

Book of Abstracts
4th International Conference on Public Health
(ICOPH 2018)

19th – 21st July, 2018

Bangkok, Thailand

Committee of the ICOPH - 2018

The International Institute of Knowledge Management (TIKM)

Tel: +94(0) 11 3132827

info@tiikm.com

Disclaimer

The responsibility for opinions expressed in articles, studies and other contributions in this publication rests solely with their authors, and this publication does not constitute an endorsement by the ICOPH or TIIKM of the opinions so expressed in them.

Official website of the conference

www.publichealthconference.co

Book of Abstracts of the 4th International Conference on Public Health (ICOPH 2018)

Edited by Prof. Dr. Hematram Yadav and Prof. Dr. Rusli Bin Nordin

ISBN 978-955-3605-05-4

Copyright @ 2018 TIIKM

All rights are reserved according to the code of intellectual property act of Sri Lanka, 2003

Published by The International Institute of Knowledge Management (TIIKM), No: 531/18, Kotte Road, Pitakotte, 10100, Sri Lanka

Tel: +94(0) 11 3098521

Fax: +94(0) 11 2873371

Hosting Partner:

MAHSA University, Malaysia

Academic Partners:

Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka

University of Muhammadiyah Malang, Indonesia

Sikkim Manipal University, India

North South University, Bangladesh

Organized By:

The International Institute of Knowledge Management (TIKM), Sri Lanka

ICOPH 2018 Committee

PROF. DR. HEMATRAM YADAV

(Conference Co-Chair, ICOPH 2018)

Department of Community Medicine, MAHSA University, Malaysia

PROF. DR. RUSLI BIN NORDIN

(Conference Co-Chair, ICOPH 2018)

Monash University, Malaysia

PROF. ERNEST MADU

(Keynote Speaker, ICOPH 2018)

Chairman and CEO of the Heart Institute of the Caribbean, Jamaica

PROF. JOHN P. ELDER

(Keynote Speaker, ICOPH 2018)

Distinguished Professor and Division Head, Division of Health Promotion and Behavioral Science, San Diego State University, USA

DR. CHAIPORN PROMSINGH

(Keynote Speaker, ICOPH 2018)

Ministry of Public Health, Thailand

DR. KEITH BUCKLEY

(Plenary Speaker, ICOPH 2018)

Director of Physical and Health Education, USA

PROF. DR. PEI LIN LUA

(Plenary Speaker, ICOPH 2018)

Universiti Sultan Zainal Abidin (UniSZA), Malaysia

PROF. STEVEN L. WEST	(Plenary Speaker, ICOPH 2018) <i>Professor and Chair, Counseling, Educational Psychology and Research, The University of Memphis, USA</i>
PROF. DR. FORHAD AKHTAR ZAMAN	(Plenary Speaker, ICOPH 2018) <i>Sikkim Manipal Institute, India</i>
DR. NASRIN BANU LASKAR	(Plenary Speaker, ICOPH 2018) <i>Sikkim Manipal Institute of Medical Sciences, India</i>
DR. RAGHIB ALI	(Plenary Speaker, ICOPH 2018) <i>Director of the Public Health Research Center at NYU Abu Dhabi, United Arab Emirates</i>
ASSOC. PROF. M. NASIR UDDIN	(Plenary Speaker, ICOPH 2018) <i>Texas A&M University College of Medicine, USA</i>
DR. J. PAULO MOREIRA	(Plenary Speaker, ICOPH 2018) <i>Princeton Healthcare International (Director for Europe; Senior Associate for China), USA</i>
DR. JO ANN ANDOY GALVAN	(Session Chair, ICOPH 2018) <i>Taylor's University, Malaysia</i>
DR. SHIROMI MADUWAGE	(Session Chair, ICOPH 2018) <i>Consultant Community Physician, Sri Lanka</i>
DR. SAIRA MEHNAZ	(Session Chair, ICOPH 2018) <i>Aligarh Muslim University, India</i>
DR. KYU KYU THAN	(Session Chair, ICOPH 2018) <i>Burnet Institute, Australia</i>
DR. SHYAMKUMAR SRIRAM	(Session Chair, ICOPH 2018) <i>University of South Carolina, Columbia, USA</i>
DR. ARIS WIDAYATI	(Session Chair, ICOPH 2018) <i>Universitas Sanata Dharma, Indonesia</i>
DR. FINGANI ANNIE MPHANDE-NYASULU	(Session Chair, ICOPH 2018) <i>TIA Bio-Consulting, Malawi</i>

PROF. GIAS U. AHSAN	(Session Chair, ICOPH 2018) <i>North South University, Bangladesh</i>
DR. NATHANAEL SIRILI	(Session Chair, ICOPH 2018) <i>Umeå University, Sweden</i>
DR. MUTALAZIMAH	(Session Chair, ICOPH 2018) <i>Universitas Muhammadiyah Surakarta, Indonesia</i>
DR. KRISHNADAS V.T. MENON	(Session Chair, ICOPH 2018) <i>Amala Medical College, India</i>
DR. ISLAM AMINUL	(Session Chair, ICOPH 2018) <i>North South University, Bangladesh</i>
DR. MOHAMMAD DELWER HOSSAIN HAWLADER	(Session Chair, ICOPH 2018) <i>North South University, Bangladesh</i>
PROF. HAE-JIN KO	(Session Chair, ICOPH 2018) <i>Kyungpook National University, Korea</i>
DR. SOHIDUL ISLAM	(Session Chair, ICOPH 2018) <i>North South University, Bangladesh</i>
DR. IRFAN NOWROZE NOOR	(Session Chair, ICOPH 2018) <i>National Institute of Preventive and Social Medicine, Bangladesh</i>
DR. NIZAM UDDIN AHMED	(Session Chair, ICOPH 2018) <i>North South University, Bangladesh</i>
DR. MARY A.-COLEMAN	(Session Chair, ICOPH 2018) <i>University of Ghana, Ghana</i>
PROF. JAKARIYA	(Session Chair, ICOPH 2018) <i>North South University, Bangladesh</i>
ASSOC. PROF. KHADIJA LEENA	(Session Chair, ICOPH 2018) <i>North South University, Bangladesh</i>
DR. MOHAMMAD NASIR UDDIN	(Session Chair, ICOPH 2018) <i>North South University, Bangladesh</i>

MR. ISANKA. P. GAMAGE

(Conference Convener, ICOPH 2018)

*The International Institute of Knowledge
Management, Sri Lanka*

MR. OSHADEE WITHANAWASAM

(Conference Publication Chair, ICOPH 2018)

*The International Institute of Knowledge
Management, Sri Lanka*

MR. SARANGA MEEPITIYA

(Conference Secretariat, ICOPH 2018)

*The International Institute of Knowledge
Management, Sri Lanka*

Editorial Board - ICOPH 2018

Editors in Chief

Prof. Dr. Hematram Yadav, *Department of Community Medicine, MAHSA University, Malaysia*

Prof. Dr. Rusli Bin Nordin, *Monash University, Malaysia*

The Editorial Board is not responsible for the content of any research paper

Scientific Committee - ICOPH 2018

Dr. Narendra Babu, *Taylor's University, Malaysia*

Dr. Low Bin Seng, *Taylor's University, Malaysia*

Dr. Jo Ann Andoy Galvan, *Taylor's University, Malaysia*

Dr Ahmad M. Qureshi., *Monash University, Malaysia*

Dr. Adeline Chia, *Taylor's University, Malaysia*

Prof. Hematram Yadav, *MAHSA University, Malaysia*

Prof. Dr. Rusli Bin Nordin, *Monash University, Malaysia*

Prof. Chrishantha Abeysena, *University of Kelaniya, Sri Lanka*

Assoc. Prof. Haejoo Chung, *Korea University, Korea*

Dr. Sampatha Goonewardena, *University of Sri Jayewardenepura, Sri Lanka*

Dr. B. Kumarendran, *University of Kelaniya, Sri Lanka*

Dr. Munir Qureshi, *Monash University Malaysia*

Dr. Gul Muhammad Baloch, *Taylor's University, Malaysia*

Prof. (Dr) Forhad Akhtar Zaman, *Sikkim Manipal University, India*

Brig. (Dr) Vijay Mehta, *Sikkim Manipal University, India*

Dr. Nasrin Banu Laskar, *Sikkim Manipal University, India*

Dr. B. Kumarendran, *University of Kelaniya, Sri Lanka*

Dr. Nilanjana Ghosh, *North Bengal Medical college, India*

Dr. Sapna Shridhar Patil, *Taylors University, Malaysia*

Dr. Sampatha Goonewardena, *University of Sri Jayewardenepura, Sri Lanka*

Dr. Haejoo Chung, *Korea University, Korea*

Asst. Prof. Xuan Chen, *Emory University, Georgia*

Dr. Hematram Yadav, *MAHSA University, Malaysia*

Dr. Adeline Chia Yoke Yin, *Taylor's University, Malaysia*

Dr. Ahmad Munir Qureshi, *Monash University Malaysia, Malaysia*

Dr. Jo Ann Andoy Galvan, *Taylor's University, Malaysia*

Dr. Narendra Babu Shivanagere Nagojappa, *Taylor's University, Malaysia*

Dr. Gul Muhammad Baloch, *Taylor's University, Malaysia*

Assoc. Prof. Nithat Sirichotiratana, *Mahidol University, Thailand*

Dr. Adam Dawria Ibrahim, *Shendi University, Sudan*

Dr. Farhan Abdul Rauf, *Public Health Physician/ Researcher, Consultant - Rehabilitation & Disabilities*

Dr. Ahmed Hossain, *North South University, Bangladesh*

Dr. Sunee Lagampan, *Mahidol University, Thailand*

Asst. Prof. Dr. Charuwan Tadadej, *Mahidol University, Thailand*

Prof. Yael Latzer, *University of Haifa, Israel*

Dr. Saira Mehnaz, *Aligarh Muslim University, India*

Prof. Dr. G.U. Ahsan, *North South University, Bangladesh*

Dr. Kulanthayan K.C. Mani, *Universiti Putra Malaysia, Malaysia*

Dr. Mohammad Nasir Uddin, *North South University, Bangladesh*

Prof. Md. Jakariya, *North South University, Bangladesh*

Dr. Gita Sekar Prihanti, *University of Muhammadiyah Malang, Indonesia*

Dr. Mohammad Delwer Hossain Hawlader, *North South University, Bangladesh*

Prof. Aminul Islam, *North South University, Bangladesh*

Dr. Dian Yuliartha Lestari, *University of Muhammadiyah Malang, Indonesia*

Dr. Meddy Setiawan, *University of Muhammadiyah Malang, Indonesia*

Dr. Sohikul Islam, *North South University, Bangladesh*

Prof. Fong, Siu Ming Shirley, *The University of Hong Kong, Hong Kong*

Assoc. Prof. Khadija Leena, *North South University, Bangladesh*

Prof. Anita Abd Rahman, *Universiti Putra Malaysia, Malaysia*

Assoc. Prof. Nizam Uddin Ahmed, *North South University, Bangladesh*

Prof. Anita Abd Rahman, *Universiti Putra Malaysia, Malaysia*

Prof. Sanghamitra Sheel Acharya, *Jawaharlal Nehru University, India*

Dr. Md. Shahjahan, *Daffodil International University, Bangladesh*

Dr. Gita Sekar Prihanti, *University of Muhammadiyah Malang, Indonesia*

Dr. Dian Yuliartha Lestari, *University of Muhammadiyah Malang, Indonesia*

Dr. Meddy Setiawan, *University of Muhammadiyah Malang, Indonesia*

Prof. Anita Abd Rahman, *Universiti Putra Malaysia, Malaysia*

Prof. Siu Ming Shirley Fong, *The University of Hong Kong, Hong Kong*

Prof. Sanghamitra Sheel Acharya, *Jawaharlal Nehru University, India*

Dr. Mohammad Delwer Hossain Hawlader, *North South University, Bangladesh*

Dr. Md. Shahjahan, *Daffodil International University, Bangladesh*

Prof. Anita Abd Rahman, *Universiti Putra Malaysia, Malaysia*

Dr. Ahmed Hossain, *North South University, Bangladesh*

Dr. Kulanthayan K.C. Mani, *Universiti Putra Malaysia, Malaysia*

Dr. Sunee Lagampan, *Mahidol University, Thailand*

Asst. Prof. Dr. Charuwan Tadadej, *Mahidol University, Thailand*

Prof. Yael Latzer, *University of Haifa, Israel*

Dr. Nizam Uddin Ahmed, *North South University, Bangladesh*

MESSAGE FROM THE HOSTING PARTNER ICOPH 2018



Thank you for allowing me to say a few words in this 4th International Conference on Public Health (ICOPH) 2018. Firstly, I must congratulate TIIKM and its collaborators for organising this conference and I understand that this conference is focusing on quality of health care. Quality is a real problem not only in health care but in all sectors of the industry including Universities. Quality as we know is the end-point of everything we do and it is setting standards at all level of the organization and making sure that the standards are met. Therefore many factors impact on quality. To improve quality of health care, it is not only the consumers and the providers who need to be addressed but also the availability of resources that affect quality of care in health care. Therefore in improving quality and safety of the health care we improve the practice, innovate new ideas, improve assess in health care, readjust our processes, and improve practice of health care. For us to improve quality we need to feel a sense of urgency, we need to be tireless and keep up the pressure. From what we implement not everything works so we need to learn what works, so that we can draw maps to help others.

I understand that the main purpose in this conference is to discuss and debate all the best ideas we can muster to improve quality and safety in health care in our work place, because it is simply not acceptable that millions of people globally are injured, and tens of thousands die every year, from medical errors that don't need to occur. Globally the public today knows much more about quality and safety in health care and their expectations are high. The public is looking for dramatic reductions in medical errors. They expect health information technologies to help in reducing errors. In many areas of the world mobile technology is

transforming health care. It can help a lone health worker in the most remote and isolated village to get up to date training and provide high quality care and it can also help connect health worker to obtain latest information that can save lives. For instance in Liberia during the Ebola outbreak the Ministry of Health sent critical information to health workers' through mobile phones to all parts of the country and similarly the health workers used to send time-sensitive information to ministry officials and to one another. In future this type technology will help other countries combating outbreaks and prepare them for future health threats as well.

I understand that there are over 30 countries being represented in the conference with about 700 abstracts and posters. I wish to congratulate the organizing committee making this conference happen and I am proud that MAHSA University is part of this endeavor. I understand that MAHSA University students and staff are actively involved in presenting papers in the conference. I wish all the participants and staff all the best and I am sure you all will deliberate and make the best use of the time in this conference

Thank you,

Prof. Tan Sri Datuk Dr. Hj. Mohamed Haniffa bin Hj. Abdullah,
Pro-Chancellor and Executive Chairman,
MAHSA University,
Kuala Lumpur,
Malaysia.

MESSAGE FROM THE CONFERENCE CO-CHAIR ICOPH 2018



It gives me great pleasure to welcome all of you to this 4th International Conference on Public Health (ICOPH 2018) in Bangkok, Thailand. As you all know the theme of this conference is 'Promoting Quality and Safety in Health Care towards Health Communities' and this is very timely as we are facing quality problems in health care globally. Although globally public health is no longer dominated by infectious diseases but dominated by non-communicable diseases such as chronic diseases (heart disease, diabetes, cancer, and mental-health condition), but infectious diseases do still play an important role and pose challenges to global health security. It is therefore imperative that quality of health care play an important role in the prevention of these diseases.

Quality healthcare is defined as providing effective and efficient healthcare services according to the current clinical guidelines and standards, which meets the patient's needs. It is important and urgent that we implement the principles of quality assurance in all areas of health care including Public Health. The health care provided must not only be efficient and effective but it must also be evidence based. Measurement and assessment of quality are equally important and the two most important methods to assess quality are cost effective and cost efficient. Although many of the basic tools of quality are available, we seldom apply these in our work place to assess programmes to see whether they are effective or not. I hope that this conference will provide you a platform for understanding the concept of quality and that you will be able to apply these concepts when you return.

This year we have received more than 700 abstracts for the conference and we are happy of the tremendous response and support we have received. I am particularly happy that we have participants who have been regularly attending the last few conference and I would like to thank them for their support. I am sure that you all will deliberate and discuss some of the important issues in the next few days and will not only network and take home new ideas but will also implement some of these ideas when return. Finally let me take this opportunity to thank all the plenary speakers and members of the organising committee for the excellent preparations and arrangements for this conference and most importantly you the participants who have made this conference happen. I would like to thank all the academic partners, all universities and collaborators particular the Ministry of Health, Thailand for providing the support for this conference. Hope you will have good time the next few days but don't forget to enjoy the beauty of Thailand while you are here.

Thank you and regards,

Prof. Dr. Hematram Yadav,
Co-Chairman Organising Committee,
Department of Community Medicine,
MAHSA University,
Kuala Lumpur,
Malaysia.

MESSAGE FROM THE CONFERENCE CO-CHAIR ICOPH 2018



Welcome to the 4th International Conference on Public Health (ICOPH 2018) with the theme: **Promoting Quality and Safety in Health Care towards Healthy Communities**. On behalf of the Organizing Committee, Prof. Hematram Yadav and I would like to warmly welcome you to Bangkok, Thailand with the Thai's customary welcoming address of *Sawasdee!* We would like to thank everyone for making your time and effort to attend this international conference. In particular, to the event organizer, TIIKM (The International Institute of Knowledge Management), under the abled stewardship of Mr Isanka P. Gamage, co-founder and managing director, and his elite group of highly talented, motivated, and dedicated young entrepreneurs; scientific committee members who have voluntarily supported the arduous task of reviewing abstracts for the conference; hosting partner (MAHSA University); academic partners (Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka; University of Muhammadiyah Malang, Indonesia; Sikkim Manipal University, India; North South University, Bangladesh); strategic partners [The 16th World Congress of the European Association for Palliative Care (EAPC 2019); International Conference on Community Nursing and Public Health 2018]; Tour & Accommodation Partner (GLOBEENJOY); Event partner (Blue Arc); and ALL keynote and plenary speakers, sessions chairs, delegates and accompanying persons, including virtual presenters. Thank you all for supporting ICOPH 2018!

The **quality and safety of healthcare** is one of the most important factors in health and it has become one of the global health priorities to ensure healthy lives and promote well-being for

all. This global commitment is contained in the Third Sustainable Development Goal of the World Health Organization (SDG3: Ensure healthy lives and promote well-being for all at all ages). Quality improvement is meant for enhancing safety, effectiveness, and efficiency of health care which can be achieved through various quality methods. The quality of healthcare is applicable for all levels of health care including health education system and advanced technologies. ICOPH 2018 creates a great platform to discuss current landscape and next steps for improving quality of health care. The conference will bring together leading academicians, medical students, clinicians, public health professionals, health care specialists, health care workers, health economists, researchers, scientists, health workers, policy makers, social workers and other related professionals. ICOPH 2018 is a global gathering with renowned speakers, presentations, panel discussions, round table discussions, and valuable networking opportunities.

The organizers have prepared an impressive list of 16 conference tracks, publication and conference chair workshop, round table discussion, students' session and gathering, and exhibition, as well as opportunities to publish selected full papers in high quality international, peer-reviewed journals. Four award categories have been created to honour the best presentations: best presentation award, best student presentation award, sessions' best award, and best poster presentation award. Two eminent keynote speakers will deliver state-of-the art lecture on the following: Dengue infections and Childhood Obesity: Battling Epidemics that know no Boundaries (**Prof. John P. Elder**, Distinguished Professor and Division Head, Division of Health Promotion and Behavioral Science, San Diego State University, United States), and Reducing the Global Burden of Cardiovascular Disease: A Model for Sustainable Cardiac Care Development in Developing Countries (**Prof. Ernest Madu**, Founder of the Heart Institute of the Caribbean), and a special guest speaker from Thailand, **Dr. Chaiporn Promsingh**, Medical Officer on Health Promotion, Advisory Level, Office of Senior Advisor Committee, Department of Health, Ministry of Public Health, Thailand. Eight plenary speakers have agreed to share their experiences in this conference: **Prof. Dr. Forhad Akhtar Zaman** (Global Burden of Tuberculosis & Drug Resistant TB), **Dr. Nasrin Banu Laskar** (Clean India Mission), **Dr. Raghieb Ali** (Cardiovascular Disease), **Dr. Keith Buckley** (Evaluating the Right to Affordable Healthcare), **Prof. Dr. Pei Lin Lua** (Community Health Education Empowerment Via e-Health Innovations), **Prof. Steven L. West** (Routine Dental Exams of Persons with Disabilities in the U.S.), **Assoc. Prof. M. Nasir**

Uddin (Molecular pathogenesis of preeclampsia and its potential therapeutics) and **Dr. J. Paulo Moreira** (Financing Health and Wellness Tourism Projects: Success Factors).

The conference will be an excellent opportunity to network and discuss current issues in public health across the globe, with the scope aligned towards the understanding and realization of the World Health Organization's Third Sustainable Development Goal (SDG3). Following from ICOPH 2017 in Kuala Lumpur, we will need to discuss the following issues and practical solutions: What will be the barriers each country would face when achieving these targets in 2030's? How to overcome those barriers? What are the measures that can be taken? The role of Governments and Industries, and how scientific research can support the achievement of the targets in 2030's.

Finally, as agreed during the round table discussions in ICOPH 2017, we need to re-appraise the following Health Targets for SDG3:

- By 2030, reduce the global maternal mortality ratio to less than 70 per 100 000 live births.
- By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1000 live births and under-5 mortality to at least as low as 25 per 1000 live births.
- By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases.
- By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being.
- Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol.
- By 2030 halve the number of global deaths and injuries from road traffic accidents.
- By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes
- Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all.
- By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.

- Strengthen the implementation of the WHO Framework Convention on Tobacco Control in all countries, as appropriate.
- Support the research and development of vaccines and medicines for the communicable and noncommunicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in the Agreement on Trade-Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all.
- Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and Small Island developing States.
- Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks.

The road to success is not easy. But together and inclusively, we can be part of this global effort to address many of the health targets for the SDG3. This international conference is, therefore, an earnest effort to realize our dream of promoting quality and safety in healthcare towards healthy communities.

Finally, please enjoy our networking dinner and cultural show and the many exciting and fascinating tourist destinations in and around Bangkok and Thailand in general.

Thank you very much (*Khob Khun Mark*)!



Prof. Dr. Rusli Bin Nordin
Co-Chair,
Monash University,
Malaysia.

KEYNOTE SPEECH

Dengue infections and childhood obesity: Battling epidemics that know no boundaries. 03

John P. Elder

PLENARY SPEECHES

Evaluating the Right to Affordable Healthcare 07

K. Buckley

Routine Dental Exams of Persons with Disabilities in the US 08

S.L. West

ORAL PRESENTATIONS

OCCUPATIONAL AND ENVIRONMENTAL HEALTH (A)

- | | | | |
|----|----|---|----|
| A1 | 01 | The Quality of Household Environment as the Risk Factor of Tuberculosis and Type 2 Diabetes Mellitus Coincidence in Surabaya, Indonesia | 11 |
| | | <i>M.A. Isfandiari and B.A. Saputra</i> | |
| A2 | 02 | Spatial Effect of Drinking Water Refill Depots toward Diarrhea in Pagatan Kec. Kusan Hilir, Tanah Bumbu District, South Kalimantan | 12 |
| | | <i>D. Andiarsa, D.E. Setyaningtyas, S. Hidayat, I. Setianingsih, Hamsyah and E. Haryati</i> | |

A3	03	Climate Change Implications on Incidence of Vector Borne Diseases in Bangladesh	13
		<i>M.A. Islam</i>	
A4	04	Prevalence of Low Back Pain among Cargo Handlers at a Malaysian International Airport	14
		<i>A.M. Qureshi, R.B. Nordin and K.G. Rampal</i>	

MATERNAL HEALTH (B)

B1	05	Assessment of Knowledge on Newborn Care Practices among Postnatal Mothers in Dhaka, Bangladesh	15
		<i>S. Ahmed, Z.N. Monia, S. Majumder and S.U. Bhuiyan</i>	
B2	06	Factor Associated with Utilization of Modern Family Planning Methods among Married Women of THARU Community of Modhuban Municipality in Bardiya District of Nepal	16
		<i>A. Chaudhari and K. Leena</i>	
B3	07	Early Detection of Anemia in Women Preconception in Working Areas of Puskesmas Sidemen District Karangasem Bali Province	17
		<i>L. Seri-Ani, I.W.A. Utami, W. Weta, I.G.A.S. Darmayani and K. Suwiyoga</i>	
B4	08	Associated Factors of Preterm Birth at a Tertiary Hospital in Kelantan, Malaysia	18
		<i>N.H. Damanhuri</i>	
B5	09	Breastfeeding Practice among Working Mothers and Service Provision Gap at Readymade Garment Factories in Bangladesh	19
		<i>M.L. Khan</i>	
B6	10	Inequality Trends of Antenatal Care among Women in Indonesia 2002-2012	20
		<i>A. Rizkianti and T. Afifah</i>	
B7	11	Maternal Education, Antenatal Care and Infant Mortality in Assam	21
		<i>H. Dipanjali</i>	

B8	12	Exploring the Nexus between Intimate Partner Violence, Sense of Coherence and Antiretroviral Adherence <i>L. Phiri</i>	22
B9	13	Voices of the Stakeholder on Misoprostol Distribution for Prevention of Postpartum Haemorrhage by Auxiliary Midwives in Chin State, Myanmar <i>K.K. Than, K.N. Tin, T. La and H.M.T. Einda</i>	23
B10	14	Comorbidity Identification in Pregnant Women <i>Sulastri, N. Mufidah, S. Rahmawati, E. Dewi and I.H. Rohmatulloh</i>	24
B11	15	Women's Menopausal Experiences: A Qualitative Study among Women in Sri Lanka <i>I.M.P.S. Ilankoon, C. Elgán K. Samarasinghe and G. Kisokanth</i>	25
B12	16	Disparities in HPV Vaccination Uptake among Women with Disabilities in the US <i>S.L. West</i>	26
B13	17	Distress among Women with Abnormal Pap Smear and Post Colposcopy in East Coast of Malaysia <i>M. Mardiana and M.Z. Afiqah</i>	27
B14	18	Husband Support during Menopausal Phases: Exploring the Women's Voices <i>H.I. Idiana, N.H.N. Hazlina, S. Zaharah, A.K. Azidah and M.N.M. Zarawi</i>	28
B15	19	Kangaroo Mother Care: Key Intervention to Reduce Neonatal Morbidity and Mortality at PPHI Sindh <i>G.M. Haelpota, S.B. Boghani and Z.D. Dahar</i>	29
B16	20	Hyperthyroidism Prevalences in Women of Reproductive Age <i>M. Mutalazimah, I. Herawati, S. Asyanti and D.L. Suswardany</i>	30
B17	21	Vitamin D Status in the First Trimester of Pregnancy in West Sumatra, Indonesia: A Cross-Sectional Study <i>A.S. Aji, Yusrawati, S.G. Malik and N.I. Lipoeto</i>	31

B18	22	Filipino Women's Awareness and Beliefs on Cervical Cancer and Papanicolaou Test	32
		<i>J.B. Tagarino</i>	

HEALTH SERVICES MANAGEMENT (C)

C1	23	How Hospital Tengku Ampuan Rahimah Klang (HTAR) Manage Case of MERS-CoV	33
		<i>S. Nithiya</i>	
C2	24	Clinico-Demographic Profile of Pulmonary Tuberculosis Patients Seen at the Outpatient Department Family Medicine Clinic from March 2014 to March 2015	34
		<i>A.C. Lacambra-Agner</i>	
C3	25	"Doctors Ready to be Posted are Jobless on the Street..." The Deployment Process and Shortage of Doctors in Tanzania	35
		<i>N. Sirili, F. Gasto, A. Kiwara, M. Mwangu, I. Goicolea and Anna-Karin Hurtig</i>	
C4	26	Individual, Organizational, and Technological Factors that Affect Knowledge Sharing Practices among Multidisciplinary Health Professionals: Lessons from Public Healthcare Centers in Indonesia	36
		<i>G. Imaduddin, Ryan Walter, Samantha Hollingworth</i>	
C5	27	The Pattern of Utilization of Telemedicine in Dhaka City	37
		<i>M.T. Hasan, M.D.H. Hawlader, F. Zaman, S. Das, K. Jakaria, N.M.I. Hossain, N. Akter, B.H. Angona, R.A. Masud and S.R. Mashreky</i>	
C6	28	Training Programs for Community Health Workers: A Scoping Review	38
		<i>Y. Chin and J.H. Jordaan</i>	
C7	29	Prevalence and Characteristics of Traditional Complementary and Alternative Health Care Use in Indonesia: A Nationally Representative Sample of 290,000 Adults	39
		<i>D.L. Suswardany, V. Yulian and K. Haryadi</i>	

C8	30	Efficiency of New Visual Biofeed Back Device – Synchronized Breathing Trainer – For Training Breathing Control	40
		<i>D. Kotoky and G.D.V. Vardhan</i>	
C9	31	The Effect of Wet Cupping Therapy on Fasting Blood Sugar, Renal Function Parameters, and Endothelial Function: A Single-Arm Intervention Study	41
		<i>N.R.N. Husain, S.M. Hairon, R.M. Zain, M. Bakar, T.G. Bee and M.S. Ismail</i>	
C10	32	Are the Hospital Setting Safe from Legionellosis in Klang Valley	42
		<i>S.W. Tham, W. Noraini and A. Firdaus</i>	
C11	33	Facility Delivery is the Imperative Factor for Receiving PNC: Insights from 2014 Bangladesh Demographic and Health Survey	43
		<i>S. Tisha, S.M.R. Haque and O. Rahman</i>	
C12	34	General Health Status in Rural Bangladesh: Assessing the Need and Feasibility of a Subjective Health Measurement Tool	44
		<i>S.M.R. Haque, S. Tisha, M. Alam and O. Rahman</i>	
C13	35	Completeness of Maternal Health Referral Forms at the District Level	45
		<i>M. Amoakoh-Coleman, K. Klipstein-Grobusch, E.K. Ansah and D.K. Arhinful</i>	
C14	36	Palatal Rugae and Lip Print Pattern Study as the Alternative Method of Mass Nature Disaster Victim Identification	46
		<i>N. Kasuma , F.N. Fajrin, D. Elianora , A. Fitriana and F. Haria</i>	
C15	37	Semen Analysis Parameters: Insight into Male Infertility in a Tertiary Care Hospital	47
		<i>N. Mahboob, M. Ahmed and K. Leena</i>	
C16	38	HIV Care Continuum in Southwest Ethiopia— Facilitators, Barriers and Solutions: A Qualitative Inquiry Followed by a Nominal Group Technique	48
		<i>H. Gesesew, P. Ward, K. Woldemicahe and L. Mwanri</i>	
C17	39	Parental Trust in Childhood Vaccinations: Risk, Responsibility and Alternative Rationalities	49
		<i>P.R. Ward</i>	

