zuriana M.Z\**

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Oral health problems can impact the quality of life through affecting oral functions and social interactions. Thus it can cause social, economic and psychological consequences. The aim of this study was to investigate association between the oral health promotion and prevention programme in nurseries with children's Oral Health Related Quality of Life (OHRQoL). Oral impact assessment on the quality of life of children and their families was measured by the Early Childhood Oral Health Impact Scale (Malay-ECOHIS). This observational intervention study involved 689 toddlers aged 0 – 4 years old and their parents in Federal Territory of Kuala Lumpur & Putrajaya from January to December 2018. The children were divided into intervention (n=336) and control group (n=353). Oral examinations of the children were performed by the Dedicated Promotion Team followed by Malay-ECOHIS questionnaire to be answered by their parents. Data were analyzed by chi squared test, t-test and ANOVA. Children's pain, eating problem, difficulty pronouncing words and parents feeling upset were the most frequently reported impacts at baseline. Children with  $\geq 4$  decayed / treated teeth had higher ECOHIS scores on both Child Impact Score and Family Impact Score than those who were free of dental disease at the end of the study. Although the children's frequency of tooth brushing improved significantly, their oral cleanliness was decreasing. There were also no significant difference in the ECOHIS scores. The oral health promotion and prevention programme can be strengthened by incorporating active involvement of parents and teachers towards toddlers' oral health quality of life.

Keywords: Oral health promotion and prevention, quality of life, Malay-ECOHIS

G3

[35]

**BIRTH WEIGHT AND OBESITY IN CHILDREN: RESIDENCE AND HOUSEHOLD WEALTH AS EFFECT MODIFIERS***Andriani H\**

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There are both genetic and environmental factors which contribute to a child's chances of being obese. When low birth weight (LBW) has been specifically evaluated relative to its association with childhood obesity, the results have produced conflicting findings. This study aimed to describe the relationship between birth weight and childhood obesity and investigate the influence that residence and household wealth has on this relationship. A secondary analysis on the 2018 Riskesdas (or Basic Health Research), a cross-sectional, nationally representative survey of the Indonesian population was performed. Height, weight, information regarding child's birth weight, and basic characteristics of the study population were collected from parents with children aged 0 to 5 years ( $n = 71,925$ ) in 2018. There was a significant increase in the weight, BMI z-score, and risk of childhood obesity to be associated with LBW. LBW children in rural area and low-class families were associated with higher BMI z-score (mean + Standard Error (SE):  $1.39 + 0.03$ ,  $1.71 + 0.06$ , respectively) and higher odds (odds ratio (OR) (95% confidence interval (CI)):  $7.45 (6.76 - 8.21)$ ,  $14.87 (12.49 - 17.70)$ , respectively) of obesity than those in urban area, middle class, and wealthy families. Effective prevention and intervention to childhood obesity as early as possible were imperative. So far as our study was concerned, efforts, policies, and targets are required to reduce the prevalence of LBW. Children born of LBW, who live in a rural area and from low-income families, should be emphatically intervened as early as possible.

Keywords: Low birth weight, obesity, urban-rural, Indonesia, household wealth



G4

[36]

**THE INFLUENCE OF JOB SATISFACTION ON PATIENT SAFETY CULTURE IN MAKASSAR HOSPITALS***Syahrir P.A\**, Fridawati R, Irwandy, Nurmala S

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Patient safety culture is a product of individual values, attitudes, and groups behavior that reflects organizational commitment to implement patient safety programs. Build patient safety culture is influenced by three organizational aspects, such as an environmental structures, processes in the organization, and an individual perception and behavior. The perception of employees about their job satisfaction is one of main factors to build commitment of patient safety culture. The purpose of this study is to analyze the relationship between employee satisfaction levels with a patient safety culture in Makassar hospitals. This research is a quantitative study with cross sectional study design. The data was collected through online questionnaire. The total of 474 employees of three hospitals in Makassar city involved in this study Descriptive analysis was used to describe the demographic characteristics of respondents, hospital characteristics, job satisfaction and maturity level of patient safety culture. To examine the influence of the job satisfaction in predicting the patient safety culture, multiple linear regression analysis was used. Results of the regression analysis showed variables of job satisfaction explained 12.2% of patient safety culture variance. The result of the study showed that the job satisfaction ( $p= 0.000 < 0.05$ ) statistically significantly influence patient safety culture. Among job satisfaction dimensions, work environment and management relationship had a significant effect on patient safety culture.