C18	40	Cultivating Health Service Delivery of Ethiopia's Primary Health Care through Leadership, Management and Governance (LMG)	50
		<i>M.S. Abdulkader</i>	
C19	41	Predictors of and Barriers Associated with Health Services Utilization among Persons with Disability	51
		<i>B.J.N. Pedron</i>	
C20	42	The Utilization and Correlates of Basic Public Health Service among Young Migrants in China	52
		<i>Q. Yan and L. Tong</i>	
C21	43	The Doctors' Challenge in Disruption Era	53
		<i>T.A. Sugiyatmi and D. Chalidyanto</i>	
C22	44	Determinants of Household Catastrophic Health Expenditure: A Global Perspective for Universal Health Coverage	54
		<i>M. Azzani, A.C. Roslani and T.T. Su</i>	
C23	45	Role of a Multimodal Intervention in Improving Hand Hygiene Compliance for Safe Health Care Management: Evidence from Resource Poor Settings	55
		<i>L. Ara, M.E.H. Tamal, N.K.A. Siddiquee, S.M.N. Mowla, M.S.A. Sarker and M.N.H. Alam</i>	
C24	46	Improved Performance at District Health Systems through Implementing Health Center Clinical and Administrative Standards: A Case of Transform Primary Health Care in Ethiopia	56
		<i>M.D. Argaw, B.F. Desta and T. Ayehu</i>	
C25	47	Disrespectful Maternity Care Experiences Negatively Influence Future Intention to Use Institutional Delivery in Northern Ethiopia	57
		<i>M.W. Gebremichael, Y. Berhane, A. Worku and A.A. Medhanyie</i>	
C26	48	HEPINAR (HELM PINTAR) "Smart Helmet": An Innovation of Safety Helmet Use Electroencephalogram Sensor and Electrocardiogram Sensor Based Fuzzy Logic to Resolve Accident Caused Sleepy and Reducing the Speed Motor Vehicles	58
		<i>K. Priambodo, M. Fanani and I. Sulaiman</i>	

CHILD HEALTH (D)

D1	49	Factors Motivating Village Doctors to Refer Sick Children in Public Health Facilities in Bangladesh	59
		<i>G. Mothabbir, F. Fatema, S. Jahan and K. Leena</i>	
D2	50	Trends and Determinants of Overweight and Obesity among Reproductive Age Women in Bangladesh: Evidence from 20 Years of National Health Surveys	60
		<i>S.S. Yusuf and S. Alam</i>	
D3	51	The Association between Number of Children and Neonatal Mortality: An Analysis of the 2007 Indonesian Demographic and Health Survey	61
		<i>A.C. Wijayanti and Yovsyah</i>	
D4	52	Effects of Poor Protein Intake and In-House Over-Crowding on Childhood Tuberculosis in a Low-Income Bangladeshi Rural Community: A Case-Control Study	62
		<i>A. Hossain</i>	
D5	53	Does Private Sector Contributes in Increasing Caesarean Deliveries in India?	63
		<i>D.W. Bansod</i>	
D6	54	Factors Influencing the Practice of Child Marriage among Girls in the Urban Slums of Bangladesh: A Cross Sectional Study	64
		<i>S.C. Biswas, T. Hasan, S.S. Mowri, H.H. Sara and S.F. Rashid</i>	
D7	55	Vaccine Hesitancy among Parents in Malaysia: A Single Centre Review	65
		<i>A.F. Musa, T. Soni and R. Nordin</i>	
D8	56	The Preferences of Indonesian Fathers for Involvement in the Birth of Their First Child: A Qualitative Exploration	66
		<i>W.N. Ambarwati and F.B. Rahayuningsih</i>	
D9	57	Increasing Identification of Low Birth Weight babies in High Priority Districts of Uttar Pradesh, India	67
		<i>N. Singhal, J. Pathak, D. Chintada and J. Anthony</i>	

D10	58 Neonatal Thyroid Stimulating Hormone Level and Its Association with Birth Weight Status	68
	<i>A.R. Yono, M.M. Pasaribu, N. Yanti, L. Anandari, D.N. Kosen and I.S. Timan</i>	
D11	59 Comparison of Neonatal Thyroid Stimulating Hormone Reference Value in Indonesia According to Age and Gender Differences	69
	<i>M.T. Ramadhan, M.M. Pasaribu, N. Yanti, L. Anandari, D.N. Kosen and I.S. Timan</i>	

NON COMMUNICABLE DISEASES (E)

E1	60 Established and Unestablished Cancer Risk Factors: Perceptions of The French General Population, Results of a National Survey	70
	<i>J. Foucaud, M. Soler, C. Bauquier, M. Pannard and M. Pr��au</i>	
E2	61 Research on Chronic and Rare Disease Patient Care Model and Its Prevalence in the Society along with the Impact of Patient Health While Giving Care at Home	71
	<i>R. Arshad</i>	
E3	62 Differential Risk Factors for Mortality in Cancer and Non-Cancer Hospitalized Patients with Community-Associated <i>Clostridium difficile</i> Infection: A Retrospective Cohort Study	72
	<i>J. Ho, R.Z.W. Dai, L. Zhang, X.S. Wang, S.C. Ng, W.K.K. Wu and S.H. Wong</i>	
E4	63 Plasma Concentrations of Zonulin are Elevated in Obese Men with Fatty Liver Disease	73
	<i>Hae-Jin Ko</i>	
E5	64 Neurorestoration Using a Guide of the Intervention Description and Replication (TIDieR) on Functional Ability of Post Ischemic Stroke Patients	74
	<i>U.B. Rahayu, S. Wibowo and I. Setyopranoto</i>	
E6	65 Quality of Life of People with Cancer Treated with Specific Immunotherapy: Which Tools and Results in the Context of Disruptive Treatment? A Systematic Review	75

- | | | | |
|----|----|---|----|
| E7 | 66 | Does <i>Self Efficacy</i> to Engage Physical Activity and Sedentary Activity Relate to BMI in Diabetic Elderly? | 76 |
|----|----|---|----|

Q. Rachmah, S.W. Setyaningtyas, M.A. Rifqi, D. Indriani, T.S. Nindya, H. Megatsari, T. Mahmudiono and W. Kriengsinyos

CARDIOVASCULAR DISEASE (CVD) (F)

- | | | | |
|----|----|---|----|
| F1 | 67 | The Impact of Hospital Organization Factors and Family Support on Improving the Recovery of Cardiovascular Patient Based on HAPA (Health Action Process Approach) | 77 |
|----|----|---|----|

A.F.N. Azizah, S. Supriyanto and S. Martini

- | | | | |
|----|----|---|----|
| F2 | 68 | Family Support and Quality of Life in Congestive Heart Failure Patient in Community | 78 |
|----|----|---|----|

D. Hudiyawati, A.W. Jatmiko and E. Sulistyono

- | | | | |
|----|----|--|----|
| F3 | 69 | Assessment of Cardiovascular Disease Risks (ST Segment Elevation/Depression Myocardial Ischemia) in Women Exposed to Biomass Fuels in Rural Village of Nepal | 79 |
|----|----|--|----|

R. Kawan

DENTAL HEALTH (G)

- | | | | |
|----|----|--|----|
| G1 | 70 | The Increasing of Dental and Oral Health Knowledge through Dental Educational Robotic Media towards The Students of Al-Baitul Amien and Bintoro 3 Primary School District Patrang Jember Regency | 80 |
|----|----|--|----|

F. Lailiyah, Sulistiyani, Kiswaluyo, E.Y.R. Widi and R. Budirahardjo

- | | | | |
|----|----|--|----|
| G2 | 71 | The Clinical Pathway in the Oral and Maksillofacial Surgery's Services as a Quality Management Tool, in RSUD Dr. Soetomo Hospital, Surabaya, Indonesia | 81 |
|----|----|--|----|

N.D.S. Ismawati and S. Haksama

G3	72	The Number of Missing Permanent Molar Teeth Based on Characteristics of Respondent on Lubuk Buaya Public Health Center	82
		<i>Murniwati, Susi, N. Kasuma and N. Rawinda</i>	

ADOLESCENT, YOUNG ADULTS AND ELDERLY HEALTH (H)

H1	73	Double Burden of Malnutrition among Adolescent Students of East Sikkim	83
		<i>T. Dolkar, V.K. Mehta and J.T. Wangdi</i>	
H2	74	Adolescents' Perception and the Association of Level of Knowledge with Attitude in Javanese Culture	84
		<i>A. Muhlisin, A. Pratiwi and D. Windriawati</i>	
H3	75	Cinema in the Bus (CiBus): A Pilot Project to Increase Knowledge and Self-Efficacy among Adolescents Regarding Sexual and Reproductive Health	85
		<i>N.P.A. Harjana, N.Y.K. Surya and I.M.A. Wirawan</i>	
H4	76	Nourishing dreams: How Adolescents are Shaping Ideas for Their Own Future in Bangladesh?	86
		<i>Ahmed Nizam, Brownia Farzana, Islam Rafiqul, Leena Khadija, Salwa Zeena</i>	
H5	77	Quality of Life and Sexual Risk Behaviour among Adolescent	87
		<i>G. Vionalita</i>	
H6	78	Assessment of Depression in Geriatric Staying in a Geriatric Home Care in Klang, Malaysia	88
		<i>M. Qamar, N.Z. Afifah, M.A. Hammad, F.A. Shaikh and S. Ahmad</i>	
H7	79	Subjective Economic Situation Is Strongly Associated with Low Back Pain among Older People in Japan: The JAGES Cross-Sectional Study	89
		<i>T. Ikeda, K. Sugiyama, J. Aida, T. Tsuboya, N. Watabiki, K. Kondo and K. Osaka</i>	

H8	80	Glycemic Control and Self-Efficacy in Physical Activity of Diabetes Elderly at Jagir Subdistrict, Surabaya, Indonesia	90
		<i>S.W. Setyaningtyas</i>	
H9	81	Comprehensive Physician Communication Patients	91
		<i>A. Toni</i>	

NUTRITION (J)

J1	82	Contextual Determinants Influencing the Utilization of Nutritional Program among Adult Patients with HIV in Ethiopia: A Mixed Methods Study	92
		<i>F.H. Tesfay, S. Javanparast, A. Ziersch, L. Mwanri and A. Mulugeta</i>	
J2	83	Factor Associated with Severe Acute Malnutrition (SAM) among <5 Years of Children in Tharu Community of Kailali District, Nepal	93
		<i>R. Pokhrel, D.K. Mitra and K. Leena</i>	
J3	84	Is Serum Retinol a Misleading Biomarker for Assessment of Vitamin A Adequacy in pregnant Women?	94
		<i>M.S.K. Rabindrakumar, V.P. Wickramasinghe and T. Thoradeniya</i>	
J4	85	Women Counseling towards Mothers of Malnourished Children as Effective Way Promote Nutritional Conscious Families Program (Kadarzi) in Indonesia	95
		<i>A. Putri R, A. Dwi M and T. Mahmudiono</i>	
J5	86	Socioeconomic Differentials in Minimum Dietary Diversity among Young Children in Southeast Asia: Evidence from Demographic and Health Surveys	96
		<i>C.M. Harvey, M.L. Newell and S.S. Padmadas</i>	
J6	87	Relationship between Nutritional Status, Health Status, Food Consumption, and Lifestyle to Work Productivity of Cocoa Farmer	97
		<i>W. Yunieswati, S.A. Marliyati and B. Setiawan</i>	
J7	88	Neonatal Thyroid Stimulating Hormone Status Based on Maternal Adequate Iodized Salt Intake Status in Indonesia	98
		<i>R.A. Trianto , M.M. Pasaribu, N. Yanti, L. Anandari, D.N. Kosen</i>	

and I.S. Timan

- | | | | |
|---|----|--|-----|
| J8 | 89 | Breastfeeding Pattern Influences the Occurrence of Early Childhood Caries of Children under Five Years Old: A Study Case in Bukittinggi, Indonesia | 99 |
| <i>Susi¹, Murniwati, N. Kasuma, R. Khairani and Minarn</i> | | | |
| J9 | 90 | Association of Lifestyle and Dietary Habits with Blood Choline and Cardiovascular Outcome | 100 |
| <i>M. A Ali, M. Nasir, T. N Pasha and I. Javid</i> | | | |

SCHOOL AND STUDENT HEALTH (K)

- | | | | |
|--|----|---|-----|
| K1 | 91 | The Effect of Serum Cortisol, Systolic and Diastolic Blood Pressure, Heart Rate and Respiration Rate on Exam Anxiety among Nursing Students | 101 |
| <i>F. Hamzah, K.C. Mat and V. Bhagat</i> | | | |
| K2 | 92 | Contraception Supply Chain Challenges: A Review of Evidence from Low- And Middle-Income Countries | 102 |
| <i>M. Bakali, M. Ali, M. Farron and V. Renee</i> | | | |
| K3 | 93 | Health Expenditures Experienced by Pregnant Women in India: Evidence from National Data | 103 |
| <i>S. Sriram</i> | | | |
| K4 | 94 | Prevalence of Obesity among Taylor's University Medical Students | 104 |
| <i>J.A. Andoy-Galvan</i> | | | |
| K5 | 95 | Drinking Water and Toilet Facilities: Student's Perceptions and Barriers in Selected Schools of Dhaka, Bangladesh | 105 |
| <i>G.S.M. Pritom</i> | | | |
| K6 | 96 | Quality of Life of Local and International Medical Students at MAHSA University | 106 |
| <i>Y.C. See, Y.Y. Ho, C. Govindaraja and K.K.M. Aung</i> | | | |

K7	97	Barriers to the Successful Implementation of the Integrated School Health Programme in Durban Metropolises South Africa: Policy Makers and Stakeholders' Perspective	107
		<i>N.B. Gwelo</i>	
K8	98	Assessing Parental Acceptance towards Using Digital Game as an Educational Tool	108
		<i>N. Saidin, S.H.Ab Hamid and R.A. Zaki</i>	
K9	99	Intellectual Capacity and Sexual Violence in Children Visiting Integrated Crisis Center of Ciptomangunkusumo Hospital, Indonesia	109
		<i>C.S. Cherry and K. Fransiska</i>	

HEALTH PROMOTION AND EDUCATION (L)

L1	100	Undetected Diabetes in Relation to Hypertension and Anthropometry; A Movement towards Preventive India	110
		<i>B. Upreti</i>	
L2	101	Supporting Community through Health Education Using Jigsaw and Think-Pair-Share Methods	111
		<i>E. Dewi , F.B. Rahayuningsih , D.K.A. Putri, E. Yuniawati and S. Suwandi</i>	
L3	102	A Holistic Tradition of British Hygiene and Medicine, Reflected in E. W. Lane's Medical Theorisation of Hygiene	112
		<i>M. Bae</i>	
L4	103	To Evaluate the Role of Print Media in Gaining Traction and Promoting Community Engagement in Organ Donation by Regional Organ & Tissue Transplant Organization (ROTO), Post Graduate Institute of Medical Education & Research (PGIMER), Chandigarh	113
		<i>A.K. Gupta, V. Koushal and S.D. Madra</i>	
L5	104	Building Local Partnerships to Impact Access to Health and Civic Amenities in Vulnerable Populations: A Community Intervention Study	114

L6	105	The Need of Spiral Learning in Biostatistic : Implications for Curriculum Design	115
		<i>G.S. Prihanti and M. Fauzan</i>	

COMMUNICABLE DISEASES (M)

M1	106	The Role of Socio-Cultural and Environmental Risk Factors on the Incidence of Tuberculosis Infection	116
		<i>F.A Siregar and T. Makmur</i>	
M2	107	Validation of Questionnaires on Leptospirosis Knowledge, Attitude and Practice among Urban and Rural Communities in Malaysia	117
		<i>W.M. Zahiruddin, W.N. Arifin, S. Mohd-Nazri, S. Sukeri, R.A. Hamat, I. Zawaha, R.A. Bakar, O. Malina, T.Z.M.T. Jamaludin, A. Pathman, A.R. Mas-Harithulfadhli-Agus, I. Norazlin, B.S. Suhailah, S.N.S. Saudi, N.M. Abdullah, N. Nozmi, A.W. Zainuddin and D. Aziah</i>	
M3	108	Acceptance of Seasonal Influenza Vaccination among Nurses in a Hong Kong Public Hospital with Health Belief Model	118
		<i>L. Shuk-Hang and D. Chao</i>	
M4	109	The Negative Value of Some Socio-cultural Traits Affecting Transmission and Development of Pulmonary Tuberculosis Among OPD Clients at the Eastern Visayas Regional Medical Center (EVRMC) , Tacloban City, Leyte , Philippines	119
		<i>I.P. Balonga</i>	
M5	110	Association between Household Socioeconomic and Ecological Factors and Aedes Mosquito Abundance in Dhaka, Bangladesh	120
		<i>K. Bashar, K. Leena and G.U. Ahsan</i>	
M6	111	Knowledge, Attitude and Preventive Practices on Leptospirosis among Rural Communities in Selangor, Malaysia	121
		<i>N. Noramira, S. Suhailah, S. Surianti, S.M. Nazri, W.M. Zahiruddin, I. Zawaha, W.M.W.N. Arifin, I. Norazlin, S.S.N. Sakinah, A.N.Munirah, A.W. Zainudin, T.J.T.Z. Maztura, A.R.</i>	

M7	112	Comparative Genomic Analysis of Uropathogenic <i>Escherichia coli</i> isolated from Dhaka, Bangladesh	122
		<i>T. Tabassum, N. Khan, M. Sarker, A. Sadique, A. Rahman, A. Khaleque, G.U Ahsan and M. Hossain</i>	

TOBBACO USE (N)

N1	113	The View of Tobacco Consumption in Indonesia: Using Indonesia Family Life Survey 5 Data	123
		<i>A.T. Purnamasari</i>	
N2	114	Prevalence and Patterns of Tobacco Product Use in Japan: First-Year Results of a Repeated Cross-Sectional Survey	124
		<i>P. Langer, L. Prieto, D. Skiada, M. Dobrynina, A. Van der Plas, E. Afolalu, Z. Sponsiello, G. Baker, R. Weitkunat and F. Luedicke</i>	
N3	115	The Prevalence of Positive Smoker Identity and its Associated Factors	125
		<i>M.H. Ahmad, A. Ab Rahman, K.I. Musa, F.M. Zin, N.A. Hassan, M. Omar, R. Hasan, R.M. Zain and M.I. Ibrahim</i>	
N4	116	Testing the Combination of Behaviour Change Techniques for Smoking Cessation: A Factorial Randomised Trial in Thailand	126
		<i>P. Kingkaew, L. Glidewell, R Walwyn and J.C. Wyatt</i>	
N5	117	Effectiveness of Tobacco Control Measures at Public and Private University Campuses in Bangladesh	127
		<i>M.G.U. Ahsan and K. Leena</i>	
N6	118	Prevalence and Patterns of Tobacco Consumption among High-Risk Population of Bangladesh	129
		<i>M. Jahan, M. Hasan, M. Rahman, K. Leena, M.N. Uddin and G.U. Ahsan</i>	

N7	119	Cross-Sectional Study on Tobacco Use among Adult Population in Ajman UAE	130
		<i>J. Sreedharan, J. Muttappallymyalil, R.B. Shaikh, S. Al Sharbatti and S. Sherman</i>	
N8	120	JFC (Jember Fashion Carnaval) for Jember City Free from Negative Effects of Smoking	131
		<i>B. Abdillah</i>	

PHARMACY Q)

Q1	121	Effect of <i>Morinda citrifolia</i> Extract on Cytokine IL - 4 and IL - 10 in White Rats Wistar Strain Induced Pirazinamide, Levofloxacin and Etambutol	132
		<i>T.D.N. Subchi</i>	
Q2	122	Treatment Outcomes and Their Association with Type of Resistance among Drug Resistant Tuberculosis Patients during 2014-2015 in Punjab, Pakistan: A Retrospective Cohort Analysis	133
		<i>S. A. Khan</i>	
Q3	123	Neonatal Thyroid Stimulating Hormone Level and Its Association with Prematurity Status	134
		<i>U.K. Rizqi, M.M. Pasaribu, N. Yanti, L. Anandari, D.N. Kose and I.S. Timan</i>	

MENTAL HEALTH (R)

R1	124	Validity and Reliability Test of Medication Adherence Rating Scale for Psychosis (MARS) Instrument Indonesian Version	135
		<i>A. Kasmianto</i>	
R2	125	Health Status, Psychosocial Profile and Life Satisfaction of Substance Abusers: An Insight within Inmates of Inabah Programme	136
		<i>P.L. Lua, A.N.N. Afiqah, M.A. Manam, H. Azmi, M. Mokhairi and A.J. Julaily</i>	

R3	126	Home Based Caring of Mentally Ill Persons; Coping Strategies and Issues Faced by Families	137
		<i>J.M.S.N. Jayasooriya</i>	
R4	127	Help-Seeking and Access to Services for Mental Health Problems among Adolescents in Selangor, Malaysia	138
		<i>R. Khairudin, N.D.N. Farid and M. Ismail</i>	
R5	128	Severity and Sources of Perceived Stress among Pharmacy Undergraduate Students in Malaysia	139
		<i>S. Ahmad, N.I.H. Bashri, Y.Z. Wong, C.Q. Chow, F.A. Shaikh and M. Qamar</i>	
R6	129	Factors Analysis Affecting Antenatal Care Drop Out in Primary Health Care	140
		<i>G.S. Prihanti, Y. Baidowi, S. Handayani, M.F. Febriady, W.W.P.M. Rohmasari, S.F. Amaliya and G.R. Novianti</i>	
R7	130	Perinatal Anxiety Screening Scale (PASS): A Valid Tool to Detect Anxiety among Pregnant Women	141
		<i>M.N. Priyadarshanie, M.D.I.A. Waas, D.M.S. Fernando, B.C.V. Senaratna, C.S.E. Goonewardena and A. Balasuriya</i>	
R8	131	The Associations between Discrimination and Self-Report Health in Chinese Migrant Workers: Moderated by Social Integration and Perceived Stress	142
		<i>L. Tong, Q. Yan and I. Kawachi</i>	
R9	132	Reduced Psychosocial Risk in 31 Austrian Companies	143
		<i>R. Polacsek-Ernst</i>	
R10	133	Internalizing and Externalizing Behavioral Problems among Patients with Borderline Personality Disorder: Mediating Role of Adaptive Family Functioning	144
		<i>S. Khan and A. Kamal</i>	
R11	134	Psychological Distress on Diabetes Patient Experience Related to Lifestyle Changes	145
		<i>A. Pratiwi, A. Muhlisin, Y.I. Permana and F. Nursita</i>	

R12	135	Subnational Inequality of Caesarean Section in Urban-Rural Area of Indonesia	146
		<i>Suparmi, N. Kusumawardhani and K.A. Susiloretni</i>	
R13	136	Are Women with Depression More Prone to the Development of Other Chronic Diseases? A Longitudinal Study among Married Women in Rural Bangladesh	147
		<i>S. Aziz</i>	
R14	137	A Study on the Knowledge and Attitude Regarding the Internet Blue Whale Game among Adolescent School Children in a Private School in a Rural Area of Kerala , South India	148
		<i>V.T.K. Menon and V. Joshy</i>	
R15	138	Effect of Yoga on the Individuals with Alcohol Use Disorder	149
		<i>S. Tambare and T. Varade</i>	
R16	139	<i>I'm Fine</i> ' - A Short-Film on Mental Illness Stigma	150
		<i>A.S. Reddy</i>	

POSTER PRESENTATIONS (P)

P1	140	Low Back Pain and Disability Status in Rural Housewives	154
		<i>I.N. Noor and M.A. Rahman</i>	
P2	141	The Development and Validation of Healthy Living Pattern Mobile Application for Adolescent	155
		<i>E. Prafiantini, F. Witjaksono, A.J. Ananda, R. Anggraini, K. Fauzia, M. Khoirunnisa, O.L. Sari, T.J. Manik, L. Patriantoro, D. Saptarini, N. Sutarina and M. Mansyur</i>	
P3	142	Discriminatory Attitude towards HIV/AIDS among Public Health Care Professional in Urban Malaysia: A Descriptive Study	156
		<i>R.Z. Saguntala and L.P. Wong</i>	

P4	143	Nutritional Care in Hospital Discharge Plan: A Districted Hospital Experience	157
		<i>Yu-Ru Lin, Ya-Wen Fan, Yi-Ling Yang, Hsiao-Chun Lin and Chung-Mei Ouyang</i>	
P5	144	Effectiveness Test of Decreasing Hexavalent Chromium in Batik Liquid Waste Using Chitosan of Shrimp and Crab Shell at Laweyan Village, Surakarta	158
		<i>K.P. Putera , G. Pramudani and A.D.Y. Rahayu</i>	
P6	145	Cultivating Health Service Delivery of Ethiopia's Primary Health Care through Leadership, Management and Governance (LMG)	159
		<i>M.S. Abdulkader</i>	
P7	146	Effectiveness of Tobacco Control Measures at Public and Private University Campuses in Bangladesh	160
		<i>M.G.U. Ahsan and K. Leena</i>	
P8	147	Effect of Extract Noni Fruit (<i>Morinda citrifolia</i> L.) on Liver Damage Histopathology of White Male Rats	162
		<i>D.Y. Lestari and N.R. Alifany</i>	
P9	148	Factors which Determines the Severity of Fluid Leakage in Dengue Hemorrhagic Fever Patients: An Analysis Done in a Medical Ward in Sri Lanka	163
		<i>A.K.D. Nadeeshani, P.M. Mendis, I.S Almeida and N. Sritharan</i>	
P10	149	Health Care Financing: A Case for Health Insurance	164
		<i>S. Bhuyan</i>	
P11	150	Effect of Nematode Drived Peptide on Activation of Collagen Synthesis and Skin Wound Healing	165
		<i>M.K. Park, H. Kim, S.A. Kang, J.H. Choi , D.I. Lee, S.H. Park and H.S. Yu</i>	
P12	151	Low Back Pain among Nurses in Public Hospitals: A Validation Study of BACKS Tool	166
		<i>W.M.W.N. Arifin, Z.I. Uzair, S.M. Nazri and I.M. Ismail</i>	
P13	152	Post-Discharge Support for Persons with Mental Illness: A Nursing Research Review	167
		<i>J. Shimasawa, M.Osawa, M. Ueno, Y. Shimizu and Y. Kubo</i>	

P14	153	Effect of Vitamin D Status Associated with Age and Obesity as Risk Factors of Vitamin D Deficiency	168
		<i>R.V. Suryadinata, B. Wirjatmadi, M. Adriani and S. Sumarmi</i>	
P15	154	Health-Related Quality of Life And Mental Health Outcomes of Drug Dependents Undergoing Inabah Programme in Malaysia	169
		<i>P.L. Lua, A.N.N. Afiqah, M.A. Manam, H. Azmi, M. Mokhairi and A.J. Julaily</i>	
P16	155	Can Inabah Drug Rehabilitation Programme Improve Religiosity and Clinical Symptom Profiles?	170
		<i>P.L. Lua, A.N.N. Afiqah, M.A. Manam, H. Azmi, M. Mokhairi and A.J. Julaily</i>	
P17	156	Disinfection and Sterilization of Medical Equipments: A Multimodal Capacity Building Initiative for Ensuring Patient Safety	171
		<i>M.E.H. Tamal, N.K.A. Siddiquee, S.M.N. Mowla, M.N.H. Alam, M.S.A. Sarker and L. Ara</i>	
P18	157	Recognizing People Affected by Leprosy in Health Community by Reducing Sigma Though Right-Based Counseling Model	172
		<i>M.M. Lusli</i>	
P19	158	Analysis of Perception Differences of Patient Satisfaction with Catastrophic Disease on Hospital Service Before and After BPJS	173
		<i>M.Wartiningsih, S. Supriyanto, D. Chalidyanto and H.T. Silitonga</i>	
P20	159	The Influence of Quality of Health Service to Patient Satisfaction Level of Inpatient in Muna Hospital Based on SERVQUAL Dimension	174
		<i>F.E.B. Setyawan, S. Supriyanto, F. Tunjungsari and W.O.N. Hanifaty</i>	
P21	160	Effect of <i>Morinda citrifolia</i> Extract on Cytokine IL - 4 and IL - 10 in White Rats Wistar Strain Induced Pirazinamide, Levofloxacin and Etambutol	175
		<i>T.D.N. Subchi</i>	
P22	161	The Invisible Population –Infectious Diseases and Rural Livelihood in Developing Countries	176
		<i>F.A. Mphande-Nyasulu</i>	

P23	162	Implementation of “Gerakan Desa/Kelurahan Sehat Dan Cerdas (GDSC)” Program to Accelerate Village Development	177
		<i>A.N. Chabibah</i>	
P24	163	Sex Education in Digital Age: Increasing Self Awareness among Teenagers through a Collaborative Approach	178
		<i>N.Y.K. Surya, N.P.A. Harjana and I.M.A. Wirawan</i>	
P25	164	Asthma Pharmaceutical Care Service to Promote Patients’ Safety: Self-Assessment from the Indonesian Pharmacists	179
		<i>A. Widayati and P.D. Christasani</i>	
P26	165	Enhance Cleanliness, Excel in Healthcare: A Capacity Building Initiative in Bangladesh	180
		<i>F. Hossain, M.E.H. Tamal, N.K.A. Siddiquee, S.M.N. Mowla, M. N.H. Alam, M.S.A. Sarker, L. Ara</i>	
P27	166	Breastfeeding among Working Mothers at Taylor’s University, Malaysia	181
		<i>J.A. Andoy-Galvan</i>	
P28	167	Public Health Midwives’ Health Promotion Activities towards Abnormal Vaginal Discharge	182
		<i>I.M.P.S. Ilankoon., C.S.E. Goonewardena, R.C. Fernandopulle P.P.R. Perera</i>	
P29	168	Knowledge, Attitudes and Practices on Falls Injury among Mothers of Children 1-5 Years of Age at a Selected Medical Officer of Area of Sri Lanka	183
		<i>H.C. Mallawatantri and S. Maduwage</i>	
P30	169	Knowledge, Attitude& Practice About Dengue Fever among Students of Taylor’s University	184
		<i>J.A. Andoy-Galvan</i>	
P31	170	The Relationship between Menopausal Status and Central Obesity: Study on Rural Women in Banjaroyo Village, Yogyakarta, Indonesia	185
		<i>P.D. Christasani</i>	

P32	171	Effectiveness of the Diabetes Conversation Map Education Tools on Diabetes-Related Parameters of Outpatients with Diabetes	186
		<i>Hsiao-Chun Lin, Chung-Mei Ouyang, Yi-Ting Chan, Yuh-Lin Liu, Shiow-Jen Tsay and Ching Lu</i>	
P33	172	Improving Quality of Life of Cervical Cancer Patients in an Apex Hospital, India: An Innovative Approach	187
		<i>A. Singh, V. Suri, S. Ghoshal, S. Kaur and A. Singh</i>	
P34	173	Visual Attention of Functional Brain Networks Using EEG in Young Adults	188
		<i>Ming-Chang Chiang</i>	
P35	174	Child Nutritional Status and Perinatal Depression Symptom in Indonesia	189
		<i>A.Y.M. R. Siregar</i>	
P36	175	Assessing the Impact of Iron Consumption on Anemia among Pregnant Women Visiting to Health Facilities of Pphi Sindh	190
		<i>S. Bakhtawar, G. Mustafa and Z. Dahar</i>	
P37	176	Prevalence and Patterns of Tobacco Consumption among High-Risk Population of Bangladesh	191
		<i>M. Jahan, M. Hasan, M. Rahman, K. Leena, M.N. Uddin and G.U. Ahsan</i>	
P38	177	The Depression Conundrum and the Advantages of Uncertainty	192
		<i>J. Celie, T. Loeys, M. Desmet and P. Verhaeghe</i>	

VIRTUAL PRESENTATIONS

	178	Disrespect and Abuse (D&A) among Women Undergoing Deliveries in District Level Hospital of Western Uttar Pradesh, India	196
		<i>E. Talib</i>	

179	Risk Perception towards Tobacco Use in Pregnancy among Married Men and Women of Rural Areas in Myanmar	197
	<i>K.L.Show, A.P. Phy, S. Saw, K.K. Zaw, T.C. Tin, N.A. Tun and K.T.Wai</i>	
180	Maternal Obesity and Pregnancy-related Death	198
	<i>K.L. Goh</i>	
181	Serology Detection of <i>Treponema pallidum</i> in Cerebrospinal Fluid with Intracranial Infection	199
	<i>N. Yanti, M.M. Pasaribu, L. Anandari, D.N. Kosen, S. Immanuel, T. Loho, Yusra, D. Imran and I.S. Timan</i>	
182	An Age Matched Case-Control Study of Socioeconomic Factors and Risk Behaviors Associated with Gestational Diabetes Mellitus in Chinese Women	200
	<i>X.M. Carroll, X.H. Liang, W.Y. Zhang, W.J. Zhang and S. Leeper-Woodford</i>	
183	The Incidence and Management of Patient Violence against US Medical Professionals	201
	<i>A.C. Oguagha; J. Chen and Q.X. Yang</i>	
184	The Indoor and Outdoor Radon Exposure Associated Risk in Lung Cancer Disease in Rajamangala University of Technology Isan, Khon Kaen Campus, Thailand	202
	<i>V. Atyotha and J. Sontua</i>	
185	Janger Dance in Preventing Rabies Cases: Increasing the Scale and Potential Adoption of Health Promotion Interventions into Daily Practice	203
	<i>S. Budayanti, K.R. Rahayu, M. Subagiarta and N.K.S. Yanti</i>	
186	Improvement Strategies of Job Performance: A Perspective on Nursing Profession in Vietnam	204
	<i>P.V. Nguyen, L.T.X. Nguyen and N.H.T. Nguyen</i>	
187	Clinical Presentation and Challenges in Management of Ludwigs Angina	205
	<i>L.M. Kaluvu</i>	

188	ABC Strategy: How University Students Perception of ABC Strategy Influences Uptake of Reproductive Health Programs	206
	<i>M.N. Wanjau, L.N. Kathuri-Ogola and L.W. Maina</i>	
189	The Internal and External Factor of Workplace Environment Affects Job Performance of the Nurse	207
	<i>P.V. Nguyen and T.N.B. Ton</i>	
190	Knowledge, Attitude and Practices of Health Care Personnel and Possible Barriers towards Biomedical Waste Management: A cross-Sectional Study in Karachi	208
	<i>B. Sehrish</i>	
191	Reasons for Non-compliance among Probable Diabetic Retinopathy Patients Referred from a Diabetes Clinic to a Tertiary Hospital	209
	<i>Z. Khair, Y. Jahan, K.A.T.M.E. Huq, M.M. Rahman and M. Moriyama</i>	
192	An Investigation on Healthcare Receivers' Acceptance of Telecardiology in Malaysia	210
	<i>Kee-Jiar Yeo, R.H.A. Al-Ashwal and Shih-Hui Lee</i>	
193	Knowledge, Attitudes and Practice regarding Contraceptive Methods among the Female Garment Factory Workers in Katunayake Free Trade Zone	211
	<i>P.D.A.C. Perera, A.H.I. Priyadarshani, E.G.B. Sachinee, K.W.C. Nuwanthika, O.G.T.C. Nisanka, R.L.C. Silva, B.M.R. Fernandopulle and M.N. Priyadarshani</i>	
194	Environmental Health Food Hygiene Inspection Violations Associated with UK Foodservice Small Medium Enterprises (SMEs): Implications for Public Health	212
	<i>O.T. Irawo, A.S. Tatham, D. Clayton and E.C. Redmond</i>	
195	Association Between Fatigue and Ergonomic Pain in the Danish Fishing Industry	213
	<i>S. H. Busingye and G. Berg-Beckhoff</i>	

196	Coding Error and Coder Skills in Implementation of International Classification of Disease (ICD) Case-Mix System in Malaysia	214
	<i>S. Anian and N. Ismail</i>	
197	The Influence of Lead-Acid Battery Recycling in Drinking Water, Soil and Blood Lead Levels	215
	<i>G.B. Aquino, R.P. Gonzaga, M.M. Basila, N.E. Florendo, B.C. Magsino, C.J. Pekson and B.B. Rengconda</i>	
198	Revisiting the Terms of the Patriarchal Bargain: Exploring the Gender Politics of Household Money Management in Rural Nepal	216
	<i>L. Gram, J. Skordis-Worrall, J. Mannell, G. Shannon, D. Manandhar, N. Saville and J. Morrison</i>	
199	Mental Stress of Female Sex Workers	217
	<i>T.A. Haque, S. Hamid, M.U. Ahmed, U.K. Alam and I. Hossain</i>	
200	Respiratory Health Problem among Brass Utensils Factory Workers	218
	<i>N. Chowdhury, S. Rahman, A. Sharmin, M.H. Khan and I. Hossain</i>	
201	Gender Disparity & Psychosocial Status of Elderly People in Rural Area of Bangladesh	219
	<i>S. Rabeta and B. Afroza</i>	
202	Predictors of Breastfeeding Self-Efficacy among Expectant Mothers	220
	<i>S.B.A. Hamid and N.M. Zaidi</i>	
203	Consumer Behavior towards Organic Food in Select Areas of Dhaka North: A Willingness to Pay Approach	221
	<i>J. T Barsha, R. Bashar and N. A Khan</i>	

KEYNOTE SPEECH

DENGUE INFECTIONS AND CHILDHOOD OBESITY: BATTLING EPIDEMICS THAT KNOW NO BOUNDARIES.

John P. Elder

San Diego State University (USA)

ABSTRACT

In recent decades epidemiologists and public health professionals in general have begun to look at the overlap between infectious and chronic disease. For example cervical cancer is a chronic disease but is caused through infection by the HPV virus. Tuberculosis and HIV/AIDS are “infectious/chronic diseases, as individuals with these illnesses may have them for a considerable amount of time rather than the more typical pattern of an acute disease, which has a rapid onset and fairly rapid offset.

This paper discusses an extension of the infectious/chronic overlap that has not been received as much attention. Specifically we compare the issues related to childhood obesity to those in vector-borne diseases. Vector-borne diseases are those which have an agent (a bacterium or virus), a vector (mosquitoes, other insects, etc.) and a host (the person infected). But childhood obesity and other chronic conditions also have these factors in common at least from a functional perspective. The host of course is the individual child who becomes obese due to a variety of genetic and behavioral factors. But we can also examine the agent for this chronic health problems (e.g. too much screen time, unhealthy snacks, etc.) and then we can identify certain “vectors“ (individuals who are negative or positive role models or supply and prepare food; marketing and media, etc.). In terms of health communication and health care strategies that support or are supported by policies and technology, it is useful to examine the commonalities between vector-borne diseases, and obesity and other chronic problems. This paper will present this conceptual model, compare and contrast specific chronic and infectious issues (i.e. obesity and dengue) and will lay out health communication strategies that differentially target agents factors and posts. Multinational examples will emphasize our model

PLENARY SPEECHES

EVALUATING THE RIGHT TO AFFORDABLE HEALTHCARE

K. Buckley

Rollins College, USA

ABSTRACT

This paper focuses on the right for all people to have access to affordable healthcare. Healthcare systems vary across the world with most developed countries having some form of safety net for those that are ill, injured or sick, but don't have the necessary funds to pay for such care. The United States in particular has a national health policy that is driven by politics, lobbyists and major corporations. This paper will examine this strategy and determine its moral, ethical and humanistic constraints. By any objective measure, the United States insurance industry has failed to manage either the cost or the quality of health care. Too often, the debate on healthcare focuses too much on providing health insurance over actual healthcare. This system is, by nature, inefficient and expensive. America is the only industrialized nation to deny its citizens universal access to medical service. This record can be largely attributed to the notion that health care is simply one commodity among others, a privilege for those who can afford it rather than a fundamental human right for all. The United States is the most prosperous country in the world yet statistically in terms of life expectancy infant mortality and heart disease the US lags way behind other developed countries. These statistics are the most damning as politicians keep play a health football game where people die (lose) because of policy and lack of care. The winners are the healthcare industry which grows exponentially as profits continue to increase.

Keywords: Healthcare, affordable, right, privilege, care, profits

ROUTINE DENTAL EXAMS OF PERSONS WITH DISABILITIES IN THE US

S.L. West

*University of Memphis, USA****ABSTRACT***

A sizeable literature exists noting that people with disabilities (PWDs) fail to engage in recommended oral health care activities such as twice-daily tooth brushing and daily flossing. Poor oral health outcomes, including tooth decay, dental caries, missing/filled teeth, excessive plaque, gum disease, and oral cancers occur in the PWD population at excessively high rates. In addition to not engaging in oral self care, existing research indicates that PWDs may also fail to engage recommended annual routine dental examinations, at least among those PWDs with developmental disabilities. As poor oral health results in chronic health conditions that are exacerbated over time, it is essential that routine dental exams are undertaken. Given that PWDs number more than 56 million in the U.S. and 1 billion worldwide, the failure to engage in such exams could have serious ramifications for both the individuals involved and the entire public health community. This research explores the rates of annual dental exams in a nationally representative sample of PWDs in the U.S. Data from the 2015 National Health Interview Survey were used to establish the rates of annual dental exams for PWDs and to compare these rates to individuals without disabilities. Results indicate that PWDs as a whole were 1.33 times less likely than their peers without disabilities to have had a dental exam in the last year. Moreover, those PWDs with more numerous and severe limitations were even less likely to have had such an exam and remained regardless of educational level, income, marital status, or race.

Keywords: People with disabilities, oral health, dental health, dental exams

ORAL PRESENTATIONS

A1

[01]

**THE QUALITY OF HOUSEHOLD ENVIRONMENT AS THE RISK FACTOR OF
TUBERCULOSIS AND TYPE 2 DIABETES MELLITUS COINCIDENCE IN
SURABAYA, INDONESIA**

M.A. Isfandiari¹ and B.A. Saputra¹

*¹Department of Epidemiology Faculty of Public Health Universitas Airlangga Surabaya,
Indonesia*

ABSTRACT

Indonesia is among the highest ranks country of tuberculosis and type 2 diabetes mellitus prevalence worldwide, respectively. The coincidence of tuberculosis and type 2 diabetes mellitus is also high, particularly in East Java province.. Since tuberculosis has been linked with environmental risk factors, this study aims to analyze the quality of household environment component including dwelling density, dimension of house ventilation, indoor humidity, lighting, floor type, indoor temperature, and the type of house wall as the risk factors of tuberculosis occurrence among diabetic patients. We involved 76 patients from 3 health centers in Surabaya in this case control study, consisting of 38 with tuberculosis and type 2 diabetes mellitus coincidence as case group and 38 diabetic patients as control. We observed the household environment, and data was analyzed using logistic regression analysis. The result showed that house dwelling density ($p = 0,019$; OR: 4,304), dimension of house ventilation ($p = 0,008$; OR: 5,543), indoor humidity ($p = 0,012$; OR: 3,714), and indoor temperature ($p = 0,002$; OR: 10,500) are the risk factors of tuberculosis among type 2 diabetes mellitus patients. Considering that the quality of Household environment is firmly risk factor of tuberculosis and type 2 diabetes mellitus coincidence, the improvement is necessity for its prevention.

Keywords: Household environment, tuberculosis, type 2 diabetes mellitus coincidence

A2

[02]

**SPATIAL EFFECT OF DRINKING WATER REFILL DEPOTS TOWARD
DIARRHEA IN PAGATAN KEC. KUSAN HILIR, TANAH BUMBU DISTRICT,
SOUTH KALIMANTAN**

D. Andiarsa, D.E. Setyaningtyas, S. Hidayat, I. Setianingsih, Hamsyah and E. Haryati

*National Agency on Health Research and Development, Indonesian Ministry of Health,
Indonesia*

ABSTRACT

The growth of drinking water refill service business in Indonesia is one of the most promising and growing businesses in recent years. On the other hand, along with the conditions of diarrhea cases in this region also increased. This research aimed to identify spatially the influence of the existence of refill water depots and the quality of its products to the incidence of diarrhea in Tanah Bumbu District. The study held in Kota Pagatan, sub district of Kusan Hilir District of Tanah Bumbu in November-December 2017. Water samples are taken at every depot with complete procedure and marked spatially then sample was assessed microbiologically to determined *E.coli* and coliform contamination in water sample. The bacteria-positive depot on examination of the sample is categorized as 'contaminated' contrarily no bacteria depot is categorized as 'clean'. Diarrhea case data in the area of the data was taken from 2016 research data in the form of respondent data, location and household characteristics related to patient's family status and access to drinking water. Furthermore, the two types of data are integrated into spatial analysis to analyze the spatial relation of the depot's water quality with the distribution of diarrhea cases. There is a spatial suitability between the density of the refill depots on the position and the density of the diarrheal cases found. The concentration of depot 'contaminated' has a significant effect on the characteristic profile of the sufferer most of which is in the vicinity of the depot.

Keywords: Diarrhea, spatial, drinking water access, refilling drinking water depots, water quality

A3

[03]

CLIMATE CHANGE IMPLICATIONS ON INCIDENCE OF VECTOR BORNE DISEASES IN BANGLADESH

M.A. Islam

North South University Global Health & Climate Research Institute, Bangladesh

ABSTRACT

This paper is an attempt to identify the relationship between variability climate and environmental health and the incidences of vector and virus transmission of Dengue, Chikungunya and Kala-Azar. The research started with the question why Bangladesh experienced the highest record of dengue patients (6132) and Kala-Azar patients (36) in 2002? Time series data on climate and vector borne diseases are analyzed with data sources from the Meteorological Department and the Director General of Health Services for the period 2000-2012. This climate-vector relation is analyzed based on Standardized Precipitation Index (SPI) which is simply the difference from the mean for a specified time period divided by the standard deviation. The SPI and the remote sensing analysis of land use pattern conducted for the year 2001 found to have record variation- mild to severe. This study noticed a coincidence of record as the lowest density of green cover on land defined by Normalized Difference in Vegetative Index (NDVI) for the year 2001. Such a coincidence is assumed that there may be any relation between PSI/NDVI value and the trend of Dengue and Kala-Azar death case. Based on this method and approach, one can predict the trend of vector borne disease. This study reviewed Significant number of malaria incidence 71 (PF %) also reported in 2002. Lymphatic Filariasis (LF) is another vector borne disease and Culex mosquitoes are main vector for transmission. This analysis explains complex relationships between climate, environment health and vector borne disease incidence which will help inform outbreak prediction and control.

Keywords: Climate change, vector, standardized precipitation index, NDVI

A4

[04]

PREVALENCE OF LOW BACK PAIN AMONG CARGO HANDLERS AT A MALAYSIAN INTERNATIONAL AIRPORT

A.M. Qureshi¹, R.B. Nordin¹ and K.G. Rampal²

¹*Jeffrey Cheah School of Medicine and Health Sciences, Monash University Malaysia*

²*Cyberjaya University College of Medical Sciences, Malaysia*

ABSTRACT

This prevalence study was conducted to determine prevalence and risk factors for low back pain among cargo handlers at cargo section of a Malaysian international airport. A walk through survey was carried out by researcher before study to understand tasks and ergonomic risk factors at work place. Respondents who had been working in same job for at least one year were included in sample. One hundred and twenty two respondents took part in study out of 400 cargo handlers. Information was collected using a questionnaire. Questionnaires were filled in presence of researcher, and doubts about questions were clarified by researcher. Results of study showed that prevalence of low back pain among respondents was 75%, and factors which significantly contributed to low back pain were work duration; number of hours worked per day, type of physical work and weight lifted by worker (multiple logistic regression, $P < 0.05$). Worker's tasks were observed using Ovako work posture analysis system. Work observation revealed that a worker spent 52% and 24% of his time in "high" and "more" strain postures. Outcome of this study reflects that prevalence of low back pain among respondents is very high and immediate steps are required to control risk factors. Recommendations suggested to minimize risk and prevalence of low back pain among these workers include; maximum weight of a packet should be kept below 25 kg and packets should be handled between shoulder and waist levels.

Keywords: Low back pain, cargo handlers, Malaysian international airport, Ovako work posture analysis system

B1

[05]

**ASSESSMENT OF KNOWLEDGE ON NEWBORN CARE PRACTICES AMONG
POSTNATAL MOTHERS IN DHAKA, BANGLADESH**S. Ahmed¹, Z.N. Monia², S. Majumder³ and S.U. Bhuiyan⁴¹*University of Toronto, Canada*²*Green Life Medical College, Bangladesh*³*Bangkok Hospital, Thailand*⁴*Ryerson University, Canada***ABSTRACT**

The purpose of this study was to identify the level of knowledge on newborn care practices among postnatal mothers at Dhaka Medical College and Hospital, Dhaka, Bangladesh. A hospital-based cross sectional study among 211 postnatal mothers was conducted using purposive sampling technique. A pre-tested structured questionnaire was used for face-to-face interviews during data collection, and Chi-square test was used to analyze the data. Around 38% of mothers were aged between 16-20 years; 28% had secondary school education; 55% were primi-gravida and only 26.5% had attended antenatal visit for more than four times. Around 36% of them had warm clothes and 8% used Kangaroo method for thermoregulation. Among all the mothers, 66% strongly agreed that breast feeding is essential for the baby; 58% strongly agreed that colostrum must be provided to the newborn, and around 60% strongly agreed that exclusive breast feeding (EBF) should be given up to 6 months of age. Majority of mothers knew about immunization at birth. However, knowledge gaps were identified about cord care, eye care, first bathing and hygiene practices. Nonetheless, only a small proportion of respondents (37.0%) had good knowledge on newborn care. In addition, highly significant statistical association was found between the knowledge level and socio-demographic characteristics of the respondents. To further increase the knowledge on newborn care practices among postnatal mothers, implementation of the guidelines outlined in the Maternal Child Health (MCH) handbook is highly recommended.

Keywords: Newborn, maternal, postnatal, health, assessment, Bangladesh

B2

[06]

FACTOR ASSOCIATED WITH UTILIZATION OF MODERN FAMILY PLANNING METHODS AMONG MARRIED WOMEN OF THARU COMMUNITY OF MODHUBAN MUNICIPALITY IN BARDIYA DISTRICT OF NEPAL

A. Chaudhari^{1,2} and K. Leena^{1,2}

¹ *Department of Public Health, North South University, Bangladesh*

² *North South Global Health Institute, North South University, Bashundhara, Bangladesh*

ABSTRACT

Background: The total fertility rate is comparatively high in Nepal compare to developing countries due to less family planning utilization. The modern contraceptive prevalence rate in Nepal is only 43 percent and committed to increase modern contraceptive prevalence rate up to 52 percent by 2020. For this, Nepal should have a policy to ensure practices on family planning.

Methodology: The study design was community based cross-sectional to find out factors associated with utilization of modern family planning method among married women of Tharu community of Madhuban Municipality in Bardiya district of Nepal. There are total 10 wards in this municipality. The sample size was 383. Randomly four wards were selected and from which 383 samples were taken by systematic random sampling method. Chi-square test was carried out for identifying association between dependent and independent variable. All difference were considered statistically significant at the $P < 0.05$ level.

Result: Modern family planning method was used by 106 (72.3%) in which sterilization (28.7%) was mostly used by the respondents. Mostly respondents were from nuclear family (81.7%) whereas respondents from joint family were 18.3 percent. Respondents from Hindu religion were 91.4% and from Christian religion were 8.6%. Age factor, Education, Husband's occupation, level of discussion on family planning with husband, number of children, desired number of children, preferred FP method and sources of information were found statistically significant and types of family, religion, occupation, time taken to reach health facility by walking and economic status of the respondents were not statistically significant at 95% confidence interval in chi-square test with utilization of modern family planning method.

Conclusion: Most of the respondents were from 21-26 age groups with least using modern family planning method. FCHV and radio were the main source of information on family planning.

Keywords: Modern family planning, sterilization, radio, FCHV, education, age, utilization

B3

[07]

EARLY DETECTION OF ANEMIA IN WOMEN PRECONCEPTION IN WORKING AREAS OF PUSKESMAS SIDEMEN DISTRICT KARANGASEM BALI PROVINCEL. Seri-Ani¹, I.W.A. Utami¹, W. Weta¹, I.G.A.S. Darmayani² and K. Suwiyoga³¹*Department of Public Health, Faculty of Medicine Udayana University, Indonesia*²*Section DME Faculty of Medicine Udayana University, Indonesia*³*Obstetrics and Gynecology Section of Faculty of Medicine / Sanglah Hospital Denpasar, Indonesia***ABSTRACT**

The incidence of anemia in pregnant women in Bali varies depending on the method and area of research carried out. The incidence of anemia in pregnant women in Sidemen District was reported at 60.5%. Although Sidemen Puskesmas has implemented mother and child health program and family nutrition improvement through giving 90 Fe tablets to pregnant women, but the incidence of anemia and other nutritional problems is still high. This is suspected because anemia has occurred in the preconception period. This research is aimed to know the description of anemia in the preconception period. A cross-sectional study was conducted on 163 pre-conception women or women 1 year after delivery. The sample is selected by the village cluster method. Pre-conception women who leave in selected villages will be selected as a sample. In all samples consent informed to ask for approval as a participant in this research, Then each of them conducted interview to get information about socialdemografic and diet. They also performed antropometric examinations, and examined hemoglobin levels to measure the incidence of anemia. The data of the research were analyzed descriptively to get an illustration of the incidence of anemia and analytic analysis to get the difference of hemoglobin level. The statistical test is a difference test with independent t test and chi square test. The incidence of anemia in pre-conception women was 62.35%. The incidence of anemia in preconception women is more common in women with children <5 years of age, preconception age \geq average (31.84 years), low education level, non-working preconception women, more than 2 parity, SEZ status, and BMI with category of obesity. However, only the difference in parity variables expressed was statistically significant with $p = 0.012$. So it can be concluded that the incidence of anemia in preconception is still high. It is therefore advisable to make preconception women groups as the targets of iron tablets so that anemia in preconception women can be suppressed and the anemia effect once they have had a pregnancy can be prevented.

Keywords: Anemia, preconception, pregnancy, cross sectional study, preventive

B4

[08]

ASSOCIATED FACTORS OF PRETERM BIRTH AT A TERTIARY HOSPITAL IN KELANTAN, MALAYSIA

N.H. Damanhuri

Department of Community Medicine, School of Medical Sciences, Universiti Sains Malaysia

ABSTRACT

Preterm birth (PTB) remains a global significant public health threat as evident from its increasing prevalence trend and devastating effects. Likewise, the proportions of PTB and its associated neonatal deaths in Malaysia have been escalating. However so far, there are scarce publications on PTB in the local context. Thus, the study aimed to identify the factors associated with PTB at a tertiary hospital in Kelantan, Malaysia. Retrospective record review on antenatal and obstetric data of mothers attending the tertiary hospital for deliveries was conducted using a case-control study design ($n = 472$). Simple and multiple logistic regression analyses were used to determine the associated factors of PTB. Hypertension and red-tagging were found to be significantly associated with PTB. Mothers with hypertension had 2.46 higher odds to experience PTB compared to mothers with no hypertension when adjusted for mothers with red-tagging (AOR = 2.46, 95% CI: (1.06, 5.72), $p = 0.037$). Meanwhile, mothers with red-tagging had 2.06 higher odds to experience PTB compared to mothers with no red-tagging when adjusted for mothers with hypertension (AOR = 2.06, 95% CI: (1.37, 3.10), $p = 0.001$). Therefore, optimizing blood pressure control during pre-pregnancy and antenatal care; preventing the occurrence of pre-eclampsia and its progression to eclampsia as well as strengthening the management of red-tagged mothers are some of the recommended measures, which may reduce the rate of PTB in a long run.

Keywords: Preterm birth, premature birth, preterm delivery, associated factors, case-control study

B5

[09]

BREASTFEEDING PRACTICE AMONG WORKING MOTHERS AND SERVICE PROVISION GAP AT READYMADE GARMENT FACTORIES IN BANGLADESH

M.L. Khan

*Change Associates Ltd, Bangladesh***ABSTRACT**

Bangladesh readymade garment industry employs approximately 3.6 million workers, of which roughly 2.8 million are women. The growing industry comes with challenges in health and nutrition wellbeing. Women workers having breastfeeding aged children suffer due to disruption in breastfeeding caused by multifaceted reasons directly or indirectly affected by type of work and environment. A descriptive cross sectional study was conducted in 12 readymade garment factories during May-August 2016. Stratified sampling method was used to select samples from each of the production and non-production units. Snowball method was used to select dropout workers. It was found that, majority if the workers are aged between 20 to 28 years and on average completed till class 8, they did not want to lose time on studying further, instead they engaged in livelihood activities. Majority of the workers were married and living with their husband with a mean of 1 child per respondent. Workers had somewhat knowledge of exclusive breastfeeding, continuation of breastfeeding, complementary feeding and general nutrition which was available in mass media and some factory wide campaigns. Workers returned to work after 2 months of childbirth. 37.5 percent had initiated breastfeeding within one hour of childbirth where national average is 51 percent. Only 17.5 percent continued breastfeeding for full two years where it is 87 percent in national average. Almost all the workers had practiced pre-lacteal feeding since it seemed more convenient than breastfeeding while at work. Some 28.3 percent workers were found to have been breastfeeding at the time of the interview, among them, about 34 percent workers used in-factory facility to breastfeeding and the rest went back home. A large number of workers had mentioned that they could breastfeed only once during work and some said they could twice, although by law, lactating mothers are entitles to two 30 minutes breastfeeding breaks. Management staff have little or no training on issues related to health and wellbeing, therefore facilities for breastfeeding is kept as a minimum priority. Workload, distance from home and most importantly financial insolvency make workers send their children to village homes. These were major barriers to continuation of breastfeeding. Understandably, workers were dropping out of work mostly due to distance and child raising, followed by lack of benefits and bad behaviour from their supervisors.- holistic program intervention on behaviour change communication along with upgrading in-house facilities and service offering are required to ensure proper breastfeeding practices.

Keywords: Readymade garments, workplace, breastfeeding, pre-lacteal feeding

B6

[10]

INEQUALITY TRENDS OF ANTENATAL CARE AMONG WOMEN IN INDONESIA 2002-2012

A. Rizkianti and T. Afifah

National Institute of Health Research and Development, Ministry of Health, Indonesia

ABSTRACT

Antenatal care (ANC) is a major component of maternal health services for preventing adverse pregnancy outcomes. As one of maternal health indicator for universal health coverage and Sustainable Development Goals (SDGs), it is important to monitor the distribution of the coverage among social dimension stratification. The study aims to examine inequality trends in the use of ANC services of Indonesian women aged 15-49 years based on the data from the Indonesia Demographic Health Surveys (IDHS) 2002, 2007 and 2012. Inequalities are measured using socioeconomic and demographic stratification variables such as urban-rural, mother's education and household wealth index. We also performed analysis of social determinants of health and their relationship with ANC. The trend of ANC utilisation shows narrower gap according to social dimension stratification. The urban-rural difference for ANC has been reduced from 15 to 10.5 percentage points. The education-related inequality in ANC also declined nearly 40% from 2002 to 2012. A similar downward trend was observed for wealth-related inequality merely between the last two periods of survey. The trend in ANC use was entirely confounded by socioeconomic and demographic changes over time. The adjusted odds ratios for wealth quintile and education substantially decreased. A reduction in the inequality dimension through time suggests that both access and equality are improving in ANC use. Monitoring of trends needs to be continuously done among disadvantaged groups so that programs are in place for more targeted health development plans.

Keywords: Antenatal care, inequality, trends, determinants, Indonesia

B7

[11]

MATERNAL EDUCATION, ANTENATAL CARE AND INFANT MORTALITY IN ASSAM

H. Dipanjali

Deptt. of Economics, Pandu College, Guwahati (Assam), India

ABSTRACT

The coverage of antenatal care (ANC) in Assam is found to be lower as compared to India as a whole, Western states and Southern states. The present study attempts to investigate full ANC utilisation in the three districts of Assam with high, medium and low female literacy rates. Attempt is also made to find out the relationship between each of the selected age dependent outcome variables viz., neo-natal mortality (NNM), post-neo natal mortality (PNNM) and infant mortality (IM) and the full ANC. Though Cross tabulation analysis shows negative relationship between full ANC and NNM, PNNM and IM respectively but application of Chi² test shows significant association between full ANC and NNM and IM respectively in Barpeta and all the three districts taken together. Except Dibrugarh, the bivariate relationship between full ANC and maternal education is found to be positive and significant in each of the districts and all the three districts taken together. A multivariate binary logit regression analysis is carried out to examine the effect of maternal education on full ANC controlling the influence of other factors. It is clear from the result that except education up to V, the coefficients of maternal education in other categories relating to full ANC are positive but not significant. Significant factors which influence ANC are ST community, urban mothers, benefits received from National Health Mission (NHM) which was introduced by the government of India in 2005. The illiterate mothers might have reaped the benefits of the NHM to offset their lack of education.