Keywords: Job satisfaction, patient safety culture

**PLANNING FOR COMMUNICATION FOR BEHAVIOUR IMPACT ON DENGUE PREVENTION IN HIGHLY DENGUE EPIDEMIC AREA IN KURUNEGALA DISTRICT**

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Communication for Behaviour Impact (COMBI) is a methodological process which blends strategically a variety of communication interventions intended to engage individuals and families in adopting healthy behaviours and maintaining those behaviours. The COMBI planning is based on the practical way of adopting the recommended behaviours which are link with effective communication. The objective was to develop a COMBI plan to change the behaviour to prevent dengue in highly dengue endemic areas in Kurunegala district, Sri Lanka. The plan was developed according to World Health Organization (WHO) COMBI planning 10 steps with the scientific evidence and expert opinion. The situation analysis was conducted using mixed methodology during January to March 2019 among the adults in highly dengue endemic Medical Officers of Health area in Kurunegala District. The overall goal of the plan was to contribute to the reduction in morbidity and mortality from dengue disease in Kurunegala district by improving the dengue prevention behaviours by three months in 2019. After finalizing Specific Behaviour Objectives (SBOs) by conducting Situational Market Analysis for Communication Keys (SMACK), the plan was developed. The SBOs for the plan were to improve the proper waste management practices according to “three R concept” (Reduce, Reuse and Re-cycling) and to improve the dengue prevention practices at least 30 min for one-week cleaning. The strategies were to conduct community empowerment program to improve household waste management and weekly practices on dengue prevention by conducting the administrative mobilization and public relationship, public advocacy, community mobilization, personal selling, advertising and promotion, point of service promotion during follow up. Impact Assessment was conducted using pre and post evaluation after the piloting of the proposed intervention. Developing a COMBI plan for an area after identification of specific behavioural objectives would be feasible to implement in order to empower the community to prevent dengue in the area. A randomized control trial was conducted to assess the effectiveness of the COMBI plan in the area.

Keywords: Dengue, communication for behaviour impact, waste management

**VIRTUAL ORAL PAPER SESSION (H)**

**CLINICAL MANAGEMENT**

H1

[38]

**PRESUMED OCULAR TUBERCULOSIS-CHALLENGES IN DIAGNOSIS***Sathyapriya S<sup>1</sup>\*, Chin L.C<sup>1</sup>, Wan Hitam W.H<sup>2\*</sup>*<sup>1</sup>Hospital Sultanah Bahiyah, Malaysia<sup>2</sup>School of Medical Sciences, Health Campus, Universiti Sains Malaysia, Malaysia\*Email: [hazabbah@usm.my](mailto:hazabbah@usm.my); [hazabbah@yahoo.com](mailto:hazabbah@yahoo.com)

Mycobacterium tuberculosis has a large spectrum of extra pulmonary manifestations and ocular tuberculosis is one of them. Diagnosis of ocular tuberculosis is often presumptive due to its extreme variability of ocular manifestations and difficulty of isolating the organism through biopsy or culture. We report three cases of primary ocular tuberculosis with varied clinical presentation; neuroretinitis, panuveitis and occlusive vasculitis. Patients were aged 23 to 45, presented with symptoms of blurring of vision from 3 days to 1 week prior presentation. Visual acuity ranged from 6/18 to 2/60. For all three cases, investigations, such as chest X-ray and serological testing were normal. Mantoux test and TB Quantiferon test were negative and ESR was raised for the first two cases. Mantoux was positive and ESR was not raised for the third case. Patients were diagnosed of Presumed Ocular Tuberculosis. An antitubercular therapy was started for them. There was significant improvement post initiation of medication. High index of clinical suspicion is crucial due to the diverse clinical presentation of ocular tuberculosis. Early initiation of antitubercular therapy is vital for successful treatment.