Keywords: Ante-natal care, maternal education, neo-natal mortality, post-neonatal mortality, infant mortality, national health mission

B8

[12]

EXPLORING THE NEXUS BETWEEN INTIMATE PARTNER VIOLENCE, SENSE OF COHERENCE AND ANTIRETROVIRAL ADHERENCE

L. Phiri

University of South Africa, South Africa

ABSTRACT

Sense of coherence (SOC) is reported globally as a strong predictor of antiretroviral therapy adherence (ART), however little research has been conducted in South Africa to assess SOC in the context of intimate partner violence (IPV) and ART adherence. The purpose of this study was to explore the link between SOC, IPV and ART. The study was conducted in the context of high prevalence of HIV, questionable adherence and domestic violence in South Africa. A cross-sectional approach was employed in a sample of 130 individuals who receive ART at 2 public clinics in the South of Johannesburg, South Africa. Participants were assessed for their levels of ART adherence, IPV and SOC. Multivariate analysis was employed to determine SOC as a correlate of ART Adherence and as a potential mediator among individuals who have been exposed to IPV and receiving ART. Results (n=130) show sense of coherence as a strong predictor of ART adherence ($p < 0.008$). Overall, the level of adherence was 45.4 % with more women adherent (81%) than men (19%). More women (67%) reported to have experienced acts of violence than men (33%). Lastly, the effect of SOC on ART adherence and IPV was insignificant and inconsistent (95% CI = -6.33 –2.37). Although sense of coherence is a strong predictor of adherence, it doesn't seem to mediate the effects of violence on ART adherence. Findings suggests the importance of a continued research agenda that focuses on mitigating potential effects of intimate partner violence on ART adherence.

Keywords: Sense of coherence, intimate partner violence, adherence, HIV/AIDS

B9

[13]

**VOICES OF THE STAKEHOLDER ON MISOPROSTOL DISTRIBUTION FOR
PREVENTION OF POSTPARTUM HAEMORRHAGE BY AUXILIARY MIDWIVES
IN CHIN STATE, MYANMAR**

K.K. Than^{1,2}, K.N. Tin³, T. La¹ and H.M.T. Einda³

¹ *Burnet Institute, Australia*

² *University of Melbourne, Australia*

³ *Department of Public Health, Ministry of Health and Sports, Myanmar*

ABSTRACT

Postpartum Haemorrhage (PPH) is the leading cause of maternal mortality in Myanmar and accounts for 30% of all maternal deaths. Chin state, Myanmar's is a hard-to-reach hilly region with highest maternal mortality ratio. To understand the barriers and facilitators that may impact the efficient distribution of misoprostol by community volunteers; Auxiliary Midwives (AMWs), for prevention of PPH in the Chin State, a stakeholder engagement and landscape study was conducted. A mixed method study was carried with 793 AMWs accompanied by 18 Focus Group Discussions and 12 Individual depth interviews. Only forty percent of the AMWs have ever heard of Misoprostol and only 8 percent have ever used misoprostol for prevention of PPH. Although all stakeholders were willing to give misoprostol 600 mcg as the prevention of PPH through AMWs, participatory hands on training, effective supervision and provision of drugs through Midwives were mainly identified as major enablers. However, misuse and maintenance of regular supply chain mechanism was identified as major barriers. These findings are very useful for the effective implementation and distribution of misoprostol through task shifting AMWs in Chin State to reduce maternal deaths by PPH.

Keywords: Misoprostol, auxiliary midwives, Myanmar, postpartum hemorrhage

COMORBIDITY IDENTIFICATION IN PREGNANT WOMEN

Sulastr¹, N. Mufidah¹, S. Rahmawati¹, E. Dewi² and I.H. Rohmatullo³

*¹Department of Maternity, School of Nursing, Universitas Muhammadiyah Surakarta,
Indonesia*

*²Department of Health Promotion and Education, School of Nursing, Universitas
Muhammadiyah Surakarta, Indonesia*

³Primary Health Centre, Lunto, Sumatera Barat, Indonesia

ABSTRACT

Maternal mortality rate in Indonesia reached 305 deaths per 100,000 live births by 2015. The high rate of maternal mortality in Indonesia due to bleeding, hypertension, infection prolonged labor, abortion and other concomitant diseases such as cancer, heart disease, tuberculosis. In reducing maternal mortality significantly, the identification and treatment of pregnant women with comorbidities need to be implemented. The importance of the identification of comorbidities in pregnant women as early as possible due to pregnancy problems can occur at any trimester in pregnancy. This study aimed to describe comorbidities in pregnant women in a sub-urban community. This research was a cross sectional study conducted at a *Puskesmas* (Primary health center) with pregnant women. Data was collected using a questionnaire and antenatal care book and data was analyzed using percentage analysis. The findings showed that were only 30.6% have diseases, which 5,8% with hypertension, 1,9% with diabetes, 0,6% with hepatitis and tuberculosis and 9% with other diseases category (Asthma, diarrhea, ulcers, cysts, stomach, vaginal discharge. Although findings show a minority of group having diseases in the pregnant women, the care provider should concern to the third semester group who have more risk to mortality.

Keywords: Comorbidities, pregnant women, community

B11

[15]

WOMEN'S MENOPAUSAL EXPERIENCES: A QUALITATIVE STUDY AMONG WOMEN IN SRI LANKA

I.M.P.S. Ilankoon¹, C. Elgán², K. Samarasinghe² and G. Kisokanth

¹*Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka*

²*School of Health and Society, Kristianstad University, Kristianstad, Sweden*

³*Faculty of Health Care Sciences, Eastern University, Sri Lanka*

ABSTRACT

Menopause is an important health transition for women, which varies in onset, length, and expression through symptoms among women. Women's understanding of their menopausal experience and the way they manage the menopausal symptoms can be different among different communities. The aim of this study was to explore and describe menopausal experiences among women in Sri Lanka

This study was carried out in Boralasgamuwa MOH area, Colombo District in the western province of Sri Lanka. An explorative and descriptive design based on qualitative approach was used by using semi- structured interviews with a purposive sample of 20 women. Data interpretation and analysis were done using manifest and latent content analysis.

An overriding theme "Menopause is a natural change in life" was emerged from three categories: "Entering menopause", "Managing menopause" and "Not the end of life". Women perceived menopausal changes as a natural change in life with health problems which are normal for this change. Women viewed as there is no difference of life, even in case of womb removal and were positive towards the life after menopause. Women had different self-care practices towards menopausal symptoms but mainly they engage with religious activities in order to avoid problems during menopause.

The women perceived menopause as a natural change and managed these changes by mainly engaging religious activities and some self-care practices. It would be beneficial to have an educational programme for women in menopause in order to make them aware about the changes and challenges associated with menopause. This can be integrated to primary health care services in the Sri Lankan health care system as a health promotion activity towards menopausal women.

Keywords: Menopause, experience, qualitative study, Sri Lankan women

B12

[16]

**DISPARITIES IN HPV VACCINATION UPTAKE AMONG WOMEN WITH
DISABILITIES IN THE U.S.**

S.L. West

*University of Memphis, USA****ABSTRACT***

Human Papillomavirus (HPV) is an easily prevented sexually transmitted disease which, in addition to its own sequela, is associated with a number of cancers including cervical, genital, and oral cancers among others. Despite the availability of the HPV vaccination which generally prevent infection from most forms of the virus, HPV remains the single most widespread sexually transmitted disease in the world. Recent research in the U.S. has indicated that select populations including racial and sexual minorities, women living in rural areas, and males, do not receive HPV vaccine uptake or complete the three-injection cycle at comparable rates to the population as a whole. Despite numbering more than 56 million in the U.S. and 1 billion worldwide, to date no research has examined HPV vaccine uptake among people with disabilities. This research examines the rate of HPV vaccination uptake in a nationally representative sample of women with disabilities (WWDs) in the U.S. Using data from the 2015 National Health Interview Survey, significant disparities of HPV vaccine uptake were found. WWDs were significantly less likely to have HPV uptake and were also less likely to complete the three injection cycle of the vaccine. These disparities grew larger as disability severity increased, and remained when holding income, education level, race, and marital status constant. Such disparity places this large population at risk not only for HPV, but for the various related cancers as well. Implications for public health practice and policy are discussed.

Keywords: Women with disabilities, Human Papillomavirus, HPV, vaccination, uptake, health disparities

B13

[17]

DISTRESS AMONG WOMEN WITH ABNORMAL PAP SMEAR AND POST COLPOSCOPY IN EAST COAST OF MALAYSIAM. Mardiana ¹ and M.Z. Afiah ¹

¹School of Nursing Sciences, Faculty of Medicine, Universiti Sultan Zainal Abidin (UniSZA), Gong Badak Campus, Malaysia

ABSTRACT

Women who obtained abnormal Pap smear results faced with anxiety, fear and anger. The purpose of this study is to determine the level of general health and its' associated factors among women with an abnormal Pap smears and post colposcopy. A cross-sectional study was conducted with universal sampling of 218 respondents with an abnormal Pap smear which fulfilled the inclusion. Data was collected in gynecology clinic from three tertiary hospitals in the East Coast of Malaysia. Self-administration of the questionnaires on sociodemographic and General Health Questionnaire-12 (GHQ-12) in validated Malay version was applied to assess the general health status. Data was analyzed using IBM-SPSS version 22, whereby logistic regression was used for analysis. Women with an abnormal Pap smear presented with a distress condition (16.5%). Univariable logistic regression analysis shows that these variables included clinically important of p-value < 0.25, for distress among women with an abnormal Pap smear were age (95% CI: 0.32, 1.35, p-value = 0.250), education level (95% CI: 0.64, 12.51, p-value = 0.169), marital status (95% CI: 0.43, 26.28, p-value = 0.24) and number of sexual partners (95% CI: 0.14, 1.67, p-value = 0.24). Furthermore, multiple logistic regression analysis shows that no other variables is of statistically significant. Women with an abnormal Pap smear faced distress condition and personal background, even though the result was clinically important. Health staff need to pay concern on the distress conditions among women with an abnormal Pap smear as an early prevention ways for mental disorder.

Keywords: Women's health, general health, distress, abnormal Pap smear

B14

[18]

HUSBAND SUPPORT DURING MENOPAUSAL PHASES: EXPLORING THE WOMEN'S VOICES

H.I. Idiana ¹, N.H.N. Hazlina ², S. Zaharah ², A.K. Azidah ³ and M.N.M. Zarawi ⁴

¹Department of Nursing, School of Health Sciences, School of Medical Sciences, Healthy Campus, Universiti Sains Malaysia, Malaysia

²Women's Health Development Unit, School of Medical Sciences, Healthy Campus, Universiti Sains Malaysia, Malaysia

³Department of Family Medicine, School of Medical Sciences, Healthy Campus, Universiti Sains Malaysia, Malaysia

⁴Department of Medical Education, School of Medical Sciences, Healthy Campus, Universiti Sains Malaysia, Malaysia

ABSTRACT

Challenges faced by women during their menopausal phases do not only revolve around the women themselves but also by their husbands. Research findings suggested that social supports may ease the problem during their menopausal phase's transition. Despite that, the role of husbands and their support for menopausal women in Asian countries, particularly in Malaysia is still not well studied. Therefore, the purpose of this study, was to explore the experiences of husband support encountered by the women during menopausal phases. The qualitative methods of in depth semi-structured, audio-taped interviews were conducted with 13 menopausal women. The semi structured interview guided was designed on how they perceived supports provided by their husbands. Thematic analysis of transcribed interview had generated five spousal support themes included emotional, instrumental, appraisal, guidance, and sexual intimacy supports. Although some menopausal women reported that they perceived supportive supports from their husband, there were also those who talked about the unsupportive supports during their menopausal phases. Thus, these findings provide useful information to develop effective health education program which involving husbands to ensure women have more meaningful life during menopausal phases. Moreover, this study proposed a preliminary multidimensional model of spousal support specifically in menopausal phases.

Keywords: Spousal support, menopausal phases, husband support, menopausal symptoms

B15

[19]

KANGAROO MOTHER CARE: KEY INTERVENTION TO REDUCE NEONATAL MORBIDITY AND MORTALITY AT PPHI SINDH

G.M. Haelpota, S.B. Boghani and Z.D. Dahar

*PPHI (Public Private Partnership), Pakistan***ABSTRACT**

Low birth weight (<2500grams) is often associated with prematurity (<37 weeks) which is most common cause of neonatal morbidity and mortality in Pakistan. Kangaroo mother Care (KMC) is non-conventional, low cost method intimates skin to skin care between mother and baby, exclusive breastfeeding and early discharge from hospital. PPHI is first organization to initiate KMC intervention in Sindh and established total 150 KMC units out of 300 BHU Plus (24/7 services) **Purpose:** To determine proportion of low birth weight and prematurity and to evaluate the effectiveness of KMC intervention. **Methodology:** The retrospective study was conducted in the all health facilities of PPHI Sindh, Pakistan and comprised data from structured registers (DHIS, KMC register and additional summary tools) from July 2017 to March, 2018. Frequencies and proportions were calculated to assess the low birth weight, premature babies versus KMC admission. **Results:** From July 2017 to March 2018, the total cumulative number of LBW and Premature babies was 6434 respectively among total 110466 live births. Among total low birth and premature babies 3699 were admitted to KMC units. KMC was successful intervention as out of total admission 65% were normally discharged. **Conclusion:** Though KMC intervention has shown significant results but with proper follow up visits additional results can be achieved.

Keywords: Kangaroo mother care, low birth weight, premature

HYPERTHYROIDISM PREVALENCES IN WOMEN OF REPRODUCTIVE AGE

M. Mutalazimah ¹, I. Herawati ², S. Asyanti ³ and D.L. Suswardany ⁴

¹*Department of Nutrition Science, Faculty of Health Science, Universitas Muhammadiyah Surakarta, Indonesia*

²*Department of Physiotherapy, Faculty of Health Science, Universitas Muhammadiyah Surakarta, Indonesia*

³*Faculty of Psychology, Universitas Muhammadiyah Surakarta, Indonesia*

⁴*Department of Public Health, Faculty of Health Science, Universitas Muhammadiyah Surakarta, Indonesia*

ABSTRACT

Women of reproductive age have a substantial risk to develop thyroid problems, especially hyperthyroidism, which risk increases with age. This cross-sectional study aimed to compare the hyperthyroidism prevalence among women of advanced reproductive age (>35-49 years old) to women of early reproductive age (15-35 years old). There were 262 women recruited by simple random sampling from 996 healthy women of reproductive age in Prambanan Sub-district, Yogyakarta, Indonesia. Women were excluded if they were pregnant or in the postpartum period, having chronic diseases or severe disease related to endocrine problems, or using any hormonal contraception. Hyperthyroidism diagnosis was confirmed using ELISA technique if the Thyroid Stimulating Hormone (TSH) is < 0.04 μ U/mL and the Free Thyroxine (FT4) is > 1.8 ng/dL. The Chi-Square test was performed using SPSS version 17.0 and alpha level was set at 0.05. This study found the overall prevalence of hyperthyroidism among healthy women of reproductive age was 26.7%. The prevalence of hyperthyroidism among women of advanced reproductive age (16%) was less than those of early reproductive-age women (33.3%). Women of early reproductive age were 2.63 more likely to have hyperthyroidism than women of advanced reproductive age ($p=0.003$; 95% CI: 1.4-5.0). Although previous studies found hyperthyroidism increases with age, this study showed women of early reproductive age had a significant risk to develop hyperthyroidism. These women should also be counselled about age-related risk of hyperthyroidism. The result of this study may contribute to developing health program to prevent the increasing of hyperthyroidism cases, especially among women of reproductive age.

Keywords: Hyperthyroidism, women of reproductive age, TSH, FT4

B17

[21]

VITAMIN D STATUS IN THE FIRST TRIMESTER OF PREGNANCY IN WEST SUMATRA, INDONESIA: A CROSS-SECTIONAL STUDYA.S. Aji¹, Yusrawati¹, S.G. Malik² and N.I. Lipoeto¹¹ *Faculty of Medicine, Andalas University, Indonesia*² *Eijkman Institute for Molecular Biology, Indonesia***ABSTRACT**

Vitamin D deficiency is a common problem in women with reproductive-aged and has become a major public health problem worldwide. The effect of vitamin D deficiency in pregnancy has been associated with adverse pregnancy outcomes. This study aimed to assess serum level of 25-hydroxyvitamin D [25(OH)D] in the first trimester and to determine the predictive factors of deficiency levels. We conducted a cross-sectional study of 239 pregnant mothers who recruited in July-September 2017 from community health centers in West Sumatra, Indonesia. Serum 25(OH)D concentrations were measured at <13 weeks gestation using ELISA. Logistic regression models were conducted to identify predictors of low vitamin D status. Vitamin D levels were obtained from 232 subjects (mean age 29.7 years, range 17-44 years). The prevalence of the first-trimester maternal vitamin D deficiency (defined as 25(OH)D <20 ng/ml) was 82.8%, the rest of pregnant mothers were insufficient (14.7%) and sufficient (2.6%). The median serum concentrations were 13.15 ng/ml (range 3-49.29 ng/ml). The independent predictors were missing micronutrient supplement intake before pregnancy (OR 0.184;95 % CI: 0.053, 0.641) and low exposure to sunlight (OR 4.1;95 % CI: 1.52, 11.02). The prevalence of vitamin D deficiency is common in early pregnancy in West Sumatra. To our knowledge, this is the first study that assessed prevalence rates for the first trimester pregnant mothers in West Sumatra, Indonesia. Recommendations and policies to detect and prevent insufficiency of vitamin D during pregnancy should be developed taking into account the associated factors.

Keywords: Vitamin D status, first trimester, pregnancy, West Sumatra

B18

[22]

**FILIPINO WOMEN'S AWARENESS AND BELIEFS ON CERVICAL CANCER AND
PAPANICOLAOU TEST**

J.B. Tagarino

*Samar State University – College of Nursing and Health Sciences, Philippines***ABSTRACT**

Cervical cancer is one of the greatest fears of every woman to occur. It is marked by variety of physical changes. Up to 25% of the female population do not have annual Pap test. Barriers to having annual Pap test are related to poor awareness, attitudes and beliefs, low income, low education and low cancer perceived susceptibility. This study assessed the awareness and beliefs about cervical cancer and Papanicolaou test in Catbalogan City, Province of Samar, Philippines. A descriptive and inferential method was adopted for this research and the data were collected in the month of September 2016. The respondents of the study were the woman who resides in Catbalogan City, Samar, Philippines ages 21-65 years old, consented to participate in the study and is able to read and write. In general, the respondents' has poor awareness about cervical cancer and Pap test. In which 4 out of 10 women did not know cervical cancer. And 5 out of 5 women had heard Pap test. While 4 out of 10 women said that cervical cancer cannot be detected with Pap test before symptoms appear. And the women's belief was fairly positive. Barriers of getting Pap test includes lack of awareness about the necessary age and how often the Pap test is needed, needs a long time, afraid to find out the result and embarrassed. The researchers would like to recommend that women should indulge in activities to maximize their awareness and beliefs on cervical cancer and Pap test.

Keywords: Cervical cancer, papanicolaou test, awareness, belief, Catbalogan City

C1

[23]

HOW HOSPITAL TENGKU AMPUAN RAHIMAH KLANG(HTAR) MANAGE CASE OF MERS-CoV

S. Nithiya

Public Health Department, Hospital Tengku Ampua Rahimah, Malaysia

ABSTRACT

On 29 December 2017 the first case of MERS-CoV reported in state hospital of Selangor state. The case (Mr.S) aged 55 develop pneumonia like symptoms on 24th December 2017 after returning from a pilgrimage to Saudi Arabia on 13th December 2017. He was confirmed case on 31st December 2017 .The operational room was activated to coordinate and investigate the outbreak led by Public Health Unit. 75 close contacts identified through contact tracing and vigilant surveillance and all of them was investigated as patient under investigation (PUI) .The Operational room was active till the end of outbreak which was 26th January 2018 as 29th December 2017 as the day 1 outbreak and 28 days from there because we took twice incubation period. Total of 38 patient under investigation (PUI) admitted during the outbreak. They consist of people visited Saudi Arabia with symptoms, contacts with Mr.S and HCW who treated Mr.S. A cross sectional study to identify the potential risk factor of the disease. Plus our objective was also to provide proper outbreak management for zero transmission MERS-CoV. Six of them drank camel milk including Mr.S. The odd ratio was 17.7 with p value of =0.09. The transmission was zero for all the 60 contacts and the 15 HCW due to good PPE practice, isolation and quarantine HTAR has established good MERS-CoV primordial preventive control with zero transmission of disease while people who consume camel milk are at higher risk of MERS-CoV infection.

Keywords: MERS-CoV, risk factor, zero transmission, HTAR

C2

[24]

**CLINICO-DEMOGRAPHIC PROFILE OF PULMONARY TUBERCULOSIS
PATIENTS SEEN AT THE OUTPATIENT DEPARTMENT FAMILY MEDICINE
CLINIC FROM MARCH 2014 TO MARCH 2015**

A.C. Lacambra-Agner

Eastern Visayas Regional Medical Center, Philippines

ABSTRACT

Tuberculosis is one of the oldest disease known to affect humans and is a major cause of Tuberculosis deaths worldwide. Transmission usually takes place through airborne spread of droplet nuclei produced by patients with infectious pulmonary TB. Coughing is most common way to infect people. Tuberculosis in the region remains the 4th leading cause of consultation in EVRMC. The objective of the study is to determine the clinic-demographic profile of Pulmonary tuberculosis patients seen at the Eastern Visayas Regional Medical Center Outpatient (EVRMC) Department Family Medicine clinic from March 2014 to March 2015. This is a descriptive study conducted at EVRMC Family Medicine clinic. All patients who were diagnosed with PTB were included in the study. Review of records from logbooks and patients' records were collected using checklist. Results of the data were presented in tabular form, numbers and percentages were computed. The PTB cases investigated in this study included 629 patients who were predominantly male belonging to ages 51-60 years old with low socio-economic status and without co-morbid conditions. Almost half of patients came from Tacloban City with 44.19%. The common presenting symptoms at the time of consultation were cough, fever, weight loss and anorexia 34.18%, followed with cough, hemoptysis and weight loss 25.91%, cough, fever and weight loss 23.84%. The diagnostic procedures done were chest xray with 540 cases followed with DSSM 440 cases and GeneXpert of 197 cases. PTB have a great impact on patients belonging to the economically productive age group with lower income status and predominantly males. The clinical profile on co-morbid condition showed high incidence of Diabetes mellitus. Patients who are high risk should be screened. In spite of aggressive case finding of PTB, it is still the most common infectious disease found in the region.

Keywords: Pulmonary tuberculosis, socio-economic impact, co-morbidity

C3

[25]

**“DOCTORS READY TO BE POSTED ARE JOBLESS ON THE STREET...” THE
DEPLOYMENT PROCESS AND SHORTAGE OF DOCTORS IN TANZANIA**

N. Sirili^{1,2}, F. Gasto², A. Kiwara², M. Mwangi², I. Goicolea¹ and Anna-Karin Hurtig¹

¹ *Unit of Epidemiology and Global Health, Department of Public Health and Clinical
Medicine, Umeå University, Sweden*

² *Department of Development Studies, School of Public Health and Social Sciences,
Muhimbili University of Health and Allied Sciences, Tanzania*

ABSTRACT

The World Health Organization advocates that health workforce development is a continuum of three stages of entry, available workforce and exit. However, available literature have paid little attention on the entry stage. We analysed the experiences on the deployment process among doctors working in Tanzania's health sector.

We conceptualized the deployment process into *identification of the available pool, recruitment and placement in workplaces*. Twenty key informant interviews were conducted with doctors who graduated between 2003 and 2009 and who were working in hospitals and Medical Universities in eight regions and five geo-political zones in the country. We used qualitative content analysis to analyse the collected data.

The deployment process is challenged by; “*uncertainties around the first appointment*” referred to lack of effective strategies for identification of the pool of available doctors, indecision and limited vacancies for employment in both public and private sector and non-transparent and lengthy bureaucracy in offering government employment. “*Failure to respect individuals' preferences of work location*” ascribed to the influence of family ties, fear of the unknown rural environment and concern for career prospects. “*Feelings of insecurity about being placed at regional and district level*” related to unpreparedness of local government authorities and territorial protectionism by the Assistant Medical Officers.

Short-term, mid-term and long-term strategies focusing on: synchronization of internship with the first appointment, work place preferences, career plans, working-relationships at the work place and increased rural attachment to medical students are needed to address the challenges facing deployment of doctors in Tanzania.

Keywords: Deployment, employment of doctors, rural areas, internship, shortage of doctors, physicians, health sector, health workforce, Tanzania, Africa

C4

[26]

**INDIVIDUAL, ORGANIZATIONAL, AND TECHNOLOGICAL FACTORS THAT
AFFECT KNOWLEDGE SHARING PRACTICES AMONG MULTIDISCIPLINARY
HEALTH PROFESSIONALS: LESSONS FROM PUBLIC HEALTHCARE
CENTERS IN INDONESIA**

G. Imaduddin, Ryan Walter, Samantha Hollingworth

University of Queensland, Australia

ABSTRACT

Knowledge has been viewed as one of the most important resources in organizations, including those that operate in the healthcare sector. Hence, Knowledge Management (KM) is crucial for healthcare organizations to improve their productivity and ensure effective utilization of their resources. Despite the growing interests to apply KM for healthcare organizations, there is only a modest amount of research which have specifically focused on the barriers to knowledge sharing, as well as the means used to share knowledge. Hence, this paper aims to unravel the factors that inhibit knowledge sharing practices among health professionals, along with the way these professionals utilize knowledge sharing tools and initiatives for the benefit of patient-care. Employing a qualitative method, 13 (thirteen) Public Health Centers (PHCs) from a district health setting in Indonesia were observed. Data collection involved document retrievals and interviews (n=41) with multidisciplinary health professionals who work in these PHCs. The study suggests that culture, leadership, professional boundaries, time and employees' technological aptitude are the factors that inhibit knowledge sharing processes. Furthermore, findings also reveal several means used regularly to share knowledge which include knowledge documents, virtual communication channels (i.e. emails and chatting applications), and social learning forums such as staff meetings, morning briefings, and communities of practices. Making a distance with the KM literature of other sectors, this study suggests that socially-based initiatives could be more reliable to share knowledge compared to technology-based tools due to the nature of healthcare work which is still predominantly based on the tacit form of knowledge.

Keywords: Knowledge management, knowledge sharing, knowledge sharing tools and initiatives, knowledge sharing inhibitors, primary health care organizations

C5

[27]

THE PATTERN OF UTILIZATION OF TELEMEDICINE IN DHAKA CITY

M.T. Hasan¹, M.D.H. Hawlader², F. Zaman¹, S. Das³, K. Jakaria³, N.M.I. Hossain³,
N. Akter³, B.H. Angona³, R.A. Masud⁴ and S.R. Mashreky¹

¹*Department of Epidemiology, Bangladesh University of Health Sciences, Bangladesh*

²*Department of Public Health, North South University, Bangladesh*

³*Synesis It Ltd, M-health, Bangladesh*

⁴*The Cell Tech, Baridhara Dohs, Bangladesh*

ABSTRACT

In the modern world, Telephone has become a part of our life. By using Telephone service, we can communicate with each other quickly. Nowadays, Telephone can be used for the delivery of Primary Healthcare throughout the world. The aim of this study was to find out the pattern of utilization of the Telemedicine service by the people of Dhaka city. To explore the utilization pattern, a retrospective record review was conducted in Synesis IT Bangladesh Ltd. 1,000 patients were selected who received Telemedicine services during 1st November 2015 to 30th September 2016. Majority of the patient were male (71%) and Drugs were prescribed mostly below Eighteen years (43.9%) of age patients. The smallest volume of Drugs was prescribed above Sixty years (4.2%). About, 27% of the patient received Telemedicine service for the different Communicable disease and almost identical proportion (26.7%) of people seeking health care for the Non-Communicable disease. Percentage of Non-Communicable disease was highest among the above 40 years age group. The sexual related issue was highest (9.5%) between Nineteen to Forty years age group. About 26% of the patient was referred to the Doctors or hospitals. Most commonly prescribed Drug was Anti-Ulcer (58.8%) and then Paracetamol; but, the practice of Antibiotic and NSAID was minimum. Males use Telemedicine service for their health issue more than the females. Anti-Ulcer and Paracetamol were the most commonly prescribed drug. The use of Antibiotic in Telemedicine services was minimum.

Keywords: Telemedicine, general practice, drugs, prescriptions, electronic questionnaire

C6

[28]

TRAINING PROGRAMS FOR COMMUNITY HEALTH WORKERS: A SCOPING REVIEW

Y. Chin and J.H. Jordaan

Flinders University, Australia

ABSTRACT

Community health workers (CHWs) have been recognized to play an important role in rural communities all around the world, supplementing existing primary health care services and enhancing their quality and outreach. As CHWs are such an integral part of primary health care services in remote communities, they need to be equipped with the appropriate and relevant skills and knowledge to perform their roles. Various CHW training programs have been developed all around the world by different organizations, all of which aimed at equipping CHWs with different skills and medical knowledge depending on the need(s) of the community they serve in. There are however disparities in training programs developed. For example, in South Africa, there are jarring differences in skills and knowledge between CHWs in different remote communities as a result of non-uniform training programs. Hence, this paper aims to identify factors contributing to an effective training program for CHWs living in remote communities. A scoping review based on the Joanna Briggs Institute scoping review method was performed. Critical analysis of extracted literatures was conducted using the Kirkpatrick Model for the evaluation of training programs described. It was found that factors contributing to an effective training program included the duration of training program, instructor to trainee ratio, method of training, language of instruction, and presence of post-training supervision and evaluation. Future program development should consider including these aspects discussed so that optimum training programs can be developed.

Keywords: Community health worker, training program, rural, review, health literacy

C7

[29]

**PREVALENCE AND CHARACTERISTICS OF TRADITIONAL
COMPLEMENTARY AND ALTERNATIVE HEALTH CARE USE IN INDONESIA:
A NATIONALLY REPRESENTATIVE SAMPLE OF 290,000 ADULTS**

D.L. Suswardany¹, V. Yulian^{2,3} and K. Haryadi⁴

¹*Public Health Department, Faculty of Health Science, Universitas Muhammadiyah
Surakarta, Indonesia*

²*Nursing Department, Faculty of Health Science, Universitas Muhammadiyah Surakarta,
Indonesia*

³*School of Healthcare, Faculty of Medicine and Health Sciences, University of Leeds, United
Kingdom*

⁴*Mathematics Department, Faculty of Science and Technology, Universitas Islam Negeri
Sunan Kalijaga Yogyakarta, Indonesia*

ABSTRACT

This cross-sectional study aimed to analyse the prevalence and characteristics of traditional, complementary, and alternative health care (TCAH) use in Indonesia. Secondary data resulted from The Indonesian National Basic Health Survey (Riskesdas 2013) were analysed using STATA 11. A pre-tested questionnaire was distributed to 294,959 household heads in 33 provinces in Indonesia. The samples were 290,000 household heads that answered questions related to the use of TCAH in the last one year. The survey attracted a response rate of 98.3% household heads. The prevalence of TCAH use was 30.43%. Multiple logistic regression revealed that those who older, married or widowed or divorced, not graduated from elementary school, were more likely to use TCAH than those who were younger, unmarried, and graduated from elementary school. People who knew the availability of private hospital ($p < 0.01$, OR=1.37, 95% CI;1.21-1.54) and midwives clinic ($p < 0.01$, OR=1.32, 95% CI;1.25-1.38) nearby were more likely to use TCAH than those who did not know the availability of those conventional health care nearby. A substantial percentage of Indonesian adults utilise TCAH. All providing conventional care in Indonesia needs to inquire with their patients about possible TCAH use to avoid adverse effect and to promote appropriate use of TCAH.

Keywords: Traditional complementary alternative health care, national health survey, Indonesia

EFFICIENCY OF NEW VISUAL BIOFEED BACK DEVICE – SYNCHRONIZED BREATHING TRAINER – FOR TRAINING BREATHING CONTROL

D. Kotoky¹ and G.D.V. Vardhan ²

¹ *College of Physiotherapy & Medical Sciences, India*

² *Dr. D.Y.Patil College of Physiotherapy, India*

ABSTRACT

Aim: To devise an instrument to help train breathing control.

Objectives: Designing a new device to evaluate the efficacy of the device in lung functions and physical performance for patients with respiratory problems and to construct reliability for the device.

Design: Experimental study , cross-sectional design with constructional validity.

Setting: Dr. D.Y.Patil Vidyapeeth Pimpri, Pune.

Participants: Patients with obstructive and restrictive respiratory conditions.

Intervention: Patients were selected through purposive sampling. Patients were selected based upon the set inclusion and exclusion criteria of the study. Patients were first of all screened using their medical reports(PFT reports) and lab investigations showing that he/she have respiratory disorders. A double blinded study was adopted for the study. Pre and Post assessments were taken for each of the 30 subjects. Respiratory rate, Inspiratory: Expiratory ratio , chest expansion(upper and lower), 6 minute walk test(laps and distance covered) and ERV was assessed pre and post training with the new breathing control device. Breathing retraining was given for each patient for 15-20 minutes. Thus the individual synchronized his breathing cycle with the visual clues of the instrument and thus corrected his/her incorrect breathing cycle. Thus the individual was trained for the correct breathing.

Results: Respiratory rate(P value<0.001), Inspiratory : Expiratory ratio(Pvalue-0.001), chest expansion(upper: P value<0.001 and lower:Pvalue-0.002) and 6MWT(Laps covered:Pvalue-0.0009080; distance covered- P value:<0.001) showed significant improvements after breathing with the new breathing control device. ERV didn't showed any significant improvement with P value-0.083. **Conclusions:** Breathing retraining with the new breathing control device is effective in patients with respiratory disorders. The device showed functional improvements amongst the patients but there was no physiological improvements amongst the patients.

Keywords: Obstructive and restrictive respiratory conditions, breathing retraining, lung functions

C9

[31]

**THE EFFECT OF WET CUPPING THERAPY ON FASTING BLOOD SUGAR,
RENAL FUNCTION PARAMETERS, AND ENDOTHELIAL FUNCTION: A
SINGLE-ARM INTERVENTION STUDY**

N.R.N. Husain ¹, S.M. Hairon ¹, R.M. Zain ², M. Bakar ², T.G. Bee ² and M.S. Ismail ²

*¹Department of Community Medicine, School of Medical Sciences, Universiti Sains Malaysia
Health Campus, Malaysia*

²Health Campus, Malaysia

ABSTRACT

Background: Despite being recognized as an alternative therapy worldwide in treating various chronic diseases and pain, the mechanism of wet cupping is still not well understood.

Purpose: To evaluate fasting blood sugar, renal function parameters, and endothelial function changes of wet cupping in healthy individuals.

Methodology: Single-arm intervention study was conducted at Clinical Lab of Community Medicine, Universiti Sains Malaysia. A total of 31 healthy individuals aged between 30-60 years old and fulfill the study criteria were enrolled. Wet cupping therapy was performed at five treatment points, at the beginning of the study and repeated after 3 months. Health outcomes at baseline, month 1, month 3, and month 4 of study period were assessed for fasting blood sugar (FBS), renal function parameters (urea, creatinine, and uric acid), systolic blood pressure (SBP), and Von Willebrand factor antigen (vWf-Ag).

Results: Forty-five per cent was female with the mean age of study participants was 44.97 (± 6.44) years old. Wet cupping therapy significantly reduced FBS, serum urea, and serum creatinine at month 1, month 3, and month 4 comparing with the baseline. Serum uric acid and SBP showed significant reduction at month 1 and month 4 comparing with the baseline. A vWf-Ag as a measure of endothelial function was found to have 4% reduction at month 4 compared to baseline with mean difference of 5.37 (95% CI=2.20, 8.55; $p=0.002$).

Conclusions: Repeated wet cupping therapy enhances body health status thus, it could promise as an effective complimentary medicine in disease prevention.

C10

[32]

ARE THE HOSPITAL SETTING SAFE FROM LEGIONELLOSIS IN KLANG VALLEY

S.W. Tham, W. Noraini and A. Firdaus

Hospital Tengku Ampuan Rahimah,, Malaysia

ABSTRACT

Background: Legionella infection can be a threat in health care facilities due to the presence of complex water system and immunocompromised people. Health care worker are at occupational risk as routinely exposed to the risk of legionella inhalation. Objective: To determine if our hospital setting is free from legionella and safe for the patient and the health care staff from the engineering level that is the cooling tower in the hospital. Methodology: Six cooling towers in a hospital in Klang area were surveyed for the presence of Legionella. Water sample were collected and sent to National Public Health Laboratory (MKAK) for microbiology analysis. Results: One of the cooling tower is not accessible for water sample collection. Four cooling towers show presence of Legionella and breach the standard that is 1000 cfu/mL or greater of Legionella serogroup 1 and 2-15 isolated from the culture, including one with an excessively high count of 13200 cfu/mL. Conclusion: The hospital cooling tower is the primary reservoirs for Legionella. This study conclude that the hospital setting is not safe from Legionella infection. Thus, it is importance of maintaining a high index suspicion for healthcare-associated Legionnaires' disease. Besides, regular maintenance, cleaning and disinfection program of the cooling system is crucial.

Keywords: Legionella, cooling towers, hospital, water sample

C11

[33]

**FACILITY DELIVERY IS THE IMPERATIVE FACTOR FOR RECEIVING PNC:
INSIGHTS FROM 2014 BANGLADESH DEMOGRAPHIC AND HEALTH SURVEY**S. Tisha¹, S.M.R. Haque¹ and O. Rahman¹*¹School of Public Health, Independent University Bangladesh***ABSTRACT**

The MMR in Bangladesh declined between 2001 and 2010 but has now stuck. Postpartum hemorrhage is an important cause of death among women. Postpartum period is the most vulnerable period for both mother and child as a large proportion of maternal and neonatal deaths occur during this period following delivery (UNICEF 2012). So post natal care (PNC) can influence to reduce maternal and newborn deaths. The objective of this study to examine the association between PNC seeking behavior and facility delivery among postpartum women. We used 2951 women of reproductive ages 15–49, who had received PNC from a qualified physician, using the 2014 BDHS data set. We then applied univariate, bivariate analyses and later a stepwise binary logistic regression by using SPSS v20. In the first model we found that place of delivery is positively and significantly associated (OR=28.102) with PNC by qualified physician. In the second model, place of delivery is still highly significant having OR=21.852 after controlling for all other potential factors. Other than this higher ‘educated mothers’, whose ‘age of first birth was below 35 years’ ‘having less than 4 antenatal visits’ and ‘having highly educated husbands’ are more likely to visit qualified physician for PNC [(P=0.004 & OR = 2.239) (P=0.003 & OR = 1.451), (P=0.001& OR = 2.133) (P=0.002 & OR = 2.7058) respectively]. As per current study it is well documented that by ensuring facility delivery we can increase the number of PNC by qualified physician which will ultimately reduce MMR.

Keywords: Postnatal care, place of delivery, BDHS, Bangladesh

C12

[34]

**GENERAL HEALTH STATUS IN RURAL BANGLADESH: ASSESSING THE NEED
AND FEASIBILITY OF A SUBJECTIVE HEALTH MEASUREMENT TOOL**S.M.R. Haque¹, S. Tisha¹, M. Alam² and O. Rahman¹*¹School of Public Health, Independent University Bangladesh**²School of Liberal Arts and Social Science, Independent University Bangladesh***ABSTRACT**

The basic objective was to gain an in-depth understanding of people's perception of assessing their own health status and attempt to use a subjective health measurement tool for screening population health. In this mixed method study focus group discussion (FGD) were conducted to settle the screening questions and cross-sectional design were adopted to screen health status of the community. The surveillance platform of Independent University Bangladesh (IUB) was used to collect data during December 2016 and January 2017. 908 randomly selected adults of Manikganj district were interviewed. Initially 7 out of 30, FGD participants reported bad health in response of a single global question, "what is your current health status?" Finally, 14 participants concluded their health status as bad which was exactly double of the initial feedback. In comparison to objective measurements, all participants were in favor of subjective health screening as objective tools were expensive, time consuming and should only be done when a person would be in severe ill health. As a screening tool, combined approach of four different questions on general health were suggested by most of the respondents. Reliability statistics obtained from Cronbach's Alpha was 0.83 for the proposed four item tool, which is also significant. Prevalence of bad health was 15.5% with that single question, while it was 27.2% with the updated tool. Approximately additional 12% people with perceived bad health were identified using the modified updated tool. We can introduce this quick and reliable tool in our national health surveys to easily identify the vulnerable group in the community.

Keywords: General health status, subjective health measurement, Bangladesh

C13

[35]

COMPLETENESS OF MATERNAL HEALTH REFERRAL FORMS AT THE DISTRICT LEVEL

M. Amoakoh-Coleman ^{1,2,3}, K. Klipstein-Grobusch ^{3,4}, E.K. Ansah ⁵ and D.K. Arhinful ¹

¹*Department of Epidemiology, Noguchi Memorial Institute for Medical Research, University of Ghana, Ghana*

²*School of Public Health, Department of Epidemiology and Disease Control, University of Ghana, Ghana*

³*Julius Global Health, Julius Center for Health Sciences and Primary Care, University Medical Center Utrecht, The Netherlands*

⁴*Division of Epidemiology and Biostatistics, School of Public Health, Faculty of Health Sciences, University of the Witwatersrand, South Africa*

⁵*Center for Malaria Research, Institute of Health Research, University of Health & Allied Sciences, Ghana*

ABSTRACT

Background: Maternal referrals are unavoidable due to unequitable distribution of health care resources. The referral note that accompanies clients is useful in giving quick but essential summary of the client's condition and what care she has received. The aim of this study was to assess the completeness of referral forms accompanying maternal referrals. **Methods:** This was part of an implementation research within three districts of the Greater Accra region using mixed methods approach. At baseline and during the intervention phases, the referral processes for all obstetric referrals from primary level facilities to district hospitals, were documented including, indications for referrals, completeness of referral forms and how these compare to the national referral policy guidelines. The intervention package included training of health workers on complications of pregnancy and related referrals as well as how to fill the referral forms completely. An assessment of before and after intervention completeness of referral forms was done to document any changes. **Results:** Data collection just ended in 22 facilities (3 district hospitals and 19 primary level facilities). Preliminary analysis of baseline data shows that only 27.16% (85/313) of referrals were accompanied by a filled referral form. Mean completeness (95% CI) of the referral forms was 70.67% (60.43 – 80.90%). Approximately 13.4% of referrals were due to pregnancy induced hypertension and its complications. Further analysis will allow us report on completeness of referral forms during the intervention phase and assess if the intervention made any significant difference on completeness of the forms.

Keywords: Maternal, referrals, processes, completeness, referral forms

C14

[36]

PALATAL RUGAE AND LIP PRINT PATTERN STUDY AS THE ALTERNATIVE METHOD OF MASS NATURE DISASTER VICTIM IDENTIFICATIONN. Kasuma ¹, F.N. Fajrin¹, D. Elianora ², A. Fitriana ¹ and F. Haria ¹¹*Andalas University , Faculty of Dentistry, Indonesia*²*Baiturahmah University , Faculty of Dentistry, Indonesia***ABSTRACT**

The most common method of forensic identification is dental, fingerprint, and DNA. However those have a limitation such as high price , and limited cases. Palatal fold (rugae) and lip print pattern are a unique, stable and resistant morphological landmark as potential secondary data of identification. The purpose of this study is to examine the characteristic of rugae palatina and lip print pattern and the resemblance to the Minangkabau family relationship. This cross-sectional study, in 27 pure blood Minangkabaunese families consist of father, mother, biological son and daughter. The sample was taken randomly. Palatal rugae was extracted from alginate printing. The fingerprints are printed onto white paper after all the fingers are dyed blue. Lip print was taken on white paper after lips colored with red lipstick. IBM SPSS 17 is used for statistical analysis with multiple regression tests. The results show that there is similarity of rugae palatina based on family relationship. The circular male rugae has similarities to that of the father ($p < 0.05$). Circular rugae in girls is derived from the mother, wavy ones are derived from both parents ($p < 0.05$). The index finger is more similar to the mother, while the left ring finger is derived from the father ($p < 0.05$). Lip print pattern doesn't show the significant result. Conclusion is similarities of rugae palatina and fingerprints are influenced by genetic factors. Rugae palatina is good alternative identification method in forensic science. Palatal rugae pattern can be considered to be taken in routine dental medical record.

Keywords: Palatal rugae, lip print pattern, odontology forensic

C15

[37]

SEMEN ANALYSIS PARAMETERS: INSIGHT INTO MALE INFERTILITY IN A TERTIARY CARE HOSPITAL

N. Mahboob^{1,2}, M. Ahmed² and K. Leena¹

¹*North South Global Health Institute, North South University, Bangladesh*

²*Popular diagnostic limited, Bangladesh*

ABSTRACT

Background: Male infertility accounts for 45% of infertility. It is commonly due to deficient sperm count in semen and semen quality. Semen analysis as an integral part of infertility investigations and is taken as a surrogate measure for male fecundity.

Material and Methods: This descriptive cross-sectional survey was carried out at the Microbiology Laboratory, Popular diagnostic Ltd from July 2017 to December 2017 to determine the prevalence of azoospermia, oligospermia in male infertile population, and to assess the distribution of abnormal semen parameters in infertile men. A total of 300 semen analysis was performed according to methods and standards defined by the World Health Organization (WHO), 2010. Samples were categorized into normozoospermia, oligospermia and azoospermia on the basis of sperm count and were also categorised on basis of motility, morphology, volume. Normozoospermic and oligospermic samples were compared for motility and morphology. SPSS 20 was used for statistical analysis.

Results: Normozoospermia was observed in 186 (62%) males, oligospermia in 81(27%) and azoospermia in 33 (11%) males. Asthenospermia was observed in 113 (37.6%) and teratozoospermia in 11 (3.6%) of samples. Normospermia was observed in 282 males (94%), hypospermia in 18 (6%) and no male was hyperspermic. Abnormal viscosity was found in 3 males, 1 in each category. Only azoospermic (N=33) category had 4 (12.12%) male having pH <7.2. Pus cell (>5HPF) was observed in 16(8.60%) males of normozoospermic, 15(18.52%) males of oligospermic and 08 (24.24%) males of azoospermic category. The oligospermic samples had higher percentage (93.83%) of non-motile sperms and abnormal morphology in 13.58% in comparison to normozoospermic samples.

Conclusion: Semen analysis is the cornerstone for the evaluation of infertility in men. Not only sperm concentration but also the motility, morphology and other seminal markers are important factor that also may have negative impact on fertility.

Keywords: Infertility, azoospermia, semen analysis, sperm

C16

[38]

HIV CARE CONTINUUM IN SOUTHWEST ETHIOPIA— FACILITATORS, BARRIERS AND SOLUTIONS: A QUALITATIVE INQUIRY FOLLOWED BY A NOMINAL GROUP TECHNIQUE

H. Gesesew ^{1,2}, P. Ward ¹, K. Woldemicael ² and L. Mwanri ¹

¹*Flinders University, Australia*

²*Jimma University, Ethiopia*

ABSTRACT

Background: Guided by HIV care continuum framework and social-ecological model, we explored the facilitators, barriers and ways to improve UNAIDS 90-90-90 targets for the first time. **Methods:** A two-phase study was conducted in Ethiopia in 2017/18. In phase-I, we carried out an in-depth interview with HIV patients, HIV care providers, community advocates, and HIV care administrators. In phase-II, we applied a Nominal Group Technique (NGT) to receive ranking on the possible solutions for HIV care and treatment (HCT) from a panel of stakeholders, HIV experts and practitioners. Data analyses methods included thematic analyses, content analyses and Wilcoxon-Signed Rank Test. **Results:** 35 participants were involved in the in-depth interview. Facilitators for HCT included: new programs, knowledge and trust on ART and support. Barriers to HCT were: fear of being seen by others, our tradition our enemy, free ART as expensive, and fragmented health care system. Emerging solutions were: strengthening programs; implementing new programs—self-HIV testing, house-to-house HIV testing and community ART groups—; filling gaps in law in issues related with disclosure status and traditional healers; decentralization and task shifting such as ART in health posts and private clinics, and implementing a *teach-test-link-trace* model. 18 experts were involved in the NGT and rated the following solutions *in order*: filling gaps in law, self-HIV testing, *teach-test-link-trace* model, house-to-house HIV testing, community ART groups, ART in private clinics and ART in health posts. **Conclusions:** The above findings call for implementation of the solutions after conducting further studies.

Keywords: Qualitative, NGT, barriers, solutions, HIV care, Ethiopia

C17

[39]

PARENTAL TRUST IN CHILDHOOD VACCINATIONS: RISK, RESPONSIBILITY AND ALTERNATIVE RATIONALITIES

P.R. Ward

Flinders University, South Australia

ABSTRACT

Background: Childhood vaccination programs have been so effective in the elimination of infectious disease, that they have become a victim of their own success, resulting in the current paradox in Western nations that parents have become as concerned about the perceived, actual and potential risks of the vaccines, as they are about the risks of the disease itself. The increasing debate in Western society regarding the real or perceived risks of vaccinations has made certain groups of parents feel ‘uneasy’ about or even ‘anti’ vaccinations. This paper will explore the ways in which parents in our study talked about the perceived risks incurred by vaccinating their children. **Methods:** We undertook 32 in-depth interviews (between 2013-2016) with non-vaccinating or ‘vaccine hesitant’ parents in Fremantle, Western Australia and Adelaide, South Australia. The broad purpose of the interviews was to explore experiences of, barriers to and trust in childhood vaccination. However, our analysis of the interviews also identified particular issues around constructions of risk and responsibility and the idea of alternative rationalities which, although running counter to public health messages, were nevertheless regarded as logical and rational by the parents. All interviews were transcribed and analysed using both inductive and deductive processes. **Results:** The key themes presented relate to the perceived risks of childhood vaccinations, issues around responsibility for their child’s health and the resultant rationalities in terms of the perceived logic of non-vaccination for parents. Firstly, parents talked about their deliberations concerning vaccinations potentially reducing disease risk to society/others versus vaccinations causing unknown risks to their child but possibly not actually protecting them from disease (questioning efficacy). Secondly, parents talked about their understanding of the science underpinning vaccinations, often constructing a black/white version of science as true/false - the idea that science is always in flux was rarely articulated, thereby previous ‘unfounded claims’ about vaccination risks were often still held as ‘true’. Thirdly, parents talked at length about the risks of allopathic medicine (not simply vaccines) to their child, as opposed to the lack of risk of ‘natural’ therapies – risk, like science, was seen as a binary as opposed to relative concept. However, some parents were in a ‘risk conundrum’ – not wanting their child to be the one that gets the relatively rare reaction to the vaccine (i.e. looking after their individual child) but not necessarily confident that ‘alternative’ therapies will reduce the risk of disease either. Finally, parents talked about weighing-up the risks of taking personal responsibility (the risk of not vaccinating and something bad happening) vs abdicating responsibility to others (blaming others if something bad happens as a result of the vaccination). **Discussion:** We interpret our data in relation to Ulrich Beck’s idea of ‘risk antagonism’, Zygmunt Bauman’s concept of ‘liquid fear’ and Pierre Bourdieu’s notion of ‘alternative rationalities’, set within a broad theoretical backdrop of Martin Bauer’s notion of ‘public resistance to techno-science’.

C18

[40]

**CULTIVATING HEALTH SERVICE DELIVERY OF ETHIOPIA'S PRIMARY
HEALTH CARE THROUGH LEADERSHIP, MANAGEMENT AND GOVERNANCE
(LMG)**

M.S. Abdulkader

USAID Transform: Primary Health Care Project, Ethiopia

ABSTRACT

Ethiopia's indigenous Transform: Primary Health Care (PHC) is a USAID funded project. Its interventions have designed to support the government Health Sector Transformation Plan (HSTP) and applied in the four big regions of the country i.e. Amhara, Oromia, SNNP and Tigray, by stretching its support in more than 10 thematic areas. LMG is one of its thematic focused area and striving to create transformational leaders at the PHC level. LMG capacity enhancement aimed to improve the health system performance by improving the work environment and designing responsive health systems. USAID Transform: Primary Health Care project has taken LMG trainings using the standard manual developed by Ethiopia's FMOH. It has a tailored approach based on the PHC's tier and performances: for high performing Districts/Woredas (LMG block course, LMG projects and coaching) and for mid & low performing Districts/Woredas (LMG divided courses [W/shop I & W/shop II], LMG projects and coaching). In six months period, the project has reached 20 districts and trained & coached 489 PHC managers and workers. Accordingly, 140 PHC initiative LMG projects have designed in the areas of health quality improvement e.g. Applying the Ethiopian Health Center/Hospital Reform Standard Guideline; creating model kebeles; increasing skilled birth attendant; reducing patient waiting time; and establishing a standard surgical operation room etc. In general, once PHC managers and health workers have skilled in L+M+G and applied its thirteen practices to overcome their PHC challenges, it could ensure a health system strengthening and leads to quality health service delivery.

Keywords: Transform, PHC, HSTP, LMG, LMG-Projects, Woreda

C19

[41]

**PREDICTORS OF AND BARRIERS ASSOCIATED WITH HEALTH SERVICES
UTILIZATION AMONG PERSONS WITH DISABILITY**

B.J.N. Pedron

College of Rehabilitation Sciences, De La Salle Health Sciences Institute, Philippines

ABSTRACT

In the Philippines, despite numerous initiatives and programs that aims to increase awareness of persons with disability about the different health care benefits intended for them, majority of them still experiences obstacles particularly in accessing health care services. The purpose of the study were to identify predictors and barriers associated to health services utilization among persons with disability. The study used descriptive design, with 77 persons with disability from 3 hospital in the province of Cavite as respondents. Linear Regression was used to identify the predictors for both health services utilization and barriers. The researcher found out that gender and type of disability has significant differences in terms of health care services utilization, and in terms of experienced barriers, only educational background has significant difference. Further, the study also revealed that age, location and monthly income were significant predictor in utilization of health care services. While, education became significant predictor in predicting barriers in accessing health care services. Different barriers were identified in low level health care services utilization among persons with disability. In this context, strong implementation of policy to increase awareness and knowledge about disability and its prevention in the community level are essential to address the barriers.

Keywords: Persons with disability, health utilization, health barriers

C20

[42]

THE UTILIZATION AND CORRELATES OF BASIC PUBLIC HEALTH SERVICE AMONG YOUNG MIGRANTS IN CHINA

Q. Yan and L. Tong

Department of Maternal, Child and Adolescent Health, School of Public Health, China

ABSTRACT

This study aims to explore the utilization of basic public health services and relevant factors among young migrants in China. The data were collected by the National Health and Family Planning Dynamic Monitoring for Migrant Workers in 2014. A total of 29,281 young migrants aged 15-24 years were included in this study. The hierarchical linear regression model and multivariate logistic regression model were applied to examine the related factors for using basic health care services. The basic public health services only covered few of young migrants. Only 18% of them had health records, and 28.5% received health education for occupational disease prevention. The people received health education for AIDS, reproductive health, and other sexual transmitted diseases only accounted for 43%, 38.4%, and 31.6%, respectively. The results derived from multivariable analysis indicated that gender, age, education level, marital status, nature of unit, floating area, long-term residence plan, and medical insurance, were the main determinants on the utilization of public health services in this population. Overall, the utilization of basic public health services for young migrants was poor. More governmental works, therefore, are warranted to enhance the affordability and accessibility of basic public health service for young migrants. Particularly, the health education for promoting occupational health and reproductive health care should be placed on the priority.

Keywords: Basic public health services, young migrants, health records, health education

C21

[43]

THE DOCTORS' CHALLENGE IN DISRUPTION ERAT.A. Sugiyatmi¹ and D. Chalidyanto¹¹*Faculty of Public Health, Universitas Airlangga, Indonesia***ABSTRACT**

The doctor's profession is noble, tied up with quite strict rules both in terms of ethics and discipline. Naturally, there is a problem of asymmetrical information between doctors and patients that often leads to misunderstandings. The purpose of this study is a beginning study related to adversity faced by doctors in the present era to prepare resilient doctors. The method used is the literature review related to the vulnerability and resilience of the medical profession. Adversity of doctors is divided into several classifications, specified to the doctors themselves (internal factor) and what support them (external factor). The internal factor is divided into physical and psychological condition. Doctors are to have strong physical condition to face the patients' jeremiad; besides, serving patients sometimes exceed their work span that would clearly threaten their health. Psychologically, doctor can also be frustrated by the trigger from themselves and from outside. While the external factor, it ranges from the equipments and the procedures of the work, communication with the management, interprofesional relationships, insurance payers, and patients and their families. The adversity of doctors should be mapped. In this case, doctors are very vulnerable (potentially to make mistakes or risks). This mapping aims to anticipate the various possibilities, and also to prepare a resilient doctors (tough to face challenges in disruption era. The amount of adversity that makes a doctor vulnerable requires strong endurance from the doctors themselves (resilience).

Keywords: Doctor, adversity, vulnerability, challenge, resilience

**DETERMINANTS OF HOUSEHOLD CATASTROPHIC HEALTH EXPENDITURE:
A GLOBAL PERSPECTIVE FOR UNIVERSAL HEALTH COVERAGE**

M. Azzani¹, A.C. Roslani^{2,3} and T.T. Su⁴

*¹Department of Community Medicine, Faculty of Medicine, MAHSA University, Saujana
Putra Campus, Malaysia*

*²University of Malaya Cancer Research Institute (UMCRI), Faculty of Medicine, University
of Malaya, Malaysia*

³Department of Surgery, Faculty of Medicine, University of Malaya, Malaysia

*⁴Centre for Population Health (CePH), Department of Social and Preventive Medicine,
Faculty of Medicine, University of Malaya, Malaysia*

ABSTRACT

The World Health Organization estimates that annually 150 million people experience severe (catastrophic) financial difficulties and about 100 million become poor as a result of healthcare payments. Therefore, a systematic review was carried out to identify the determinants of household catastrophic health expenditure (CHE) in low- to high-income countries around the world. Both electronic and manual searches were conducted. Electronic resources included PubMed, Medline, ScienceDirect, Web of Science, CINAHL Compleat@EBSCOhost, Scopus, the Cochrane Library and Embase. The main outcome of interest was the determinants of CHE due to healthcare payments. Thirty eight studies met the inclusion criteria for review. All studies were survey-based reports on the determinants of CHE. The analysis revealed that household economic status, incidence of hospitalization, presence of an elderly or disabled household member in the family, and presence of a family member with a chronic illness were the common significant factors associated with household CHE. The crucial finding of the current study is that socioeconomic inequality plays an important role in the incidence of CHE all over the world, where low-income households are at high risk of financial hardship from healthcare payments. This suggests that healthcare financing policies should be revised in order to narrow the gap in socioeconomic inequality, social safety nets should be implemented and strengthened and an exemption policy should be introduced for the poor and people who have a high and prolonged need for health care as the elderly, people with a chronic illness and disabled persons.

Keywords: Catastrophic illness (MeSH terms), health expenditure (MeSH terms), socioeconomic factors (MeSH terms), worldwide, systematic review

C23

[45]

ROLE OF A MULTIMODAL INTERVENTION IN IMPROVING HAND HYGIENE COMPLIANCE FOR SAFE HEALTH CARE MANAGEMENT: EVIDENCE FROM RESOURCE POOR SETTINGS

L. Ara¹, M.E.H. Tamal¹, N.K.A. Siddiquee¹, S.M.N. Mowla¹, M.S.A. Sarker¹ and
M.N.H. Alam¹

¹ *International Centre for Diarrhoeal Disease Research, Bangladesh*

ABSTRACT

Hand hygiene (HH) is the most effective yet neglected practice to prevent hospital-acquired infections (HAIs). The study aimed to promote quality and safety by enhancing hand hygiene compliance (HHC) of healthcare workers (HCWs) using a multimodal intervention (MMI) and to assess its role in health care settings of Bangladesh. A pretest-posttest quasi-experimental study with MMI for 6 months was conducted in five hospitals (2 government, 1 autonomous, and 2 private hospitals) of Bangladesh between 2012 and 2017; 342 physicians and 642 nurses were selected purposively and HHC was recorded by direct observation. MMI included (i) educational and training (ii) visual reminders, (iii) monitoring and performance feedback and (iv) formation of infection control committee. After intervention, overall HHC significantly increased ($p<0.01$) from 1.2% to 50.1% before patient contact (BPC) and 2.2% to 57.2% after patient contact (APC) across the five study settings. Improvement was more marked in private hospitals (BPC: 55.8, APC: 57.0%) than autonomous (BPC: 50%, APC: 52.8%) and public hospitals (BPC: 45.1%, APC: 54.1%). Increase in HHC was also statistically significant ($p<0.000$) in low (39.7%), medium (57.8%) and high (73.8%) risk activities. Though physicians and nurses showed similar HHC BPC, nurses showed greater compliance APC (OR=1.1, 95% CI: 1.0-1.3, $p<0.01$). Study results revealed that a multimodal all-out approach can effectively promote HH and achieve remarkable improvements in HHC in resource poor countries like Bangladesh, which will ultimately assist in reducing HAIs as well as enhancing safety, effectiveness, and efficiency of health care management in similar healthcare settings.