Keywords: Tuberculosis, ocular, Quantiferon, Mantoux

H2

[39]

**ANTIOXIDANT ACTIVITY OF SIDDHA FORMULATION SENKALUNEER  
CHLOORANAM AGAINST CHROMIUM INDUCED FREE RADICALS IN RATS***Jegatheeswaran VI\**, Kumutharanjan T.S<sup>2</sup><sup>1</sup>Siddha Teaching Hospital, Jaffna, Sri Lanka<sup>2</sup>Unit of Siddha Medicine, University of Jaffna, Sri Lanka\*Email: [jegatheeswaran79@gmail.com](mailto:jegatheeswaran79@gmail.com)

The Siddha drug Senkaluneer Chooranam (SKC) is used in the treatment of Piththa Diseases. This study is evaluated the efficacy and safety of the Siddha drug Senkaluneer Chooranam (SKC) in Albino rats. The Siddha drug SKC it's an Antioxidant Activity is found out using chromium VI as standard. The group – I (Controle Group) was given a normal saline, Group - II Served as Toxic Control group and was administered chromium 30mg/kg (30%v/v, 1ml/100kg orally, Group – III - Served as a standard group and was administer LIV - 52 In a dose of 56 mg/kg orally and the two test groups –IV, V were treated by Senkaluneer Chooranam (SKC) doses level of 100mg/kg, 200mg/kg respectively. Administration of chromium caused a significant increase ( $p<0.01$ ) in the liver tissue catalase levels but did not affect SOD levels. The siddha formulation Senkaluneer Chooranam in a dose of 100mg/kg and 200mg/kg body weight was able to restore the catalase levels to that of control values. Liver tissue GSH levels were significantly decreased following the chromium treatment, whereas significant increase in plasma MDA levels was observed. Administration of siddha formulation Senkaluneer Chooranam in a dose of 100mg/kg and 200mg/kg body weight, doses reverted the GSH and MDA levels to that of control values. AST and ALT levels were increased ( $p<0.01$ ) in all the animals treated with chromium. Administration of 200mg/kg body weight doses of siddha formulation Senkaluneer Chooranam in a dose of 100mg/kg and 200mg/kg significantly inhibited the chromium induced increase in enzyme levels and restored to that of control values. The siddha formulation Senkaluneer Chooranam in a dose of 100mg/kg and 200mg/kg also protected the animals significantly from the hepatotoxicity induced by chromium is revealed by the decreased AST and ALT activity compared to the chromium (VI) treated animals.

Keywords: Senkaluneer Chooranam (SKC), herbal medicine, chromium, antioxidant

H3

[40]

**ANDRAGOGY IN CONTINUOUS MEDICAL EDUCATION: RE-EVALUATION  
FOR COMPETENCY BASED MEDICAL LEARNING***Nesamany B\**, See J.P.L, Sivakumar S, Jayanandan S

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Physicians are the building blocks of the healthcare system. The dedication and sacrifice for life-long learning is crucial for self-professional development. This research was done with the objective to diligently study the medical educators'/physicians' perspective on the existing CME effectivity. This research serves as a tool to gauge the gaps and challenges within the current CME system. This study presents the findings from quantitative data analysis with medical educators, in the context of continuing professional education. The research outcome has also shown that the CME system has remained stagnant over the years and demands vigorous review and change for the betterment of the system and the society as a whole. Hence, there are models and recommendations suggested as solution-providers, which can be abided, to measure the effectivity and efficiency of the revised system and thus filling the gaps of CME.

Keywords: Continuous Medical Education (CME), technology, regenerative medicine, curriculum development, academicians

H4

[41]

**ANTI-HYPERGLYCAEMIC EFFECT OF KADUKKAI CHOORANAM IN HYPERGLYCAEMIC INDUCED WISTAR ALBINO RAT MODELS***Ajanthan R<sup>1</sup>\*, Kumutharanjan. T<sup>2</sup>*<sup>1</sup>Siddha Rural Hospital, Sri Lanka<sup>2</sup>University of Jaffna, Sri Lanka\*Email: [raajanth04@gamil.com](mailto:raajanth04@gamil.com)

**Background:** Diabetes mellitus is a metabolic disorder and a financial burden on national health care system. During this condition body does not produce or properly utilize insulin which leads to the disturbance in carbohydrates, proteins and lipids metabolisms and in later to complications such as coronary artery diseases (CAD), Neuropathy, Nephropathy and Retinopathy. In spite of the presence of known anti-diabetic medicines in the pharmaceutical market, remedies from medicinal plant are used with success. Many traditional plant treatments for diabetes are used throughout the world and there is an increasing demand to use the natural products with anti-diabetic activity. Kadukkai chooranam (*Terminalia chebula* Retz.) possesses antidiabetic, antibacterial, antifungal, antiviral, antimutagenic, antioxidant, antiulcer and wound healing properties. **Objective:** The present study was done to investigate the efficacy of Kadukkai chooranam (KC) on changes in Body weight, Plasma glucose, Haemoglobin and glycosylated haemoglobin. **Materials and methods:** Streptozotocin induced Wister male albino rats weighing between 180-220gms were used in this study. The rats were divided into 5 groups, each having 6 rats, totally 30 albino rats were used. The KC 100 and 200 mg/kg dividing dose were administered orally for 28 days. The end of study showed, that body weight, blood glucose, glycosylated haemoglobin, and glycogen content and level were determined. **Conclusion:** There was significant increase in the plasma insulin level and reduced glycosylated haemoglobin. Thereby KC reduced hyperglycaemia and body weight, increased the level of total haemoglobin in diabetic rats.

Keywords: Anti-hyperglycaemic, diabetes mellitus, Kadukkai chooranam, *Terminalia chebula*

**VIRTUAL ORAL PAPER SESSION (J)**

**METHODS OF RESEARCH**



J1

[42]

**MIXED-METHODS RESEARCH: A NOVEL APPROACH TO INVESTIGATE AWARENESS, TREATMENT AND CONTROL OF YOUNG-ONSET HYPERTENSION IN MALAYSIA*****Khoo Y.Y<sup>1\*</sup>***, Nik D.N.F<sup>1,2</sup>, Choo W.Y<sup>1</sup>, Ng C.J<sup>3</sup>, Azahadi O<sup>4</sup><sup>1</sup>University of Malaya, Malaysia<sup>2</sup>National Institutes of Health, Ministry of Health, Malaysia\*Email: [sally.khoo@gmail.com](mailto:sally.khoo@gmail.com)

Constant cumulative presence of hypertension when young strongly predict future cardiovascular risk. This study aimed to determine the epidemiology of young-onset hypertension (YOH) in Malaysia and explore underlying behaviours that influence awareness, treatment and control among young adults. A sequential mixed-method explanatory design was employed. First, secondary data from National Health and Morbidity Survey 2015 was analyzed to determine the pervasiveness of this disease in Malaysia by elucidating the prevalence, awareness, treatment, control and associated risk factors of YOH. Respondents aged 18-39 classified as YOH according to 7th Joint National Committee were included. Subsequently, to augment certain statistical findings, young adults' perceptions and experiences about living with hypertension were explored in the qualitative phase during August to December 2019. Logistic regression and conventional content analysis were performed for quantitative and qualitative data, respectively. One-fifths of young adults were hypertensive 18.4% (95%CI: 17.4-19.4); with suboptimal awareness 16.1% (95%CI: 14.3-18.1), treatment 48.4% (95% 42.6-54.2) and control rates 39.2% (95%CI: 31.3-47.6). Significant associations were found with sociodemographic (males, age>30, lower socioeconomic status), genetic (family history) and concurrent comorbidities. YOH adults expressed surprise and self-stigma with this diagnosis. Facilitators to treatment adherence include intrapersonal (high self-efficacy, disease threat, experiencing symptomatic relief) and interpersonal (social support, role-modeling) factors. Barriers include personal (time), treatment (side-effects of medication), and disease (being asymptomatic) factors. Needs include shared-decision making, long-term expectations addressed, utilization of social media and hypertension-education-materials. Young adults' resilience and well-being can be enhanced by developing policy and cost-effective health promotion strategies addressing these specific areas.