Keywords: Hand hygiene, multimodal, health care, safety

C24

[46]

**IMPROVED PERFORMANCE AT DISTRICT HEALTH SYSTEMS THROUGH
IMPLEMENTING HEALTH CENTER CLINICAL AND ADMINISTRATIVE
STANDARDS: A CASE OF TRANSFORM PRIMARY HEALTH CARE IN
ETHIOPIA**

M.D. Argaw, B.F. Desta and T. Ayehu

USAID Transform: Primary HealthCare, JSI Research & Training Institute, Inc. in Ethiopia

ABSTRACT

Background: Standards represent benchmarks against which improvements can be measured. Two years ago, the Federal Ministry of Health developed and endorsed a set of standards called Ethiopian Health Center Reform Implementation Guidelines (EHCRIIG). Therefore, the aim of this study was to assess the effect of planned interventions on performance and quality of services at primary health care units. **Methodology:** A non-experimental pre-post study design used to compare the performance against the EHCRIIG standards before implementation after implementation in 76 Woredas of Amhara region from July – December 2017. A pre – post intervention validation measurements were made to measure performance improvement in 76 woredas. The data were entered and analyzed using Statistical Package for Social Sciences. **Result:** In this study, we have conducted ten sessions of two days trainings for 1306 staff. On site coaching and mentoring were conducted for three months. The average EHCRIIG standards met before and after intervention were 59% and 66%, respectively. The score showed a positive correlation coefficient ($r= 0.74$) with statistical significant paired sample t test with $t= - 7.15$, $df=75$, $P<0.000$. In addition, the mean score among performance tier were 74%, 66% & 65% for high, medium and low performer Woredas, respectfully, the One-way analysis of variance (ANOVA) showed borderline significant difference between groups with ($F= 2.4$, $P< 0.09$). **Conclusions and recommendations:** The implementations of the standards have demonstrated significant improvements in performance at primary health care level. Therefore, continuing the initiated strengthening health systems performance against the standards and evaluation of quality of primary health services were recommended.

C25

[47]

**DISRESPECTFUL MATERNITY CARE EXPERIENCES NEGATIVELY
INFLUENCE FUTURE INTENTION TO USE INSTITUTIONAL DELIVERY IN
NORTHERN ETHIOPIA**

M.W. Gebremichael, Y. Berhane, A. Worku and A.A. Medhanyie

Mekelle University, Ethiopia

ABSTRACT

Background: Ethiopia has successfully increased antenatal care coverage substantially, but deliveries attended by skilled providers are still low. Disrespectful and abusive maternity care practices are believed to be among the factors deterring institutional delivery services. However, information on the relationship between mothers' experience of disrespect and abuse and their future intention to give birth at health institution is lacking in our context.

Objective: The aim of this study was to examine the association between experiencing disrespectful care and future intention of mothers to utilize health facilities for delivery.

Methods: A cross sectional study was conducted in Tigray, Ethiopia. Data were collected using a structured questionnaire by interviewing mothers who had given birth in health institutions in the twelve months preceding the study. Disrespect and abuse were self reported by the mothers. Bivariable and multivariable logistic regression models were employed to examine the relationship between future intention of mothers to use institutional delivery services and their past experience of disrespect and abuse while receiving maternity care services.

Results: A total of 1,031 mothers who delivered in health facilities in the last 12 months participated in the study. Of which, 156 (15.1%) reported two or more incidents of disrespect and abuse while receiving labor and delivery care services. Experiences of disrespect and abuse were strongly associated with intention to use the health facility in future births. The odds of having no intention to use health institutions for future delivery was extremely high among mothers who reported experienced disrespect and abuse (AOR= 59.42; 95% CI: 30.082, 117.359).

Conclusion: Disrespectful and abusive experiences can strongly deter future use of maternal health services. In order to achieve the desired level of institutional delivery coverage in developing countries due attention need to be given to improve the manner in which services are offered.

C26

[48]

**HEPINAR (HELM PINTAR) "SMART HELMET": AN INNOVATION OF SAFETY
HELMET USE ELECTROENCEPHALOGRAPH SENSOR AND
ELECTROCARDIOGRAM SENSOR BASED FUZZY LOGIC TO RESOLVE
ACCIDENT CAUSED SLEEPY AND REDUCING THE SPEED MOTOR VEHICLES**

K. Priambodo, M. Fanani and I. Sulaiman

Jember University, Indonesia

ABSTRACT

Road traffic accidents are complex and require special attention. This can be seen by the increasing number of accidents from year to year. The number of people who died from traffic accidents in the final quarter of 2016 reached 6383, mostly due to motorcycle traffic accidents (Korlantas Polri, 2017)

From the statistical test results obtained a meaningful relationship between motorists tired with the incident died from traffic accidents. Tired drivers cause 57.9% death (Marsaid, et al., 2013). Therefore, based on the background and the above problems it is urgent to develop fatigue detection innovation that is applied to Safety Helmet. it is an innovative safety helmet that serves to detect the level of fatigue in motorcyclist, detection of fatigue in motorists using the electroensefalogram sensor and elektrokardiogram sensorbased fuzzy logic. In addition to, this helmet is equipped with GPS (Global Positioning System) and short message service gateway and use RF network. If the rider is caught in a drowsy state then the sensor sends an RF message to activate the servo motor to reduce speed, automatically turn on for left lighting and slowly stop. The implementation method that is literature study, system identification and modeling, system design, tool making, tool testing and analysis and report making.

Keywords: Heart rate, traffic accident, motorcycle, sensors

D1

[49]

FACTORS MOTIVATING VILLAGE DOCTORS TO REFER SICK CHILDREN IN PUBLIC HEALTH FACILITIES IN BANGLADESH

G. Mothabbir¹, F. Fatema¹, S. Jahan^{1,2} and K. Leena²

¹*Save the Children, Bangladesh*

²*North South University, Bangladesh*

ABSTRACT

In Bangladesh, Village Doctors (VDs) play a great role for health of rural population due to unavailability of skilled human resources at the peripheral government facilities. This study was conducted to identify skills of the VDs for pneumonia & diarrhea treatment and to recognize the motivating factors for referring severely ill children to the public health facilities. A total of 298 VDs were trained in case management of pneumonia and diarrhea. Quality of care delivered by the trained VDs in intervention upazilas were found significantly above than untrained VDs of comparison upazilas. Intervention area VDs had remarkably better knowledge and skills on assessment, classification and management of pneumonia and diarrhea compared to the VDs in comparison areas. More than 85% VDs in intervention areas could recall chest in drawing assign of pneumonia compared to 0% in comparison area. Almost 81-91% VDs knew the appropriate treatment of at least one of the three classifications of pneumonia, however, 0-25% from comparison area knew that. Similarly, none of the VDs in the comparison area knew appropriate treatment for severe dehydration as opposed to 81% in the intervention area. Additionally, there was a significant increase in referral to formal care for severe cases. The Upazila Health & Family Planning Officers (UHFPO), MOH administrators acknowledged that the VDs are referring 10 to 15 sick children monthly to the upazila health complexes. Project lesson learned is that VDs feel proud to be part of any initiatives that intends to engage themselves with formal public health system.

Keywords: Village Doctors (VDs), primary health care, Ministry of Health (MOH), management of pneumonia and diarrhea

D2

[50]

**TRENDS AND DETERMINANTS OF OVERWEIGHT AND OBESITY AMONG
REPRODUCTIVE AGE WOMEN IN BANGLADESH: EVIDENCE FROM 20 YEARS
OF NATIONAL HEALTH SURVEYS**

S.S. Yusuf¹ and S. Alam²

¹*World Vision, Bangladesh*

²*International Center for Diarrheal Disease Research, Bangladesh*

ABSTRACT

In Bangladesh, the rate of overweight and obesity among women of reproductive age (15-49 years) has shown a marked increase from 3% in 1996/7 to approximately 24% in 2014. The health risks of increasing obesity include diabetes, coronary heart disease, and even certain types of cancer. Most studies in Bangladesh had traditionally focused on undernutrition among <5 children with most of women's health focusing primarily on reproductive health. This study focuses on examining trends of obesity and overweight to provide evidence on a new health risk facing women.

Data from 6 rounds of demographic health surveys were analyzed using bivariate analysis and multinomial logistic regression to assess the association and change of risk factors over a 20 year period. Over the years, obesity among women has increased each survey year, with the highest prevalence among those in wealthier households. Other risk factors unchanged over time include age, higher education, and those engaged in professional work. Protective factors included younger age at first birth, rural locality, and working in agriculture or domestic labour.

Understanding the dynamics of risk factors and their association with obesity is an increasingly relevant issue. The data from this study indicates that with increasing obesity that's linked to improved socioeconomic conditions, unhealthy weight will soon become an important issue in maternal health. Simply focusing on reproductive health and not improper nutrition is a gap in national policy that requires immediate remedy. Unless this trend of increasing obesity is addressed Bangladesh will be unprepared to combat this issue.

Keywords: Obesity, overweight, maternal health, reproductive-age women, Bangladesh

D3

[51]

THE ASSOCIATION BETWEEN NUMBER OF CHILDREN AND NEONATAL MORTALITY: AN ANALYSIS OF THE 2007 INDONESIAN DEMOGRAPHIC AND HEALTH SURVEY

A.C. Wijayanti¹ and Yovsyah²

¹Public Health Department, Faculty of Health Science, Universitas Muhammadiyah Surakarta, Indonesia

²Epidemiology Department, Faculty of Public Health, Universitas Indonesia, Indonesia

ABSTRACT

The objective of this cross-sectional study was to analyse the association between number of children and neonatal mortality in Indonesia. The secondary data resulted from a national survey among 42,431 households in all 33 provinces in Indonesia entitled the Indonesia Demographic and Health Survey (IDHS) 2007. The samples of this study were mothers of 15,273 children that were born in the last 5 years prior to the survey. The multivariate logistic regression revealed that education background of the mother, birth spacing, Antenatal Care visit, place of birth, caesarean section, and gender of children, are significantly related to neonatal mortality. The multivariate risk score showed that mother who gave birth to one or more than four children were 2,314 more likely to experience neonatal mortality than mothers who gave birth to 2-3 children (95% CI : 1,122-4,7722) after controlling the education background, birth spacing, ANC visit, birth place, caesarean section, and gender. Neonatal mortality risk is high among primigavida and low among women who gave birth to 2-3 children, and high among women who gave birth to 4 children.

Keywords: Neonatal mortality, Indonesia Demographic and Health Survey, number of children

D4

[52]

**EFFECTS OF POOR PROTEIN INTAKE AND IN-HOUSE OVER-CROWDING ON
CHILDHOOD TUBERCULOSIS IN A LOW-INCOME BANGLADESHI RURAL
COMMUNITY: A CASE-CONTROL STUDY**

A. Hossain

North South University, Bangladesh

ABSTRACT

Despite a well-functioning tuberculosis (TB) control program in Bangladesh, tuberculosis (TB) contributes to an unacceptably high rate of morbidity and mortality among children. We identify the risk factors of childhood TB in a tea garden based area of Bangladesh. A case control study with 216 cases and 216 controls was conducted at seven sub-districts of Moulvibazar district in Bangladesh during the period of March 2016 to September 2016. Socio demographic and clinical data were obtained from each participant via face-to-face interview using a standard semi-structured questionnaire. Data was collected from the patient's relative who came to the DOT'S center along with the children. Crude and multivariate logistic regression analyses were used to analyze the data. The multivariate logistic regression analysis indicated that over-crowding (>4 persons per bedroom) in the house (OR = 2.64, 95% CI = 1.66-4.25), positive history of TB in the family (OR = 1.87, CI = 1.19-2.95) and poor protein intake (OR = 1.72, CI = 1.07-2.77) are the significant risk factors for childhood TB. Besides, poor monthly income (<10000 taka) (OR = 0.58, CI = 0.30-1.10) and younger child (< 10 years of age) are found nearly significant for childhood TB. To conclude, improvement in the living standard of children will help in reducing childhood TB in the community. The identified risk factors for the childhood tuberculosis reflect a complex interaction among socio-demographic conditions. The control program for the childhood TB would benefit from a collaboration of broad public health activities in improving the socio-demographic factors in the rural community.

Keywords: Childhood tuberculosis, case-control study, crowding, multivariate analysis, Bangladesh

D5

[53]

DOES PRIVATE SECTOR CONTRIBUTES IN INCREASING CAESAREAN DELIVERIES IN INDIA?

D.W. Bansod

International Institute for Population Sciences, India

ABSTRACT

Caesarean deliveries are increasing worldwide at the faster rate. Although it can save lives of mothers and babies, but caesarean section is often performed without medical need, putting women and their babies at-risk of short and long-term health problems. Paper examines the patterns and determinants of caesarean deliveries and to understand the reasons for opting caesarean delivery in India. We used NFHS-4 data collected from 29 states and 6 UTs of India in 2015-16. We use binary logistic regression models to understand the determinants of caesarean delivery and emergency caesarean deliveries in India and its states. Results reveal that the caesarean section deliveries in India has increased rapidly, it is more than a five-fold increase from NFHS-1 (1992-93) 3 percent to 17 percent in NFHS-4 (2015-16). There are huge state variations in C-section deliveries ranges from 6 percent in Bihar to 40 percent in Andhra Pradesh. About half of the states are above the national average of C-section deliveries in India crossing 20 percent mark as against 17 percent in India. Mother's age, Mother's schooling, Religion, Wealth Quantile, Mothers Height, ANC visit, size of the birth, pregnancy complications and place of delivery were statistically associated with caesarean section deliveries in India. Undeniably, majority of C-section deliveries were performed in the private sector, it clearly indicates that the private sectors are playing an important role in increasing the C-section delivery in India.

Keywords: Caesarean, delivery, NFHS, India

D6

[54]

FACTORS INFLUENCING THE PRACTICE OF CHILD MARRIAGE AMONG GIRLS IN THE URBAN SLUMS OF BANGLADESH: A CROSS SECTIONAL STUDY

S.C. Biswas, T. Hasan, S.S. Mowri, H.H. Sara and S.F. Rashid

BRAC James P Grant School of Public Health (JPGSPH), BRAC University, Bangladesh

ABSTRACT

Bangladesh continues to have one of the highest child marriage (marriage before 18 years) rates worldwide. This problem is more rampant in the context of urban slums that are prone to pervasive violence and extreme poverty. To examine the factors influencing child marriage practices in urban slums of Bangladesh, we surveyed 1129 ever-married girls aged 13-24 years, from November, 2017 to January, 2018, in two of the largest slums of Dhaka and Chittagong. Among the respondents, child marriage rate was found to be 82% and median age of marriage was 16 years. Respondents frequently reported the reasons of early marriage to be, demand of parents and groom's family (28.1%); availability of 'good' prospect (21.8%); involved in romantic relation (20.4%); financial hardship of parents (7.9%) and social insecurity (3.6%). The likelihood of early marriage was found to be higher among respondents who didn't complete secondary education or whose monthly family income was less than 15000 taka. It was noted that having birth certificates, being involved in income-generating activities, or parent's education did not have any significant effect in their early marriage practices. Our study indicates that high rates of early marriage in urban slums, compared to other settings, are alarming. Socio-cultural attitudes towards girls, increased incidences of romantic relations due to widespread access to smart phones and internet, along with social insecurities within the slums further encourage this practice. Therefore, immediate multi-layered interventions addressing influencing factors in a holistic manner should be considered to prevent child marriage.

Keywords: Child marriage, urban slum, Bangladesh

D7

[55]

**VACCINE HESITANCY AMONG PARENTS IN MALAYSIA: A SINGLE CENTRE
REVIEW**

A.F. Musa, T. Soni and R. Nordin

*Jeffrey Cheah School of Medicine and Health Sciences, Monash University Malaysia,
Malaysia***ABSTRACT**

This main objective of this study was to improve the understanding on Vaccine Hesitancy (VH) among parents in Kuala Lumpur (KL) by determining the prevalence of VH among parents and to identify the predictors associated with a vaccine hesitant attitude. This cross-sectional research design where sociodemographic and WHO determinants of VH were used in relation to hesitant behavior to vaccines in parents. The study was conducted at the Maternity and Antenatal Clinic in KL, a densely populated metropolitan city. A questionnaire consisting of three-parts was devised to collect relevant information from parents namely sociodemographic, WHO determinants of VH and the Parents Attitude towards Childhood Vaccine (PACV) scale. A total of 380 questionnaires were distributed and 337 were returned (88.6%). Those that completed 49 (>90%) out of the 55 given questions in the survey were included for data analysis. Twenty-two were excluded which gave a sample of $n = 314$ in our study. We noted 60.2% (189) of the participants were females which was predominantly Malays 80.3% (252). Our study shows a prevalence **15.5%** of VH among parents based on the 15-item Parental Attitudes to Childhood Vaccine (PACV) scale. In univariate analysis, our study did not see any link between sociodemographic factors to VH in parents. Only five of these determinants were in the final model as statistically significant ($p < 0.05$) predictors of VH among parents in KL. The five factors were introduction to new vaccine, perceived risk and benefits of vaccines, vaccination schedule, trust in pharmaceutical industries, and health policies.

Keywords: Vaccine hesitancy (VH), WHO determinants of VH, Parents Attitude towards Childhood Vaccine (PACV)

D8

[56]

THE PREFERENCES OF INDONESIAN FATHERS FOR INVOLVEMENT IN THE BIRTH OF THEIR FIRST CHILD: A QUALITATIVE EXPLORATION

W.N. Ambarwati¹ and F.B. Rahayuningsih¹

*¹ School of Nursing Faculty of Health Sciences Universitas Muhammadiyah of Surakarta
Indonesia*

ABSTRACT

Background :Support system in birth can come from professionals and prospective father. Fathers' ability to be active in supporting their spouses in birth is influenced by their perception against birth. Health professionals plays an important role in assisting the father so that the father becomes ready and feels necessary in birth. **The objective** of this study is to explore the preferences of Indonesian fathers for involvement in birth of their first child in Indonesia. **Methods**: The research design is qualitative by descriptive phenomenology study. Technique sampling used purposive sampling. The number of participants is 11 fathers. Data were collected through observation, in-depth interviews and field notes. Data were analyzed by Colaizzi method. **Results**: there are three main themes. The expectation against the role as a father, health professionals, and health services. Fathers want and do not to accompany in birth. Fathers expect health professionals give information openly, easy to understand, understand the father's needs. The health services can create policies that allow husbands to accompany wives, the room are designed for the presence of fathers. **Conclusions**: The results of study indicate that the hospital needs to review the policy in the delivery services, so that the design of the delivery room is more encouraging the creation of "father friendly". The health professionals need to be given special training so that could understand and be able to provide services to the presence of the father in birth.

Keywords: Birth, fathers, first child, preferences

D9

[57]

INCREASING IDENTIFICATION OF LOW BIRTH WEIGHT BABIES IN HIGH PRIORITY DISTRICTS OF UTTAR PRADESH, INDIA

N. Singhal¹, J. Pathak¹, D. Chintada² and J. Anthony²

¹*India Health Action Trust,, India*

²*University of Mannitoba, Canada*

ABSTRACT

Babies having low birth weight are more susceptible to infection and start their life at disadvantage leading to high-infant morbidity and mortality. Data from 25 High Priority Districts of Uttar Pradesh revealed that there was a major gap in the identification of LBWs ,9% of total live births, against national average of 27%, let alone their management. With the greater objective of saving lives of low birth weight babies, we set out to demonstrate the strategy that would increase the identification of Low birth weight babies at various levels. From 25 HPDs of Uttar Pradesh, two blocks (Bisalpur and Kamalganj) were selected based on a composite index of indicators. The intervention followed the delivery outcome of third trimester pregnant women in the selected blocks irrespective of their plan to deliver at institution or home. The results were taken from concurrent program monitoring system established using the reports from Labour Room register (for public delivery) and ASHA's diary (for private and home deliveries) which was entered in a mobile based application. A total of 1631 LBW babies were identified between May'17 and January'18 which was at par with national standards. An approach involving training, mentoring, sensitisation and provision of appropriate equipment was demonstrated to have resulted in increase in the identification of LBWs irrespective of their place of delivery. Rigorous use of data helped in focusing on key geographical areas and its follow-up by block officials at review platforms proved to be a sustainable way of maintaining the momentum. This approach can be scaled up across geographies backed by a strong leadership commitment.

Keywords: Low birth weight babies, identifications, neonatal mortality, community

NEONATAL THYROID STIMULATING HORMONE LEVEL AND ITS ASSOCIATION WITH BIRTH WEIGHT STATUS

A.R. Yono¹, M.M. Pasaribu^{2,4}, N. Yanti¹, L. Anandari⁴, D.N. Kosen⁴ and I.S. Timan^{2,4}

*¹Faculty of Medicine, University of Indonesia/Cipto Mangunkusumo General Hospital,,
Indonesia*

*²Departement of Clinical Pathology, Faculty of Medicine, University of Indonesia/Cipto
Mangunkusumo General Hospital, Indonesia*

*³Departement of Neurology, Faculty of Medicine, University of Indonesia/Cipto
Mangunkusumo General Hospital, Indonesia*

*⁴Human Genetic Research Cluster, Indonesia Medical Education and Research Institute,
Faculty of Medicine, University of Indonesia, Indonesia*

ABSTRACT

National Congenital Hypothyroidism Screening Program in Indonesia showed high incidence of Congenital Hypothyroidism (CH). Low birth weight considered as one of risk factor for CH. This cross-sectional study was aimed to investigate the association between birth weight status with neonatal TSH level. Of the 2,987 subjects obtained from 10 provinces in national congenital hypothyroidism screening program, 1,700 subjects was obtained from May to June 2017 Congenital Hypothyroidism Screening Data in Dr. Cipto Mangunkusumo National General Hospital by consecutive sampling. Subjects were divided into two groups, low birth weight and normal birth weight. Samples were analyzed by Mann-Whitney test to investigate association to neonatal TSH level. Low birth weight was 7.5%. The TSH reference value in all neonates, normal birth weight, and low birth weight were 1.40-8.04 mU/L with median 3.10 (1.00-19.80), 1.50-8.06 mU/L with median 3.20 (1.00-19.80), and 1.00-9.06 mU/L with median 2.50 (1.00-13.80) respectively. There was a positive significant correlation between low birth weight and thyroid function ($r = 0.367$, $P < 0.001$). There was also a significant difference between birth weight status with neonatal TSH level ($P < 0.001$). Birth weight influences neonatal TSH level. It correlates with delayed in hypothalamus-hypophysis-thyroid axis maturity. The percentage of low birth weight in Indonesia is half the percentage of babies born in the world according to WHO. The neonatal TSH reference values in Indonesia is close to 10 mU/L as cut off in developed countries. Birth weight influences neonatal TSH level. It correlates with delayed in hypothalamus-hypophysis-thyroid axis maturity.

Keywords: Congenital hypothyroidism, low birth weight, TSH

D11

[59]

**COMPARISON OF NEONATAL THYROID STIMULATING HORMONE
REFERENCE VALUE IN INDONESIA ACCORDING TO AGE AND GENDER
DIFFERENCES**

M.T. Ramadhan¹, M.M. Pasaribu^{2,4}, N. Yanti¹, L. Anandari⁴, D.N. Kosen⁴ and I.S. Timan^{2,4}

¹*Faculty of Medicine, University of Indonesia/Dr. Cipto Mangunkusumo General Hospital,,
Indonesia*

²*Departement of Clinical Pathology, Faculty of Medicine, University of Indonesia/ Dr. Cipto
Mangunkusumo General Hospital, Indonesia*

³*Departement of Neurology, Faculty of Medicine, University of Indonesia/ Dr. Cipto
Mangunkusumo General Hospital, Indonesia*

⁴*Human Genetic Research Cluster, Indonesia Medical Education and Research Institute,
Faculty of Medicine, University of Indonesia, Indonesia*

ABSTRACT

Since 2013, Indonesian government has started congenital hypothyroid screening program using thyroid stimulating hormone's (TSH) measurement. Cut-off value of neonatal TSH (n-TSH) was determined at 20 mIU/L. Reference value was a normal-categorized value of healthy individuals and influenced by physiological conditions; including age and gender; therefore it is crucial to evaluate neonatal TSH cut-off to more specific age group and gender. This cross-sectional study aimed to analyze n-TSH value based on gender and five age groups (in days: 0-3; 4-7; 8-14; 15 – 21; 22 – 28) in Indonesia. Subjects were 3,320 neonates' n-TSH value obtained from National Congenital Hypothyroidism Screening data from May-July 2017 analyzed using SPSS v.20. Measurement using fluorometry method from LabSystem reagent in National General Referral Hospital Cipto Mangunkusumo. Significant reference range value difference ($p < 0,05$) was found on age group 15 – 21 days compare to other age groups. No significant difference in n-TSH value ($p \geq 0,05$) based on gender. Highest recall rate occurred in age groups 0 – 3 days (0.92%) and 22 – 28 days (0.92%) with the cutoff of high TSH value is 10 mIU/L. However, no significant prevalence ratio of high TSH value according to age or gender differences. Results shows that n-TSH reference interval needs to be adjusted to age groups.

Keywords: Neonates, age differences, gender differences, TSH value, TSH reference interval

E1

[60]

**ESTABLISHED AND UNESTABLISHED CANCER RISK FACTORS:
PERCEPTIONS OF THE FRENCH GENERAL POPULATION, RESULTS OF A
NATIONAL SURVEY**

J. Foucaud ¹, M. Soler ¹, C. Bauquier ², M. Pannard ² and M. Préau ²

¹ *French National Cancer Institute, France*

² *Lyon 2 University, Laboratory GRePS EA 4163, France*

ABSTRACT

People's perceptions of risk may influence health-related behaviors. This study aims to investigate the perception of cancer risk factors among French adults to improve prevention's practices.

INCa conducted a telephone survey on a representative random sample of the general population in France (n=4139, age 16-85). A list of 23 factors including established and unestablished risk cancer factors were submitted to this population. This list concerns behavioral, environmental risk and psychosocial risk factors for cancer.

The study found high levels of endorsement for some unestablished risk factors (e.g. 37 % think that modern life stress is “certainly” a cancer risk factor). Comparatively quite similar results for established risk factors: only 74% think that smoking tobacco is “certainly” a cancer risk factor, 44% for alcohol consumption. Tests realized on each risk factor showed significant differences among the studied populations. For example about smoking, men are significantly more aware than women (76% vs. 72 %), young people more than older (81% vs. 67%), highest diploma more than low ones (80 % vs 70%).

The articulation between scientifically established risk factors and the French public's perception of cancer risk factors could be improved. The high levels of endorsement attributed to unestablished risk factors underline the need to dispel myths surrounding cancer and to reinforce the key factors in cancer prevention. Prevention strategies build up for improving functional perception regarding cancer risk factors have to find new ways to better consider social and cultural factors at the root of these dysfunctional perceptions.

Keywords: Cancer, perceived risk factors, attitude, prevention, general population, communication

E2

[61]

RESEARCH ON CHRONIC AND RARE DISEASE PATIENT CARE MODEL AND ITS PREVALENCE IN THE SOCIETY ALONG WITH THE IMPACT OF PATIENT HEALTH WHILE GIVING CARE AT HOME

R. Arshad

Health Services, Pakistan

ABSTRACT

Chronic and rare disease patients have normally distracted pattern of life. As and when they diagnosed with the disease they normally seek more care and attention from their physicians as well as their family members. The emotional distraction of the patients often leads to the psychological, mental and emotional disorders. These disorders might lead to the hamper way of their lifestyle and ignorance towards their families, employment and other social & cultural issues. This is the major cause of depression and mental illness for the patient effecting the quality of rest of their lives. In Pakistan the treatment protocols of physician's and researches are playing vital role in the medical care of such patients while ignoring the emotional and supportive care at the same time. The need for this issue has been addressed by a professional group of pharmacist who worked closely with the community patients and giving them home care therapy. A random sample of chronic and rare disease patients have been put up and a cross sectional study was carried out observing the impact on their life after providing them post supportive care at home. The factors that were observed were mental illness due to depression, psychological aspects of care, emotional discussion while they moving towards their terminal phase, maintaining the patients hope, physical symptoms as an expression of emotional dysfunction and adherence to the medical needs while satisfying emotional needs. The results were satisfying and the increase in their quality of life and wellbeing had been observed leading towards the positive effect on community.

Keywords: Chronic disease, supportive care at home, emotional satisfaction, medical need adherence, community uplift

DIFFERENTIAL RISK FACTORS FOR MORTALITY IN CANCER AND NON-CANCER HOSPITALIZED PATIENTS WITH COMMUNITY-ASSOCIATED *Clostridium difficile* INFECTION: A RETROSPECTIVE COHORT STUDY

J. Ho¹, R.Z.W. Dai², L. Zhang¹, X.S. Wang², S.C. Ng^{2,3}, W.K.K. Wu^{1,3} and S.H. Wong^{2,3}

¹*Department of Anesthesia and Intensive Care, Hong Kong*

²*Department of Medicine & Therapeutics, Hong Kong*

³*State Key Laboratory of Digestive Disease, Institute of Digestive Disease, Li Ka Shing
Institute of Health Sciences, The Chinese University of Hong Kong, Hong Kong*

ABSTRACT

Background: Studies on community-associated *Clostridium difficile* infection have largely focused on cases without hospitalization. Determinants of clinical outcomes in patients who warrant tertiary medical care remain unclear. This study aimed to identify risk factors associated with in-hospital and 30-day all-cause mortality in cancer and non-cancer patients after diagnosis of the infection.

Methods: All cases diagnosed from January 2006 through December 2014 were identified from a territory-wide administrative system in Hong Kong covering 90% in-hospital patients. Demographics, potential risk factors, and co-morbidities were identified. Unadjusted and adjusted mortality rates were computed by forward Wald logistic regression.

Results: There were 805 cases with a mean age of 68.9 years. The in-hospital and 30-day all-cause mortality rates were higher in cancer patients (8.1-17.6%) as compared to non-cancer patients (5.2-7.2%). In cancer group, multivariate analyses demonstrated that exposure to immunosuppressant was an independent determinant for both in-hospital and 30-day all-cause mortality. However, this exposure did not affect the non-cancer group.

Conclusions: A prospective study is needed to determine if restricted use of immunosuppressants in cancer patients at the time of diagnosis with *C. difficile* infection would reduce in-hospital and 30-day all-cause mortality. In the future, the status of malignancy should be considered in developing prognostication rules for hospitalized patients with community-associated *C. difficile* infection.

Keywords: *Clostridium difficile*, pseudomembranous colitis, surveillance, epidemiology

E4

[63]

PLASMA CONCENTRATIONS OF ZONULIN ARE ELEVATED IN OBESE MEN WITH FATTY LIVER DISEASE

Hae-Jin Ko

Department of Family Medicine, School of Medicine, Kyungpook National University, Korea

ABSTRACT

Background: Zonulin is considered a biomarker of increased intestinal permeability. The relationship between intestinal permeability and obesity is known, and many studies have investigated the relationship between intestinal permeability and liver disease. Thus, we aimed to investigate the potential association between plasma zonulin concentrations and fatty liver in obese men.