Keywords: Epidemiology, mixed-methods, young-onset hypertension, young adults, cardiovascular disease, Malaysia

**THE ADVENT OF ARTIFICIAL INTELLIGENCE IN DIABETES DIAGNOSIS:  
CURRENT PRACTICES AND BUILDING BLOCKS FOR FUTURE PROSPECTS***Roy M<sup>I</sup>\*, Jamwal M<sup>I</sup>*<sup>1</sup>Mittal School of Business, Lovely Professional University, India\*Email: [mroy2612@gmail.com](mailto:mroy2612@gmail.com)

India has the highest proportion of Diabetes patients and it is estimated that there will be 134 Million diabetics in India by 2045 as per IDF. Also the disease burden is increasing to young population between ages 25-40 as more of them diagnosed positive according to JAMA recently. Moreover, there are only 4.8 Doctors per 10,000 populations and in villages the ratio is lowest possible in this country according to Indian Journal of Public Health. Therefore, screening & predicting Diabetes at an early stage remains always a priority for clinicians as it reduces the risk of major complications and improves the quality of life of patients with diabetes and builds resilience and well-being amongst other citizens. With the advancement of Computer Science & Artificial Intelligence, it is now possible to predict diabetes and other such diseases through applying deep learning algorithms in high-quality data sets. This helps in more accurate and faster diagnosis of Pre-diabetes, Diabetes & diabetes-related progressive eye diseases. In this study a systematic review of PubMed repository for current practices to diagnose Diabetes based on AI intervention in Indian context is carried out. Also a critical analysis done on various pioneered companies currently offering AI based Diabetes diagnostic services in India. The study represents different concepts of AI tools used to predict the diseases currently available in India. Although majority of the studies are carried out on Diabetic Retinopathy screening, future opportunities can be in several other areas such as Clinical Decision Support, Predictive Population Risk Stratification and Patient Self-Management Tools.

Keywords: Diabetes diagnosis, AI based Diabetes diagnosis, AI intervention in Diabetes Diagnosis and management

J3

[44]

**COMPARATIVE EVALUATION OF IN - VITRO ANTHELMINTIC ACTIVITY OF SAP, FRUIT BULB AND ROOT OF *Borassus flabellifer***Jayasinghe H.M.P.M<sup>1</sup>, *Thuvaragan S*<sup>2\*</sup>, Murugananthan A<sup>3</sup><sup>1</sup>Regional Director Health Services, Sri Lanka<sup>2</sup>Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka<sup>3</sup>Faculty of Medicine, University of Jaffna, Sri Lanka\*Email: [sthuvaragan@univ.jfn.ac.lk](mailto:sthuvaragan@univ.jfn.ac.lk)

Helminth infections are major health problems among peoples especially in developing countries with warm and humid environments. Limited synthetic drugs are available for treating helminth infections and some of them showed resistance to helminths. Phytoconstituents can be used to develop cheap and effective anthelmintic drugs. *Borassus flabellifer* has been used in traditional medicine in addition to consume as food. This study was designed to evaluate the comparative (in vitro) anthelmintic activities of aqueous and methanol extracts of root, fruit pulp and sap of *Borassus flabellifer* using two different concentrations (50 and 100 mg/mL). Adult earth worms, *Eisenia fetida* was used to evaluate the in vitro anthelmintic activity since it is anatomically and physiologically similar to intestinal worms present in humans. In vitro anthelmintic activity was evaluated by determining times of paralysis and death of worms. Anthelmintic activity of extracts was compared with mebendazole and normal saline was used as control. ANOVA followed by dunnett's multiple comparison test was used to compare the activities of extracts with mebendazole. Values of P less than 0.05 were considered statistically significant. All extracts showed concentrations dependent activity. All extracts except aqueous extract of roots of *Borassus flabellifer* showed statistically significant in vitro anthelmintic activity. Further studies needed to isolate and evaluate the active components from extracts of *Borassus flabellifer* and the possible mechanism of action that are responsible for the anthelmintic activity.