Methods: A total of 140 obese men without inflammatory bowel diseases, autoimmune diseases, and severe liver diseases were included. The subjects were divided into three groups: normal, mild fatty liver, and moderate-severe fatty liver, according to abdominal ultrasonography findings. We subdivided the subjects into two subgroups based on amount of alcohol consumption (appropriate-drinking and hazardous-drinking), and subgroup analyses were performed.

Results: The mean plasma zonulin concentrations (ng/mL) in the normal, mild fatty liver, and moderate-severe fatty liver groups were 0.618, 2.143, and 5.815, respectively ($P < 0.001$). A multivariate multinomial logistic regression analysis revealed an odds ratio of 1.77 ($P = 0.015$) in the moderate-severe fatty liver group. The median plasma zonulin concentrations (ng/mL) in the appropriate-drinking subgroup of the fatty liver groups were 0.002, 0.500, and 6.550, respectively (P -trend < 0.001) and in the hazardous-drinking subgroup were 0.002, 0.590, and 5.800, respectively (P -trend = 0.001). The odds ratios for moderate-severe fatty liver were 1.91 ($P = 0.039$) in the appropriate-drinking group and 1.56 ($P = 0.045$) and in the hazardous-drinking group.

Conclusion: Plasma zonulin concentrations were elevated among obese men. A significant association was found between zonulin concentrations and fatty liver severity.

Keywords: Zonulin, intestinal permeability, fatty liver, obesity

E5

[64]

**NEURORESTORATION USING A GUIDE OF THE INTERVENTION
DESCRIPTION AND REPLICATION (TIDieR) ON FUNCTIONAL ABILITY OF
POST ISCHEMIC STROKE PATIENTS**

U.B. Rahayu, S. Wibowo and I. Setyopranoto

Universitas Gadjah Mada, Yogyakarta Indonesia, Indonesia

ABSTRACT

Currently, studies of neurorestoration on post-ischemic stroke have not been formulated systematically. Template for intervention description and replication (TIDieR) is a structurally guideline, and could be used to improve outcomes of an intervention. The aims of this study was to measure the effect of neurorestoration using a validated TIDieR specifically designed for post-ischemic stroke patients. A pre-post test randomized control trials (RCT) was conducted on 64 post-acute ischemic stroke patients who fulfilled inclusion criteria during a week. Control groups (n=32) received routine mobilization based on the hospital procedure, while treatment groups (n=32) under went neurorestoration using the modified TIDieR. The improvement of neurorestoration was expressed as functional ability, and was measured using Barthel Index. Statistical analysis was performed using Independent Samples t- test. The improvement (mean \pm SD) of functional ability in control and treatment groups were 27.41 \pm 20.10 and 41.66 \pm 21.66, respectively (p=0.008). The improvement of functional ability in treatment groups approximately 1.5 times higher than control groups. Neurorestoration using TIDieR improve functional ability of post-ischemic stroke patients than conventional method.

Keywords: Neurorestoration, post-ischemic stroke, TIDieR, functional ability

E6

[65]

**QUALITY OF LIFE OF PEOPLE WITH CANCER TREATED WITH SPECIFIC
IMMUNOTHERAPY: WHICH TOOLS AND RESULTS IN THE CONTEXT OF
DISRUPTIVE TREATMENT? A SYSTEMATIC REVIEW**

J. Foucaud ¹, S. Faury ² and C. Chomienne ¹

1 French National Cancer Institute, France

2 Bordeaux Population Health Research Center, France

ABSTRACT

Immune checkpoint inhibitors (ICIs) have recently demonstrated tremendous promise for the treatment of diverse cancers but they have various immune-related adverse events that could affect health-related quality of life (HRQOL). It is thus mandatory to have a review of the impact of ICIs in HRQOL.

This systematic review was designed to assess the adequacy of methods used to report HRQOL in cancer patients treated with ICIs and the ICIs effect(s) on HRQOL. Our search identified 86 publications of which 11 RCTs met the inclusion criteria (2012-2018), comprising a total of 6950 adults studied.

The purpose of these trials is to evaluate the efficacy and safety of these new drugs, all supported by the pharmaceutical industry. These studies show that quality of life scores appear to be maintained or even improved compared to standard or placebo treatments. No psychosocial variables were reported in these studies. The tools for measuring quality of life (QLQ-C30, EQ-5D, FKSI-DRS) as well as the clinical thresholds used have not been subject of a specific validation in immunotherapy which induces side effect characteristics.

Treatments with “ICIs” do not appear to lead to impaired HRQOL scores. However, it is not really possible to conclude because of the inadequacy of the measurement tools used. Also, it appears necessary to be quickly able to have elaborated or validated tools measuring the quality of life in the specific frame of the immunotherapy. As such, the contributions of the Public Health are essential to accompany this therapeutic innovation in cancer.

Keywords: Cancer, specific immunotherapy, attitude, quality of life, systematic review

E7

[66]

DOES *SELF EFFICACY* TO ENGAGE PHYSICAL ACTIVITY AND SEDENTARY ACTIVITY RELATE TO BMI IN DIABETIC ELDERLY?

Q. Rachmah¹, S.W. Setyaningtyas¹, M.A. Rifqi¹, D. Indriani², T.S. Nindya¹, H. Megatsari³,
T. Mahmudiono¹ and W. Kriengsinyos⁴

¹*Departement of Nutrition, Public Health Faculty, Universitas Airlangga, Indonesia*

²*Departement of Biostatistics, Public Health Faculty, Universitas Airlangga, Indonesia*

³*Departement of Health Promotion, Public Health Faculty, Universitas Airlangga, Indonesia*

⁴*Nutrition and Dietetics Program, Institute of Nutrition, Mahidol University, Thailand*

ABSTRACT

Diabetic elderly need to control their BMI at normal level to maintain the blood glucose level. This study aims to identify the relation of *self efficacy* to engage physical and sedentary activity to BMI in diabetic elderly. This was a *cross sectional* study included 56 elderlies. Data were collected by questionnaire interview and direct measurement for anthropometric data. *Self efficacy* to engage physical activity was measured using 10 questions portraying different levels of physical activity and subjects rated the strength of believe to do such activity. The collected data then analyzed using *Chi-square* and *Pearson correlation*. The study revealed that 89.3% elderlies were having low physical activity level and 58.9% have more than 3 hours' sedentary activity in a day. 14.3% were overweight and 55.4% were obese. Mean of physical *self efficacy* level was 59.1, while physical activity barriers was 52.5. Furthermore, results showed that physical activity level related to BMI ($p < 0.000$); as well as sedentary activity ($p < 0.05$; $r = 0.274$). Physical activity *self-efficacy*, physical activity barriers, and age of elderlies were not found to be related to BMI. Further analysis found that physical activity barriers was associated with physical activity level ($p < 0.05$). Physical inactivity still become a major problem in diabetic elderly and it was correlate with the increase of BMI. Lower level of physical activity might be mediated by higher sedentary activity. Motivating elderly to reduce barriers of doing physical activity is needed to improve their physical activity as well as nutritional status.

Keywords: Body mass index (BMI), elderly, physical activity, self efficacy

F1

[67]

**THE IMPACT OF HOSPITAL ORGANIZATION FACTORS AND FAMILY
SUPPORT ON IMPROVING THE RECOVERY OF CARDIOVASCULAR PATIENT
BASED ON HAPA (HEALTH ACTION PROCESS APPROACH)**

A.F.N. Azizah¹, S. Supriyanto¹ and S. Martini¹

¹Airlangga University, Indonesia

ABSTRACT

Non communicable diseases that affect the number one of morbidity and mortality rate of the world is cardiovascular disease. In some hospitals in Surabaya, the highest proportion of non-communicable diseases is also cardiovascular disease. Hospital factors as an advanced health facility that are referral of cardiovascular patients and family support need to be controlled for improving recovery of cardiovascular patients. This study aims to determine the impact of hospital organizational factors and family support on improving the recovery of cardiovascular patients based on HAPA (Health Action Process Approach). This study that used analytic observational method with cross-sectional design was conducted on 101 cardiovascular patients at Husada Utama Hospital, Surabaya. The result of this study showed the hospital factor that was the IEC from the medical person had an effect ($p=0.030$), rehabilitative program also had an effect ($p=0.009$), and the public health promotion of hospital also had an effect ($p=0.017$) on the increase of intention and behavioral change of the cardiovascular patient, but the facility had no effect ($p=0.057$). Family support had an effect on increasing intentions and behavioral changes ($p=0.001$). Increased intentions ($p=0.023$) and behavioral change ($p=0.010$) had an effect on the recovery of cardiovascular patients. Based on the results of this study, it is expected that the quality of rehabilitative program and public health promotion of hospital in cardiovascular services in patients must be upgraded, as well as optimization of effective and efficient IEC. In addition, their family also must support on improving the recovery of cardiovascular patients.

Keywords: Hospital organization, family support, HAPA, cardiovascular

F2

[68]

**FAMILY SUPPORT AND QUALITY OF LIFE IN CONGESTIVE HEART FAILURE
PATIENT IN COMMUNITY**D. Hudiyawati¹, A.W. Jatmiko¹ and E. Sulistyo¹¹*Universitas Muhammadiyah Surakarta, Indonesia***ABSTRACT**

Congestive heart failure is a chronic disease caused by heart fails to pump adequately. Symptoms that often appear are shortness of breath, peripheral edema, and fatigue. Furthermore, these symptoms will cause intolerance activities, it can affect the quality of life of patients. Family support is important aspect related to taking care of patient after hospitalization period. The purpose of this study was to identify the relationship of family support to the quality of life of CHF patients in the community. Data analysis used Pearson Correlation and Linear Regression Test. A sample of 67 patients were taken with accidental sampling. Health-related quality of life (HRQOL) was measured with Minnesota Living with Heart Failure Questionnaire (MLHFQ). Lower MLHFQ score indicate better HRQOL. Family support was measured with family support questionnaire from Friedman, which is divided into 4 sub-scales of emotional support, informational support, instrumental support and assessment support. The result show that a significant correlation between family support on four sub scale with quality of life on CHF patients, with p value < 0.001. Furthermore, significant linear association between family support and quality of life show positive relationship, which mean the better score of family support, quality of life will also improve. In conclusions, good family support is closely related to the quality of life on CHF patients. Interventions that can increase family support in taking care of CHF patients may be important to patient condition.

Keywords: Family support, quality of life, heart failure, community

F3

[69]

ASSESSMENT OF CARDIOVASCULAR DISEASE RISKS (ST SEGMENT ELEVATION/DEPRESSION MYOCARDIAL ISCHEMIA) IN WOMEN EXPOSED TO BIOMASS FUELS IN RURAL VILLAGE OF NEPAL

R. Kawan^{1,2}

¹*Heidelberg Institute of Public Health, University of Heidelberg, Germany*

²*International Center for Integrated Mountain Development, Kathmandu (ICIMOD), Nepal*

ABSTRACT

Background: Worldwide, 3 billion people rely on solid fuels for cooking and heating, mainly in low and middle income countries. The inefficient use of such fuels in poorly ventilated conditions results in high levels of indoor air pollution, most seriously affecting women and young children. **Objectives:** The main aim of the study is to evaluate the effects of biomass fuel combustion on risk of cardiovascular health (ST segment elevation/depression) as a marker of developing myocardial ischemia in women exposed to biomass, clean cook stoves (LPG) and mixed, thereby highlighting the effect of exposure of those smoke pollutants, along with the measurement of the air pollutants concentrations (particulate matter 2.5, black carbon and carbon monoxide) produced during cooking hours by different cook stoves design in the local kitchens. **Methods:** This cross-sectional study will be conducted among the healthy nonsmokers women (aged 30-75 years) living in rural villages who are not diagnosed of any cardiovascular diseases (hypertension, diabetes, any heart diseases etc. in the last 6 months.) and using biomass fuels and clean fuels (LPG) and mixed fuels for cooking for a minimum period of 5 years. A portable Electrocardiogram and a health questionnaire will be used to assess the cardiovascular risk. Air pollutants concentration will be measured by portable Microaethelometers, Indoor air quality probes and Aerocets during cooking hours. **Results:** As the study is on the data collection phase, results are not generated yet. **Policy relevance:** There is an urgent need to adopt various strategies to improve indoor air quality. Moreover, the advancement in research tools, measuring technique in particular, is critical for researchers in developing countries to improve their capability to study the emissions for addressing the growing public health concerns.

Keywords: Indoor air pollution, cardiovascular risk, myocardial infarction, particulate matter 2.5, black carbon

G1

[70]

**THE INCREASING OF DENTAL AND ORAL HEALTH KNOWLEDGE THROUGH
DENTAL EDUCATIONAL ROBOTIC MEDIA TOWARDS THE STUDENTS OF AL-
BAITUL AMIEN AND BINTORO 3 PRIMARY SCHOOL DISTRICT PATRANG
JEMBER REGENCY**

F. Lailiyah, Sulistiyani, Kiswaluyo, E.Y.R. Widi and R. Budirahardjo

Faculty of Dentistry University of Jember, Indonesia

ABSTRACT

Dental and oral diseases are influenced by knowledge and behavior factors of individuals who are not aware yet of oral health. Inadequate workforce to undertake UKGS program throughout the school was a consideration for researcher to innovate by utilizing advances in information technology use dental educational robot media. Dental educational robot is an application that contain dental health lesson and robotic arm that can demonstrate how to brushing teeth. The purpose of this research was to know the increasement of oral health knowledge in dental health education with dental educational robot media at IV and V grade students Al-Baitul Amien and Bintoro 3 elementary school Patrang Subdistrict Jember Regency. Pre-test and post-test control group design with cross sectional approach was used in this research. Dental and oral health knowledge was measured using pre-test and post-test questionnaire. The result showed that the dental and oral health knowledge before given dental health education in Al-Baitul Amien was 12.92 and Bintoro 3 was 10.32, after given dental health education with dental educational robot media in Al-Baitul Amien elementary school was increased 90.9% with the score 17.55 and Bintoro 3 was 95.1% with the score 17.68. Increased knowledge in Al-Baitul Amien elementary school was 4.63 and Bintoro 3 was 7.37. It could be conclude that the increasement of oral health knowledge in dental health education with dental educational robot media at IV and V grade students Bintoro 3 elementary school was higher than Al-Baitul Amien elementary school Patrang Subdistrict Jember Regency.

Keywords: Dental educational robot, dental and oral health knowledge, pre-test, post-test

G2

[71]

**THE CLINICAL PATHWAY IN THE ORAL AND MAKSILLOFACIAL
SURGERY'S SERVICES AS A QUALITY MANAGEMENT TOOL, IN RSUD DR.
SOETOMO HOSPITAL, SURABAYA, INDONESIA**

N.D.S. Ismawati¹ and S. Haksama¹

¹Faculty of Public Health, Universitas Airlangga, Indonesia

ABSTRACT

A Clinical Pathway is a comprehensive method of planning, delivering, and monitoring patient care. As efforts continue to streamline the delivery of services at all levels of care and settings, it is essential that quality management and utilization management professionals respond in a proactive manner to facilitate quality outcomes while decreasing cost and increasing efficiency. The aim of a Clinical Pathway is to enhance the quality of care across the continuum by improving risk-adjusted patient outcomes, promoting patient safety, increasing patient satisfaction, and optimizing the use of resources. However, there has not been any report on the implementation of the Clinical Pathway in Oral and Maxillofacial Surgery services in Indonesia. This research used observational methods and cross sectional design, with descriptive analysis and ordinal logistic regression. The population of this research was Clinical Pathway of Odontectomy were collected from medical records during January to December 2017 in ward surgery room of Dr. Soetomo hospital in Surabaya Indonesia. The Result obtained in this study, mostly completeness of Clinical Pathway were filled as the pattern. The amount of the sample in this research were 41 Clinical Pathway, which 87,8 % were fit according to the quality and cost indicator. The Variation in drug administration, treatment, and operator did not significantly influence (chi square = 0,93 ; df= 0 ; p value =1,00000 ; RMSEA =0.000)

Keywords: Clinical pathway, clinical variation, continuous quality improvement, evidence-based medicine, health care processes, integrated care pathways

G3

[72]

**THE NUMBER OF MISSING PERMANENT MOLAR TEETH BASED ON
CHARACTERISTICS OF RESPONDENT ON LUBUK BUAYA PUBLIC HEALTH
CENTER**

Murniwati, Susi, N. Kasuma and N. Rawinda

Faculty of Dentistry, Andalas University, Indonesia

ABSTRACT

Permanent molar teeth are more often missing. In Padang city DMF-T index is 2.78, M-T 2.29, MTI percentage is 82.4% with 9.2% usage the denture. Out of 20 health centers in Padang city, Lubuk Buaya has the most case of extraction of permanent teeth. The purpose of this script is to look at the number of missing permanent molar teeth with the characteristics of respondent on Lubuk Buaya Public Health Center's working area. The design of this study used a descriptive. The number of the samples are 97 respondents. Samples are 25-44 years-old people who live in Lubuk Buaya Public Health Center's working area that met inclusion criteria. About 90,7% of respondents lost 1-4 permanent molar while 9,3% respondents lost 5-8 molar. Apart of male (84.6%) and female (97,8%) lost 1-4 molar. Almost all age group lost 1-4 molar. All the elementary school level education of the respondent lost 5-8 molar. Others level education lost 1-4 molar. Gender, age and the level of education affect the number of missing permanent molar teeth on Lubuk Buaya Public Health Center's working area. The low education increases the number of missing permanent molar teeth

Keywords: Permanent molar teeth, characteristics of respondent

H1

[73]

DOUBLE BURDEN OF MALNUTRITION AMONG ADOLESCENT STUDENTS OF EAST SIKKIM

T. Dolkar, V.K. Mehta and J.T. Wangdi

*Sikkim Manipal Institute Of Medical Sciences, Sikkim Manipal University, India***ABSTRACT**

Malnutrition arises either from deficiency or excess or imbalance of nutrients in the body. It is a term comprising all states of underweight & overweight. Adequate data on the nutritional status on the age group of adolescents is lacking. NFHS 3 (2005-2006), data shows Malnutrition among children less than 5 yrs as 43% underweight, 48% stunted, and 20% wasted. Most of these children have now grown up to be an adolescent, defined by WHO as individuals in the age group of 10-19yrs. **Methods : Study Setting:** - East Sikkim , **Study design:** - Descriptive Cross sectional study , **Sampling technique:-** Multi-stage random sampling , **Study Population:** - Boys and Girls within the age group of 10-19yrs in Senior Secondary Schools, **Study period:** - February 2013 – October 2014 , **Sample size:** Considering a Prevalence of malnutrition as 40% [5], relative error of 10% and using formula: $4 PQ / L_2$, Sample Size calculated to be 600. **Results and Conclusions:** Private/Public and Government schools were covered to get a representative sample from all socioeconomic classes. Total 616 study subjects were included in the study. 27.4% of the school going adolescents were found to be malnourished in this present study. The prevalence of Overweight / Obesity among study subjects were observed to be 12.8% and 2.8% respectively. The prevalence of Thin/Extreme Thinness was observed to be 8.4% and 3.4% respectively. Both extremes of malnutrition are seen in the adolescent students of East Sikkim. Factors found statistically significant were: type of school, education of father, socioeconomic status, amount of vegetable intake, sleep and perception of one's weight. Age, Sex, Religion, Caste, Type of diet were found to be statistically not significant.

Keywords: Adolescents, malnutrition, overweight, undernutrition

H2

[74]

ADOLESCENTS' PERCEPTION AND THE ASSOCIATION OF LEVEL OF KNOWLEDGE WITH ATTITUDE IN JAVANESE CULTURE

A. Muhlisin¹, A. Pratiwi¹ and D. Windriawati¹

¹ *Nursing of School, Universitas Muhammadiyah Surakarta, Indonesia*

ABSTRACT

Background: Culture is the nature part of the human society. It has different mores within a particular cultural community. Javanese culture is one of the group considering that sexuality is taboo to be discussed. **Purpose:** To explore adolescents' perceptions of sexuality and to examine the relation of level of knowledge and sexual attitude. **Methodology:** Nonprobability proportional sampling was applied to select respondents in each area within a district. The samples of the study were 137 teenagers which were recruited for the study and completed a self-reported semi structured questionnaire of perceptions, knowledge and of attitude about sexuality. This study utilized two design approaches. Thematic analysis of adolescents' perception was applied, and correlative analyses were used to assess the association of level of knowledge and sexual attitude. Results: The results of the study found two important themes, i.e. sexuality is the norm and sexuality is secret. The percentages of respondents' knowledge are 16.8% is high-level knowledge, and 83.2% is lack of knowledge. The majority of the study participants was 56.9% had a negative attitude to sexuality; and about 43.1% which had positive sexual attitude. A correlation between level of knowledge and sexual attitude indicate that there were positive correlation ($X = 8.677$, $p.013$). **Conclusion:** Sexual perception is related to cultural mores, and lack of knowledge may be associate with negative of sexual attitude.

Keywords: Knowledge, sexual attitude, adolescent, culture

H3

[75]

**CINEMA IN THE BUS (CiBus): A PILOT PROJECT TO INCREASE KNOWLEDGE
AND SELF-EFFICACY AMONG ADOLESCENTS REGARDING SEXUAL AND
REPRODUCTIVE HEALTH**

N.P.A. Harjana ¹, N.Y.K. Surya ¹ and I.M.A. Wirawan ¹

¹ School of Public Health, Faculty of Medicine, Udayana University, Indonesia

ABSTRACT

Risky sexual behavior that leads to unwanted pregnancies, has increased the number of early marriage among adolescents in Bali. Access to sexual and reproductive health information and services for adolescents is still limited, even considered a taboo by most people. Therefore, an attractive and friendly access of sex education is essential for adolescents. The purpose of this study was to explore the association of a pilot project (CiBus) in increasing knowledge and self-efficacy regarding sexual and reproductive health among adolescents. This was a one group pretest-posttest designed study involving 1,025 adolescents from nine cities in Bali Province, Indonesia. CiBus was designed to promote sex education in a new method, which combined active learning, games, case study, and audio visual through watching short movies inside a bus. The topics of sex education through CiBus consist of STDs and HIV-AIDS prevention, sexual abuse and violence, family planning, unwanted pregnancy, and the role of parents in preventing risky sexual behavior. Pretest and posttest questionnaires measuring knowledge and self-efficacy were analyzed using statistical inferences method. The results showed improvements in mean score of knowledge (pretest=33.6; 95%CI: 33.3-33.9 and posttest=54.6; 95%CI: 54.3-54.8) and self-efficacy (pretest=24.7; 95%CI: 24.5-24.9 and posttest=44.6; 95%CI: 44.5-44.8) among the participants. There was a significant association between CiBus and improvements in scores on knowledge and self-efficacy ($p<0.001$). This study concludes that CiBus was effective to increase the knowledge and self-efficacy regarding sexual and reproductive health among adolescents. An attractive and friendly health promotion model provide better access of sex education for adolescents.

Keywords: Adolescent, knowledge, self-efficacy, sex education, CiBus

H4

[76]

NOURISHING DREAMS: HOW ADOLESCENTS ARE SHAPING IDEAS FOR THEIR OWN FUTURE IN BANGLADESH?

Ahmed Nizam, Brownia Farzana, Islam Rafiqul, Leena Khadija, Salwa Zeena

Shornokishoree Network Foundation & North South University, Bangladesh

ABSTRACT

Shornokishoree Network Foundation (SKNF) is a movement dedicated to helping adolescent girls and boys in Bangladesh realize their potential and help create a better society to grow up since 2012. The Ministry of Education has mandated SKNF to set up a club in every school in the country. SKNF started with a focus on girls but quickly realized that boys need support too and play crucial roles – as brothers, classmates, and future partners - in helping drive change. The dreams of current and the next few cohorts of adolescents are thus inextricably linked with the nation's dreams. And good diets are the foundation of mental and physical capabilities needed to realize these dreams.

To share how SKNF is mobilizing adolescents across the country to take part in designing and implementing solutions to tackle malnutrition. A national level convention was organized in Dhaka on 18 & 19 December 2017, to coincide with the Independence Day celebrations. 5000 SKNF girls from all unions' of Bangladesh were making their way to Dhaka in a 'Bijoy Jatra' (Victory Rally). Plan was to use these occasions to capture the dreams and aspirations of these girls. On 19th Dec in Dhaka, the Prime Minister was announced a firm commitment to supporting all round development of adolescents with emphasis on improving their nutrition and prevention of child marriage. By 2020 our aim is to enthuse the teenagers themselves as well as the Government and other key stakeholders that this participatory approach can result in more successful and sustainable solutions

Keywords: Adolescent, Nutrition, Dream

H5

[77]

QUALITY OF LIFE AND SEXUAL RISK BEHAVIOUR AMONG ADOLESCENT

G. Vionalita

*Department of Public Health, Faculty of Health Sciences, Universitas Esa Unggul, Indonesia***ABSTRACT**

Recent national data on North Sumatera Province suggest that within last two years, 22% of woman were married before they are 16 years old, and most of them were cause by unplanned pregnancy. Adolescence is widely considered as critical periods in human development, in which, being effected by how the environment change their quality of life (QoL). Perceived QoL in adolescents can be useful in recognizing of adolescents in health-risk behavior. The objective of the study is to measure quality of life and sexual risk behavior among adolescent in junior high school in North Sumatera, Indonesia. The PEDSQL Questionnaire (ages 8-12) and sexual risk behavior questionnaire were applied to 166 junior high school students. It is found that in terms of quality of life, social domain was the lowest score. Results suggest significant relationship between quality of life and sexual risk behavior ($P < 0.05$). Results showed that improving adolescents' quality of life including physic, psychology, social and school function was significantly decreased their sexual risk behavior. In terms of multivariate analysis it is found that school function was the most significant factor of quality of life that can effects the sexual risk behavior. Thus, improving the knowledge about health-related behaviors and perceived QoL in adolescence, especially included in the school curriculum is definitely important to promote health behavior as a foundation for health and quality of life in the future.

Keywords: Quality of life, sexual risk, adolescent, PEDSQL Questionnaire

H6

[78]

ASSESSMENT OF DEPRESSION IN GERIATRIC STAYING IN A GERIATRIC HOME CARE IN KLANG, MALAYSIA

M. Qamar¹, N.Z. Afifah¹, M.A. Hammad², F.A. Shaikh¹ and S. Ahmad¹

¹ Faculty of Pharmacy, MAHSA University, Malaysia

² Discipline of Clinical Pharmacy, School of Pharmacy, Universiti Sains Malaysia, Malaysia

ABSTRACT

Psychiatric disorders such as depression are widespread, often undiagnosed, and usually untreated. The identification of predisposing and precipitating factors with the help of depression screening tools can help to devise the patient care plan. Therefore, the present study aimed to assess the levels of depression among the geriatric population staying in geriatric home care in Klang, Malaysia. A cross-sectional descriptive study was conducted to enroll a total sample of 141 elderly patients (>65 years old). The pre-validated self-administered questionnaire was distributed among consented patients. The study questionnaire consisted of two parts: Part A (Socio-demographic data); Part B (Geriatric Depression Scale). The extracted data from the completed questionnaires were analyzed by SPSS[®] using descriptive and inferential statistics. From all the enrolled patients, the majority (44.7%) were in the age group of 65-75 years, male (57.4%), Chinese (42.6%), and widowed (41.1%). Among the enrolled respondents 43.3% had a hypertension, followed by diabetes mellitus (39%) while 99.3% reported no history of depression. The study showed that 52.5% of the respondents had depression. Among the depressed population, 28.4% had mild and 24.1% had severe depression. There was significant association between the prevalence of depression with age and history of heart disease. Depression is highly prevalent among the elderly population residing in geriatric home care in Klang. Regular assessment and screening should be done for geriatric living in such homes to alleviate the prevalence of depression. The role of family, government and the society support is imperative to address the issue of depression among geriatrics.

Keywords: Depression, elderly, old age, Klang, Malaysia

H7

[79]

SUBJECTIVE ECONOMIC SITUATION IS STRONGLY ASSOCIATED WITH LOW BACK PAIN AMONG OLDER PEOPLE IN JAPAN: THE JAGES CROSS-SECTIONAL STUDY

T. Ikeda^{1,2}, K. Sugiyama², J. Aida², T. Tsuboya², N. Watabiki³, K. Kondo^{4,5} and K. Osaka²

¹ *Department of Rehabilitation, Physical Therapy, Sendai Seiyo Gakuin Junior College, Japan*

² *Department of International and Community Oral Health, Tohoku University Graduate School of Dentistry, Japan*

³ *Sendai Pain Clinic Center, Japan*

⁴ *Center for Preventive Medical Sciences, Chiba University, Japan*

⁵ *Center for Gerontology & Social Science, National Center for Geriatrics & Gerontology, Japan*

ABSTRACT

Background: Although socioeconomic inequalities in health is an emergent problem, independent association of socioeconomic status (SES) with low back pain is unclear. **Purpose:** This study aimed to determine the association between SES and the presence of low back pain among older people in Japan. **Methodology:** We used cross-sectional data derived from the year 2013 wave across 30 Japanese municipalities. The survey was conducted between October 2013 to December 2013. Self-reported questionnaires were mailed to 38,724. In this study, functionally independent community-dwelling older adults aged ≥ 65 years ($n = 26,037$) were eligible for the study (response rate of 67.2%). We used Poisson regression analysis to examine the association between SES and low back pain. Self-reported low back pain in the past year was used as the outcome. Educational attainment, occupation, equalized household income, wealth and subjective economic situation represented SES, and separately added to the models as exposure, adjusting for covariates (sex, age and lifestyle factors). **Results:** The prevalence of low back pain in the past year was 63.4%. For the subjective financial conditions, the lower middle and the lowest financial conditions were more likely to have higher prevalence ratio (PR) (95% coefficient interval; CI) compared with the highest condition, 1.19 (1.12–1.27) and 1.32 (1.22–1.42), respectively. Similar results were seen for other SES factors, with the association with subjective economic situation being the strongest. **Conclusion:** Significant socioeconomic inequalities, especially in subjective financial conditions, were observed in the presence of low back pain among older individuals in Japan.