Keywords: *Borassus flabellifer*, extracts, anthelmintic activity

## **ABSTRACTS OF VIRTUAL POSTER SESSION**

P1

[45]

## ARTIFICIAL INTELLIGENCE MODEL TO PREDICT PREGNANCY RATE AND TWIN PREGNANCY RATE FOLLOWING IN VITRO FERTILIZATION-FRESH EMBRYO TRANSFER

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**Background:** Multiple pregnancy after in vitro fertilization resulted in more medical cost, economical cost, and profound parental psychosocial stress.(1, 2) A prediction modeling of pregnancy and multiple pregnancy in associated with number of transferred embryos can help clinicians and infertile couples choose suitable number of embryos during transfer, to decrease twin pregnancy while sustain optimal pregnancy rate. The aim of this study is to construct an artificial intelligence model to predict the pregnancy rate and twin pregnancy rate after in vitro fertilization (IVF). **Methodology:** From Jan 2015 to Dec 2018, 501 fresh embryo transfer cycles contained 44 features were obtained from the Center for Reproductive Medicine, Chi-Mei medical center. The dataset was subsequently washed by eliminating attributes with missing values and then 253 treatment cycles was included. The outcome variables were clinical pregnancy, and twin pregnancy. Using six different machine learning algorithms, 70% of the dataset were randomly selected for training, leaving 30% for validation. Models performances were quantified with the area under the receiver operating characteristic (ROC) curve, accuracy, specificity, and sensitivity. **Results:** Logistic Regression-based model was the most suitable algorithm for prediction model training. It showed sensitivity of 0.676, specificity of 0.619, accuracy of 0.645 and area under ROC curve of 0.734 for clinical pregnancy prediction; and sensitivity of 0.72, specificity of 0.725, accuracy of 0.724 and area under ROC curve of 0.752 for twin pregnancy prediction. **Conclusions:** Implication of the AI predictive model could provide reliable outcome prediction and after IVF-fresh embryo transfer.

Keywords: IVF, artificial intelligence, machine learning, prediction model, pregnancy, twin pregnancy

P2

[46]

## THE RELATIONSHIP BETWEEN INTERNET USE AND ATTACHMENT AND MATERNAL CONSCIOUSNESS OF MOTHERS WITH INFANTS

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**Objective:** To clarify the relationship between Internet use and attachment and maternal consciousness of mothers with 3-4-month-old infants. **Methodology:** An anonymous self-administered questionnaire survey was conducted with mothers of infants undergoing health check-ups in A City, Japan from May to July, 2019. The following were assessed: attributes, Internet usage, Internet addiction (using the Internet Addiction Test (IAT)), attachment, and maternal consciousness. After univariate analysis, logistic regression analysis was performed, with attributes and Internet usage as independent variables and IAT as the dependent variable. The relationship between IAT and attachment and maternal consciousness scales were examined through Mann-Whitney U test. **Results:** A total of 122 (49.4%) questionnaires were collected, with 119 (97%) valid responses. Smartphones devices were most used, mainly for weather forecast, e-mail, and SNS purposes. Internet was often used during infants' sleep, around mothers' bedtime, and during lactation. The IAT score was  $29.9 \pm 6.7$ , with 10.1% constituting problematic users. "Birth experience," "free call app," "killing time," and "average time p/day" were factors influencing internet addiction. The attachment scale score was  $94.2 \pm 9.5$  and the maternal consciousness scale was  $3.2 \pm 0.6$  for positive emotion items and  $1.9 \pm 0.5$  for negative emotion items. An association was seen between negative emotion and internet addiction ( $p < 0.05$ ). **Conclusions:** While few mothers had Internet addiction, it was suggested that frequent (unintentional) Internet use during child-rearing was an addiction risk factor. Furthermore, the relationship between internet addiction and negative emotion suggested that mothers should avoid comparing themselves to online parenting examples.

Keywords: Internet use, attachment, maternal consciousness, mother, infants

P3

[47]

**CALCIUM INTAKE AND GROWTH OF INDONESIAN SCHOOL AGE CHILDREN BEARING SPECIFIC GENOTYPES OF VITAMIN D RECEPTOR (VDR) GENE**Angelina T.C<sup>1</sup>, Bardosono S<sup>1</sup>, Shinta D<sup>2</sup>, *Fahmida U*<sup>2\*</sup><sup>1</sup>Faculty of Medicine, Universitas Indonesia, Indonesia<sup>2</sup>Southeast Asian Ministers of Education Organization, Regional Center for Food and Nutrition (SEAMEO RECFON), Universitas Indonesia, Indonesia\*Email: [umifahmida@gmail.com](mailto:umifahmida@gmail.com)

Calcium is known as one of the mineral components important for skeletal calcium retention during growth. Some studies discovered a genetic contribution in calcium absorption that affects child growth, known as vitamin D receptor (VDR) gene. The aim of this present study was to assess the association between calcium intake and height-for-age Z-score (HAZ) of elementary school children bearing specific genotype of VDR gene. A cross-sectional study was performed among children aged 8-10 years old. Height was measured to calculate HAZ of the children. Calcium intake was obtained using 4-day 24-hour dietary recalls. Genotype distribution of two single nucleotide polymorphisms (SNPs) located in the promoter region of VDR gene (rs11568820 and rs4516035) were analyzed using Real-Time PCR with TaqMan SNP Genotyping Assay. Results showed the mean HAZ was -0.993 and the median calcium intake was 328.22 mg/day. There were 97.2% of children who had inadequate calcium intake (<800 mg/day). Genotype distribution of rs11568820 was T/T (19%), C/T (43.7%), and C/C (37.3%). While for rs4516035 the distribution was T/T (90.8%) and C/T (9.2%). There was no association between calcium intake and HAZ in children bearing rs11568820 T/T and C/T or C/C VDR genotype ( $p=0.229$  and  $p=0.380$ , respectively). Similarly, in children bearing rs4516035 T/T and C/T or C/C genotype the association between calcium intake and HAZ was not found ( $p=0.537$  and  $p=0.423$ ). Indonesian children had a favorable VDR gene genotype to have better calcium absorption, however their calcium intake was very low to have optimal calcium absorption.

Keywords: Calcium, VDR genotype, school-age-children, growth

P4

[48]

**ASSESSMENT OF DRUG USE PATTERN AMONG HAJI 1439H (2018) PILGRIMS,  
IN SAUDI ARABIA***Amer A<sup>1,2\*</sup>, Almudarra S.S<sup>2</sup>*<sup>1</sup>Zagazig University faculty of Medicine, Saudi Arabia<sup>2</sup>Public Health Agency Ministry of Health (MOH), Saudi Arabia\*Email: [dr\\_samar11@yahoo.com](mailto:dr_samar11@yahoo.com)

**Background:** Hajj pilgrimage is one of the world's largest mass gatherings that are associated with increase in the diseases risk .this study aims to promote drug use pattern among Pilgrims through determining the frequency and context of drug's use and to assess drug use patterns among pilgrims 1439 h. **Methods:** a cross-sectional study was conducted on randomly selected Hajj Pilgrims stratified by nationality before their retrial in King Abdul Aziz Airport in Jeddah the data were collected through well trained data collectors using a well-structured pretested questionnaire. **Results:** The studied pilgrims were males 411(52.4%) at the median age of 47 (17-82)years, (415)53% medically examined before hajj, and 345(43.9%) had a chronic disease. out of the (553)70% who took medications, 248( 44.9%) took antibiotics, 470(90.6%) of medications administrated orally, 341(62%) for managing chronic diseases, 345 (62.38%) brought from hometown countries and 201(47.2%) prescribed by private doctors. AThe prescription practice indicators; 285(51.5%) of prescriptions contain 1-2 drugs, only 277(50%) had written ones. B- Patient care indicators: the mean consultation time was 16.4 min, and 9.7 min for dispensing, 458(82.8%) knew the drug/s correct dose, and 384(69.4) % knew the expiration date/s. C-Facility indicators: 429 (77%) reported that medications were accessible, only274 (34.9%) Knowing about the Saudi FDA, 43(12.4%) of the bought drugs had been checked, and 111(20.3%) complaining from drug side effects mainly due to drugs unavailability. **Conclusions:** Medication prescription is common and critical among Hajj pilgrims, so there is a crucial need for the development of prescription guidelines with integrated collaboration to ensure safe and effective use of medications in haji education program.

Keywords: Drug, pilgrims, drug use pattern, Saudi Arabia



P5

[49]

**MATERNAL DETERMINANT FACTORS OF ANEMIA AMONG PREGNANT WOMEN IN JAKARTA**Siregar D.A.S<sup>1</sup>, *Agustina R*<sup>1, 2\*</sup><sup>1</sup>Universitas Indonesia - Dr. Cipto Mangunkusumo General Hospital, Indonesia<sup>2</sup>Human Nutrition Research Center, Indonesian Medical Education and Research Institute, Faculty of Medicine, Universitas Indonesia, Indonesia\*Email: [dr.rinaagustina@gmail.com](mailto:dr.rinaagustina@gmail.com); [r.agustina@ui.ac.id](mailto:r.agustina@ui.ac.id)

The prevalence of anemia during pregnancy in Indonesia has increased sharply in the past five years. However, maternal factors related this problem were not put in special in attention. We assessed potential risk of maternal factors toward anemia among pregnant women in Jakarta. This was part of Brain Probiotic and LC-PUFA Intervention for Optimum Early Life (BRAVE) project which recruited 174 pregnant women by using consecutive sampling in three areas of Jakarta. Anemia indicated by blood hemoglobin concentration of less than 11mg/dL that was obtained from measured capillary blood using a calibrated hemoglobin testing instrument. Maternal factors identified using a structured questionnaire, which consists of age, parity, educational level, working and smoking status, mid-upper arm circumference (MUAC), and gestational age. Furthermore, MUAC assessed using measuring tape. We used multiple logistic regression to analyze the relationship of maternal factors and anemia during pregnancy. There were 31% of participants had anemia. Most of the respondent was in between 20 and 34 years old (75.9%), multiparity (61.5%), finished secondary level as their last education (74%), unemployed (67.8%), never smoked (89.7%), had MUAC  $\geq 23.5$  cm (77.6%), had gestational age  $\geq 21$  weeks (57.5%). After adjusting for all factors, MUAC (AOR 3.4 [95%CI=1.5-7.6]) and gestational age (AOR 0.4 [95%CI=0.2-0.9]) had a significant association with anemia status. In conclusion, pregnant women had MUAC  $< 23.5$ cm and gestational age  $\geq 21$  weeks had a risk to become anemia 3.4 and 0.4 times, respectively. Pregnant women should have adequate nutrition intake, as well as prior pregnancy.

Keywords: Anemia, maternal characteristic, pregnancy

## SELF-SAMPLING VERSUS CLINICIAN-COLLECTED SAMPLE FOR HPV-DNA TESTING: A SYSTEMATIC REVIEW OF STUDIES EXAMINING ACCEPTABILITY

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**Background:** Female self-sampling for HPV-DNA testing is an alternate screening method that can potentially increase cervical cancer screening coverage. Two systematic reviews regarding acceptability of self-sampling have been published but no review has considered women's acceptability of HPV DNA testing by self-sampling compared with conventional clinician-collected sampling. This review addresses this specific question. Barriers and others factors associated with acceptability of either method were also examined. **Methods:** Electronic resources were searched which included Medline (@EBSCOHOST(Medline), Embase, PubMed and CINAHL databases. Manual searches were also conducted. The main outcome of interest was the acceptability of HPV DNA testing by self-sampling in comparison to clinician-collected sampling. The different keywords utilized were: self-sampling, cervical cancer, women, acceptability, Human Papillomavirus (HPV), screening and their synonyms. **Result:** In total 23 papers were included in this systematic review. The majority (19 studies) were interventional quantitative studies and four studies were qualitative observational studies. Ten studies reported a preference for self-sampling by women compared to clinician-collected sampling (64.7%-93%). The remaining studies found that women preferred clinician-collected sampling due mainly to respondents' lack of confidence in doing the self-sampling correctly. In the majority of papers reviewed, the studied associated factors, such as, demographic factors (age, marital status, and ethnicity) socio-economic factors (income, education level), reproductive factors (condom use, number of children, current use of contraceptive, and number of partners) and habits (smoking status) were not found to be significantly associated with preference. **Conclusion:** Both methods of sampling are acceptable to women. Self-sampling is cost-effective and could increase the screening coverage among under-screened populations. However, more information about the quality, reliability, and accuracy

Keywords: acceptability, HPV-self sampling, systematic review



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