Keywords: Low back pain, socioeconomic inequalities, subjective financial condition

H8

[80]

**GLYCEMIC CONTROL AND SELF-EFFICACY IN PHYSICAL ACTIVITY OF
DIABETES ELDERLY AT JAGIR SUBDISTRICT, SURABAYA, INDONESIA**

S.W. Setyaningtyas

*Universitas Airlangga, Indonesia***ABSTRACT**

Diabetes in elderly has shown increament in prevalences, especially in urban area of Indonesia. This study was aimed to assess the relationship between self efficacy in physical activity and glycemic control indicated by HbA1C level in elderly population with diabetes mellitus at Jagir Subdistrict, Surabaya, Indonesia. This research used cross sectional study design that involved 52 diabetes elders, aged between 65-90 years old whose regularly attended elderly health post (posyandu lansia) at Jagir Subdistrict, Surabaya. Samples who had physical disabilities were excluded from the study. Glycemic control was measured using HbA1C in basal condition. The self efficacy was concluded using Bandura's social cognitive theory. This instruments is a self reported questionnaire with likert scale scoring, consist of 8 to 10 questions per section. There was 2 sections questionnaires which describes participants' confidence level to deal with barrier and encouragement in increasing physical activity. In order to measure the relationship between variables, the Pearson correlation test was performed in this study. The average level of HbA1C among the elders subjects was $8,6 \pm 2,34\%$. As much as 76,9% of total respondent have poor glycemic control ($HbA1C \geq 6,5\%$). Self-efficacy scores represented personal judgement on manage barrier and capability to do physical activity were respectively $52,7 \pm 13,2$ and $59,1 \pm 26,7$. Statistically test using Pearson correlation test showed that there was no relationship between glycemic control and neither self-efficacy in manage barrier nor capability to do physical activity (respectively $p = 0,174$ and $p = 0,545$). There was no relationship between glycemic control measured by HbA1C level and self-efficacy in physical activity of elderly in Jagir Subdistrict, Surabaya. Further research which include assessment of diabetes care practice in glycemic control management is needed.

Keywords: Diabetes mellitus, elderly, HbA1C, glycemic control, self efficacy, physical activity

H9

[81]

COMPREHENSIVE PHYSICIAN COMMUNICATION PATIENTS

A. Toni

Universitas Budi Luhur Indonesia

ABSTRACT

This study uses a health communication approach with a constructivist paradigm of patient confidence in the quality of physician communication and perception of cure of illness suffered by patients at Bintaro premiere hospital. the results show patients who get good communication and a comprehensive explanation of the illness more quickly recovered because it can anticipate the risks, prevention of disease risk, diet, choice of food, resting patterns, family treatment, family support and psychological tranquility of various death threat. of the 20 patients studied 87% felt psychological calm as the effect of good and comprehensive physician communication, 10% gained knowledge about the readiness to risk death and 3% resigned to death

Keyword: Physician communication, patients, perception

J1

[82]

**CONTEXTUAL DETERMINANTS INFLUENCING THE UTILIZATION OF
NUTRITIONAL PROGRAM AMONG ADULT PATIENTS WITH HIV IN
ETHIOPIA: A MIXED METHODS STUDY**

F.H. Tesfay^{1,3}, S. Javanparast¹, A. Ziersch¹, L. Mwanri² and A. Mulugeta³

¹ *Southgate Institute for Health, Society and Equity, Flinders University, Australia*

² *Decipline of Public Health, Flinders University, Australia*

³ *School of Public Health, Mekelle University, Ethiopia*

ABSTRACT

Malnutrition and HIV act synergistically and both are highly prevalent in sub Saharan Africa. In Ethiopia, the Food by Prescription Program involves nutritional assessment, counseling and support to address nutritional problems in malnourished patients with HIV. However, the program is challenged by individual, institutional, community and health system-related factors. This mixed methods study examined these determinants of the program's outcomes. Logistic and survival analysis identified individual determinants of nutritional outcomes of 1757 adult patients with HIV from nutritional program in three hospitals, and 33 in-depth interviews with adult HIV patients, and health providers were analysed thematically. 55.3% of patients recovered from malnutrition after enrolment in the program for three to six months, with the remaining patient not responding or defaulting from the program. Independent predictors of non-response were residence, and baseline nutritional status while the determinants of default were residence, employment clinical stage and baseline nutritional status and anaemia. The determinants of relapsed malnutrition after nutritional recovery were educational status, membership of a community support group, duration on ART and presence of opportunistic infection. Qualitative interviews uncovered stigma, religious and sociocultural issues, distance and access to services as key barriers to program utilization and successful outcomes. Enabling factors included previous experience of engaging in the program, and positive experience of health services. This study provides insights on existing challenges to nutritional program utilization in HIV care setting and ways to improve nutritional outcomes and wellbeing for HIV patients.

Keywords: Malnutrition, HIV, contextual, Ethiopia, program, food by prescription

J2

[83]

**FACTOR ASSOCIATED WITH SEVERE ACUTE MALNUTRITION (SAM)
AMONG <5 YEARS OF CHILDREN IN THARU COMMUNITY OF KAILALI
DISTRICT, NEPAL**

R. Pokhrel¹, D.K. Mitra¹ and K. Leena^{1,2}

¹*Department of Public Health, North South University, Bangladesh*

²*North South Global Health Institute, North South University, Bangladesh*

ABSTRACT

Background: Severe Acute Malnutrition among <5 years of children is most common in either developing or under-developed countries. Among them prevalence of SAM is most common in <5 years of children in Nepal. To alleviate this problem, it is necessary to determine the nature and magnitude of malnutrition. The prevalence of SAM has increased in Nepal over the past few years; however, the determinants of SAM have not been clearly assessed in the country.

Objectives: To identify the associated factor of Severe Acute Malnutrition (SAM) among <5 years of children in Tharu community of Kailali district, Nepal.

Methods: The study was analytical cross sectional study. Where <5 years of children in Tharu community was sample population, whereas 214 are the sample size where simple random sampling was applied for sample selection. Data collection method was face-to-face interview with mothers of children and anthropometric measurements was done among <5 years of children. Finally, collected data was evaluated and analyzed by SPSS software.

Result: The analysis of the study revealed that 21% of children were severe malnourished. 10% of children were found as SAM by MUAC tape whereas by using the Z-score tables 13% of children were found as SAM. Out of 206 sample population 44 (21%) were found SAM whereas 21% were Male and 21% were Female those who were SAM. The main associated factors of SAM were found to be occupation of mothers, 4th ANC checkup, feeding practices and birth interval of child.

Conclusion: From the findings of this study, it is concluded that malnutrition is still an important problem among children aged 6-59 months. Therefore, especial attention should be given on intervention of malnutrition. Therefore there is a need for further studies not only focusing on SAM but also moderate acute malnutrition.

Keywords: Malnutrition

IS SERUM RETINOL A MISLEADING BIOMARKER FOR ASSESSMENT OF VITAMIN A ADEQUACY IN PREGNANT WOMEN?

M.S.K. Rabindrakumar, V.P. Wickramasinghe and T. Thoradeniya

Faculty of Medicine, University of Colombo, Sri Lanka

ABSTRACT

Serum retinol concentration is a World Health Organization (WHO) recommended biomarker for assessing vitamin A (VA) deficiency (serum retinol <20 µg/dL) in populations. However, serum retinol is tightly controlled and only decreases at critically low liver reserves. Hence the utility of serum retinol alone to define the degree of public health significance is questionable. A serum retinol concentration >46 µg/dL has been recently suggested to define vitamin A adequacy based on more sensitive biomarkers. We described the VA adequacy in 110 Sri Lankan pregnant women using different cutoffs of serum retinol from ≤12 weeks period of gestation till delivery and in cord blood and 6-8 weeks postpartum breast milk samples. The mean baseline VA concentration (69.6±21.4 µg/dl) significantly reduced ($P=0.001$) to 42.3±12.1 µg/dl at delivery, while it was 44.4±9.3 µg/dl in cord blood and 50.2±14.2 µg/dl in breast milk. When the WHO cutoff was used, VA deficiency was not noted in any of the women (at baseline or delivery), nor in their infants. However, 5.0% of women had low breast milk VA (<30 µg/L) despite the post-partum vitamin A mega dose. When 46 µg/dL was used as the cutoff, low VA stores were noted in 6.4% of women at baseline which increased to 71.8% at delivery and in 62.0% cord blood and 32.0% breast milk samples. Our observations emphasize the inadequacy of the current WHO recommended serum retinol cutoff in defining VA adequacy in populations. This warrants further studies to identify population specific cutoff values for serum retinol and appropriate combinations of biomarkers to define vitamin A adequacy.

Keywords: Serum retinol, functional vitamin A deficiency, pregnancy

J4

[85]

**WOMEN COUNSELING TOWARDS MOTHERS OF MALNOURISHED
CHILDREN AS EFFECTIVE WAY PROMOTE NUTRITIONAL CONSCIOUS
FAMILIES PROGRAM (KADARZI) IN INDONESIA**

A. Putri R, A. Dwi M and T. Mahmudiono

Airlangga University, Indonesia

ABSTRACT

Nutritional Conscious Families (Kadarzi) is a way to increase nutritional level through family. Each family member has duty to prevent malnutrition through healthy practices such as monitoring body weight, etc. However, Kadarzi implementation has not been done perfectly because of many factors, including the lack of family awareness, knowledge, attitude and behaviour towards good nutrition. This study purpose was to analyze the effectiveness of counseling in improving knowledge, attitudes, intentions, and Kadarzi behaviors from mother of malnourished children. This was a quasi-experimental study with 58 respondents in Surabaya taken by simple random sampling. These 58 respondents were divided into two groups, control and intervention group, each had 29 respondents. For the control group, respondents only had leaflets as intervention while another group had leaflets and counseling given. Data were collected through interview using questionnaire, observation, and documentation then analyzed using independent t-test, paired t-test, and wilcoxon signed rank test. The results showed differences in knowledge ($p=0.002$), attitude ($p=0.000$), perceived behavioral control ($p=0.000$), intention ($p=0.000$), and behavior ($p=0.001$) before and after intervention. After intervention, the average score of those factors on mother toddlers increased. Both groups showed significant difference between before and after intervention. The intervention group score of increase was higher compare to the control group. Kadarzi counseling should be carried out continuously to increase the knowledge, attitude, perceived behavioral control, intention, and behavior especially for mother of malnourished children, to increase nutritional level.

Keywords: Kadarzi, counseling, Nutrition, Family, Children

SOCIOECONOMIC DIFFERENTIALS IN MINIMUM DIETARY DIVERSITY AMONG YOUNG CHILDREN IN SOUTHEAST ASIA: EVIDENCE FROM DEMOGRAPHIC AND HEALTH SURVEYS

C.M. Harvey ¹, M.L. Newell ² and S.S. Padmadas ¹

¹*Social Statistics and Demography, University of Southampton, UK*

²*Global Health Research Institute, Human Development and Health, Faculty of Medicine,
University of Southampton, UK*

ABSTRACT

Between the ages of 6 and 23 months, adapting to the evolving nutritional needs of children is paramount to support adequate growth and cognitive development, and has positive associations with the uptake of micronutrients and energy in young children. We used recent Demographic and Health Survey data from Cambodia (2014), Myanmar (2015-16) and Indonesia (2012) to examine the socioeconomic differentials underlying Minimum Dietary Diversity (MDD). MDD was defined as proportion of children aged 6 to 23 months receiving foods from four of the seven recommended food groups within 24 hours prior to interview. The association between socioeconomic factors and MDD, adjusting for relevant characteristics, was examined using logistic regression. Of 8,364 children aged 6-23 months, 50.6% met the MDD, varying from 47.7% in Cambodia ($n=1,023$), 58.2% in Indonesia ($n=2,907$) and 24.6% in Myanmar ($n=301$). The likelihood of meeting MDD increased for children in the richest households (Cambodia (aOR: 2.4, 95%CI: 1.7-3.4), Myanmar (aOR: 1.8, 95%CI: 1.1-3.0), Indonesia (aOR: 2.0, 95%CI: 1.6-2.5)), and those residing in urban areas (Cambodia (aOR: 1.4, 95%CI: 1.1-1.9), Myanmar (aOR: 1.7, 95%CI: 1.2-2.4), Indonesia (aOR: 1.7, 95%CI: 1.5-1.9)). MDD deprivation was most severe amongst children from the poorest households in rural areas. The association between mother's labour force participation and MDD was positive in all three countries, but reached significance only in Indonesia (aOR: 1.3; 95%CI: 1.1, 1.5). This study highlights that MDD requirements are not being met for approximately half of young children in these three Southeast Asian countries and socioeconomic disadvantage exacerbates this deficiency.

Keywords: Young children, Minimum Dietary Diversity (MDD), socioeconomic, DHS Surveys, Southeast Asia

J6**[87]**

**RELATIONSHIP BETWEEN NUTRITIONAL STATUS, HEALTH STATUS, FOOD
CONSUMPTION, AND LIFESTYLE TO WORK PRODUCTIVITY OF COCOA
FARMER**

W. Yunieswati, S.A. Marliyati and B. Setiawan

*Department of Community Nutrition, Faculty of Human Ecology, Bogor Agricultural
University, Indonesia*

ABSTRACT

Labor from agricultural sector is the largest labour force in Indonesia, which reached 32.61% of Indonesian total labor force. Despite the large population of agricultural labour, the agricultural sector only contributed 14.43% of total GDP. This condition indicates that work productivity in agriculture sector is low. Cocoa is one of the leading commodities in plantation sub sector and contributes as the third largest foreign exchange after palm oil and rubber. One of the way to improve the productivity of cocoa is give an attention about the good nutrition and good health of the cocoa farmer that have been widely known as a factor to improve work productivity of farmers. The objective of this study was to analyze relationship between nutritional status, health status, food consumption, and lifestyle to work productivity of cocoa farmers. The subjects were 58 male cocoa farmers in two districts of Polewali Mandar aged 18-65 years old. The result of this study shows that there is no relationship between nutritional status, food consumption and lifestyle to work productivity. But, there is a relationship between health status (blood pressure) and amount of cocoa picked per day (kilograms) and also health status (central obesity) and number of absent day to plantation due to sick. In this study, variables that influence the health status (hypertension) are exercise (OR: 3.836), genetic (OR: 312) and smoking habit (OR: 0.206). Then, variables that influence the health status (central obesity) are energy adequacy (OR: 9.64), exercise (OR: 5.0) and protein adequacy (OR: 1.58).

Keywords: Health status, nutritional status, work productivity, hypertension, central obesity

NEONATAL THYROID STIMULATING HORMONE STATUS BASED ON MATERNAL ADEQUATE IODIZED SALT INTAKE STATUS IN INDONESIA

R.A. Trianto¹, M.M. Pasaribu^{2,4}, N. Yanti¹, L. Anandari⁴, D.N. Kosen⁴ and I.S. Timan^{2,4}

¹*Faculty of Medicine, University of Indonesia/Cipto Mangunkusumo General Hospital, Indonesia*

²*Departement of Clinical Pathology, Faculty of Medicine, University of Indonesia/Cipto Mangunkusumo General Hospital, Indonesia*

³*Departement of Neurology, Faculty of Medicine, University of Indonesia/Cipto Mangunkusumo General Hospital, Indonesia*

⁴*Human Genetic Research Cluster, Indonesia Medical Education and Research Institute, Faculty of Medicine, University of Indonesia, Indonesia*

ABSTRACT

Congenital hypothyroidism is an abnormality marked by decrease in thyroid hormone synthesis which can lead to decreased intellectual intelligence. One of the congenital hypothyroid risk factors is the status of the mother's iodized salt intake. Sufficient iodized salt intake during pregnancy will result in normal n-TSH of the baby. This cross-sectional study was conducted to see if there was a difference between neonatal thyroid stimulating hormone (n-TSH) values in mothers with adequate and low iodized salt intake. The study involved 2,978 subjects consisting of infants and children from National Congenital Hypothyroid Screening Program at CiptoMangunkusumo National Referral Hospital from May to June 2017. Of all the screening participants, there were 1,687 subjects who met the inclusion and exclusion criteria of the researcher, then divided into two groups, namely the infant group with enough iodized salt mothers and infant group with less iodized salt mothers. The minimum sample size is 322 samples. Upon review, there were 149 subjects for the infant group with sufficient salt mothers and 173 infants with iodine-deficient mothers. The samples analyzed using Mann-Whitney test. There was a significant difference in mean value of n-TSH in infants born to mothers with sufficient iodine salt consumption and less ($P < 0.001$). There were also significant differences in mean birth weight of infants born to mothers in the two sample groups ($P < 0.001$).

Keywords: Iodized salt, congenital hypothyroid, neonates, thyroid stimulating hormone

J8

[89]

**BREASTFEEDING PATTERN INFLUENCES THE OCCURRENCE OF EARLY
CHILDHOOD CARIES OF CHILDREN UNDER FIVE YEARS OLD: A STUDY
CASE IN BUKITTINGGI, INDONESIA**

Susi¹, Murniwati¹, N. Kasuma¹, R. Khairani¹ and Minarn¹

¹Faculty of Dentistry, Andalas University, Indonesia

ABSTRACT

Early Childhood Caries (ECC) is defined as caries in primary teeth among children under 71 months old. ECC is a health problem in the world. Prevalence of ECC in children at the age 3-5 in Jakarta was 52.75%.. By 2017 the def-t index of children aged 2-3 years in Bukittinggi, West Sumatra is 2.33 This is still far from the target of Indonesia. The Indonesian government is targeting that the children aged 12 to be caries-free in 2030. Drinking milk and diet pattern are the cause of caries. This study aimed to investigate the relationship between drinking milk pattern and Early Childhood Caries. A cross-sectional study located in Integrated Post Service (*Posyandu*) in Bukittinggi City. In this study, 146 pairs of parents and children aged 2-3 years were selected. Breastfeeding pattern was observed using questionnaire and deft index was used to examine the ECC. Data were analyzed using Chi-square test then collected by 6 Dentistry of Andalas university's students who had been adjusted before. The prevalence of ECC in Bukittinggi (101) was 69.2% with the average of def-t index 3.88, at 95% CI (3.23 - 4.54). The number of samples with exclusive breastfeeding (74) was 50.7%. It had a lower deft index compared to sample with nonexclusive breastfeeding (3.70 vs. 4.07), $p = 0.678$. Meanwhile, 46.6% samples with breastfeeding and complementary food (68) had a lower deft index compared to samples with nonbreast-feeding and complementary food (3.51 vs 4.21) with $p = 0.787$. In conclusion, breastfeeding may decrease the caries incidence.

Keywords: ECC, deft, breast-feeding

ASSOCIATION OF LIFESTYLE AND DIETARY HABITS WITH BLOOD CHOLINE AND CARDIOVASCULAR OUTCOME

M. A Ali¹, M. Nasir¹, T. N Pasha¹ and I. Javid¹

*¹Department of Food Science and Human Nutrition, University of Veterinary and Animal
Science, Pakistan*

ABSTRACT

Purpose : Whole-blood choline, plasma choline and serum choline are emerging bio-markers in cardiovascular diseases. To examine the association of Whole-blood choline is an early predictor of cardiac events.

Methods : In a case control study, we enrolled 240 individuals, including 120 normal (39 females and 82 males) and 120 cases (49 females and 71 males) where age limit was >40 years) Information through interviews, family disease history, 24 recall diet assessment and blood sampling.

Results : Odds ratios express the associated risks with CVD and without CVD patients. In healthy population, good dietary habits and active lifestyle were observed. The number of participants with CVD were smokers than normal. In men, and women the risk was observed highly significant. (p=0.0049) Different blood parameters like Triglycerides, Uric Acid, Urea, Creatinine, CRP and ESR were non-significant observed. In females the low carbohydrates and high protein and frequent salad vegetable consumption observed. On the other hand, men consume more carbohydrates. Body mass index was significantly with p= 0.036 (OD 1.12 95% 1.00-1.26). The total fats (p=0.017) (OD 1.3301 95% 1.05-1.69) total carbohydrate (p=0.076) (OD 1.1536 95% 0.98-1.35) and total proteins (p=0.287) (OD 1.1456 95% 0.89-1.47) effecting respectively. The Blood choline level was significant observed between cases (p=0.026) OD (0.944 95% 0.89- 0.99)

Conclusion: Unhealthy dietary pattern and inadique lifestyle can effect blood choline level. Which is considered potential biomarker of cardiovascular disease.

K1

[91]

THE EFFECT OF SERUM CORTISOL, SYSTOLIC AND DIASTOLIC BLOOD PRESSURE, HEART RATE AND RESPIRATION RATE ON EXAM ANXIETY AMONG NURSING STUDENTS

F. Hamzah¹, K.C. Mat ² and V. Bhagat ²

¹*School of Nursing Science, Faculty of Medicine, Universiti Sultan Zainal Abidin (UniSZA), Malaysia.*

²*Faculty of Medicine, UniSZA, Malaysia*

ABSTRACT

Students' facing examination typically experience significant physiological and psychological stress and anxiety. It has been learnt that the vital signs indicates serum cortisol level, systolic and diastolic blood pressure, heart rate and respiration are altered in response to anxiety. The study aimed to investigate physiological changes that take place among students before and after examination. This study was applied cross sectional study design. Sixty nursing students of University Sultan Zainal Abidin were participated in the study. The clinical parameters serum cortisol, systolic and diastolic blood pressure, heart rate and respiration rate of students were assessed to find physiological changes. Descriptive analysis was used for descriptive data and paired t-test was used to compare these parameters. The data was analysed using SPSS statistics Version 22. Mean score of test anxiety among first year nursing students is 54.42 (7.39). The difference between mean (SD) of serum cortisol before and after exam started was statistically significant [364.50 (104.85) versus 252.87 (82.68), $P < 0.001$]. Mean (SD) of respiration rate before and after exam statistically significant [20.08 (1.630) versus 18.93 (1.99), $P < 0.001$]. Mean (SD) of heart rate 81.72 (12.38) before and after 18.93 (1.99) exam, statistically significant $P < 0.05$. However, systolic and diastolic blood pressure is not significant. Study concluded that test anxiety caused changes in serum cortisol, heart rate and respiration rate though the systolic and diastolic blood pressure had not varied. The study has suggested preparing students to use coping strategies like working mindfully may benefit to overcome exam anxiety.

Keywords: Nursing students, physiological changes, exam anxiety

K2

[92]

CONTRACEPTION SUPPLY CHAIN CHALLENGES: A REVIEW OF EVIDENCE FROM LOW- AND MIDDLE-INCOME COUNTRIES

M. Bakali, M. Ali, M. Farron and V. Renee

Bryan University, USA

ABSTRACT

This review identified and assessed factors determining the functioning of supply chain systems for modern contraception in low- and middle-income countries (LMICs) as well as challenges contributing to contraception stockouts that may lead to unmet need. Scientific databases and grey literature were searched including Database of Abstracts of Reviews of Effectiveness (DARE), PubMed, MEDLINE, POPLINE, CINAHL, Academic Search Complete, Science Direct, Web of Science, Cochrane Central, Google Scholar, WHO databases and websites of key international organizations. Studies indicated that supply chain system inefficiencies significantly affect availability of modern FP and contraception commodities in LMICs, especially in rural public facilities where distribution barriers may be acute. Supply chain failures or bottlenecks may be attributed to: weak and poorly institutionalized logistic management information systems (LMIS), poor physical infrastructures in LMICs, lack of trained and dedicated staff for supply chain management, inadequate funding, and rigid government policies on task sharing. However, there is evidence that implementing effective LMISs and involving public and private providers will distribution channels resulted in reduction in medical commodities' stockout rates. Supply chain bottlenecks contribute significantly to persistent high stockout rates for modern contraceptives in LMICs. Interventions aimed at enhancing uptake of contraceptives to reduce the problem of unmet need in LMICs should make strong commitments towards strengthening these countries' health commodities supply chain management systems. Current evidence is limited and additional, and well-designed implementation research on contraception supply chain systems is warranted to gain further understanding and insights on the determinants of supply chain bottlenecks and their impact on stockouts of contraception commodities.

Keywords: Contraceptive supply chains, unmet need, logistics, developing countries

K3

[93]

HEALTH EXPENDITURES EXPERIENCED BY PREGNANT WOMEN IN INDIA: EVIDENCE FROM NATIONAL DATA

S. Sriram

Department of Health Services Policy and Management, University of South Carolina, USA

ABSTRACT

In India, around 77,000 women die from preventable pregnancy related health problems annually. Access to prenatal care (PNC) is necessary to prevent these deaths. Higher expenditure for PNC poses a critical barrier in receiving quality PNC. India aims to achieve 100% coverage for prenatal care for the entire woman in the country. It is vital to study the health system delivery factors that lead to higher health expenditures for PNC. Social consumption and health data from the National Sample Survey Organization (NSSO) Round 71 from the Ministry of Statistics and Implementation of the Government of India was used. A General Linear Model was used to study the effects of various determinants on expenditure for prenatal care in India using STATA version 14.1. A sample of 19,483 prenatal women was studied. Average expenditure for PNC in India is INR 3368.72. Majority (n=18,629) of women received Tetanus Toxoid vaccination and Iron and Folic Acid during pregnancy. Most women received PNC from public hospitals (24.47%), followed by private hospitals (23.13%), health worker (20.64%), private doctor (14.77%), and Primary Health Centers-PHC (9.73%). About 3.2% women followed traditional medicine, while 89.21% followed allopathic medicine, and 7.59% followed both traditional and allopathic medicine. Compared with women who used sub-centers, women using private hospitals spent the most INR 4782.56 (CI: 4459.21-5105.91), followed by women receiving PNC in private clinics INR 3426.36 (CI: 3061.51-3791.21), and women utilizing public hospitals INR 547.83 (CI: 227.53-868.14). To reduce health expenditures, India needs to improve the availability and accessibility of quality public health services at grass roots level. Government of India provides free PNC at PHC, however utilization of PHCs is low, due to poor quality. Insurance coverage for women in private care settings coupled with improved PNC at the sub-center level represent feasible options for health systems improvements.

Keywords: Pre natal care, primary health center

K4

[94]

PREVALENCE OF OBESITY AMONG TAYLOR'S UNIVERSITY MEDICAL STUDENTS

J.A. Andoy-Galvan¹

¹School of Medicine, Taylor's University, Lakeside Campus, Malaysia

ABSTRACT

This research was carried out to study the prevalence of obesity among medical students in Taylor's University according to gender, race, stress level, physical activities, sleeping hours and eating habits. All of these factors were assessed through self-administered questionnaire that was given to 179 randomly selected medical students from Taylor's University. Anthropometric measurement was calculated according to the cut-off points for Asian population. The interpretation of data obtained was done by using IBM SPSS Statistics Software Version 19. The results showed that 11.76% of the selected medical students in Taylor's University were categorized to be obese. Strong association was found between gender and obesity. Malays recorded the highest obesity prevalence (6.5%) followed by Chinese (2.4%) and the Indians (1.8%). Other factors such as stress level, physical activities, fibre consumption, sleeping hours, heaviest meal intake, fast food accessibility and late night snacking were not associated with obesity. The prevalence is low compared to the national prevalence however, it is highly recommended that medical students in Taylor's University be provided with a supportive environment to enable them to practice healthy lifestyles to prevent the risk of developing obesity.

K5

[95]

**DRINKING WATER AND TOILET FACILITIES: STUDENT'S PERCEPTIONS
AND BARRIERS IN SELECTED SCHOOLS OF DHAKA, BANGLADESH**

G.S.M. Pritom ¹

¹BRAC James P Grant School of Public Health, BRAC University, Bangladesh

ABSTRACT

The objective of this study was to know about the safe drinking water and toilet facility in schools of Dhaka, Bangladesh. We also wanted to see the barriers to availability, accessibility and utilization of these services. Sixteen schools were primarily selected of which, only six approved of data collection. This qualitative study was done among the adolescent students of age 12-16 in six selected secondary schools of urban Dhaka. The study shows that there is a mixed understanding of the importance of safe water and good toilets in school. It also reveals barriers at various level of the school. Perceptions regarding water safety and good toilet were found to be psychological barriers. Physical barriers like funding, competing interests, dedicated wash fund or wash committee, challenged the availability of facilities in the schools. In schools which had safe water and toilet interventions, the interventions would fail because of lack of practical planning. Proper strategic plans and policies, appropriate interventions and proper implementation of those interventions is required to ensure availability and utilization of safe water and good toilets in school.

Keywords: WASH, safe water, good toilet, school health

K6

[96]

QUALITY OF LIFE OF LOCAL AND INTERNATIONAL MEDICAL STUDENTS AT MAHSA UNIVERSITY

Y.C. See, Y.Y. Ho, C. Govindaraja and K.K.M. Aung

MAHSA University, Malaysia

ABSTRACT

Malaysia has become an educational hub for affordable and good quality education and has attracted international students to pursue higher education. The health status of an individual is reflected in the quality of life. Literature suggests that international students experience the social and learning environment differently and their perceptions of Quality of Life (QoL) differ from that of the local students. This study evaluates the QoL and satisfaction on health between local and international medical students at a private university in Malaysia. A comparative cross-sectional study was conducted and 337 medical students (84.25% response rate) from first year to final year completed the WHO Quality of Life – BREF questionnaire (WHOQOL-BREF). Analysis was performed using SPSS version 19.0. There were 215 (63.8%) local and 122 (36.2%) international students. (67.8%) of local students rated the quality of life as good and (63.1%) of international students claimed the quality of life as good ($X^2 = 1.765$, p value = 0.41). Of the four domains examined on the QoL, the mean score of the international students was lower than that of local students in the environmental domain and statistically different ($t=2.42$, $df=334$, $p=0.016$). The local or international status of the student was not the key factor in determining the QoL except in the environmental domain. The results imply that addressing the environmental concerns by planning extracurricular activities, homestays for students and mentor–mentee programs to ease acculturation will improve the QoL.

Keywords: Quality of life, learning environment, satisfaction on health, local and international students

K7

[97]

**BARRIERS TO THE SUCCESSFUL IMPLEMENTATION OF THE INTEGRATED
SCHOOL HEALTH PROGRAMME IN DURBAN METROPOLISES SOUTH
AFRICA: POLICY MAKERS AND STAKEHOLDERS' PERSPECTIVE**

N.B. Gwelo

University of Kwa Zulu Natal, South Africa

ABSTRACT

Introduction: Globally, schools have been identified as the ideal setting for health promotion among children, adolescents and the wider school community. In South Africa, the integrated school health programme (ISHP), aims to address both the immediate health problems of learners and implement interventions that can promote their health and well-being during childhood and adulthood (Department of Health & Education, 2012). This study explored the barriers faced by policy makers and stakeholders during the implementation of ISHP. **Methods:** A qualitative, explorative and descriptive study was conducted to identify the barriers and facilitators faced by stakeholders during the implementation of ISHP. Data was collected through in-depth interviews with 30 participants involved in the implementation of ISHP and a review of documents related to ISHP, which were compiled from 2015 till 2016. A topic guide guided all interviews. Data was analyzed using the five steps of framework analysis. **Results:** The study findings reveal that the participants faced numerous barriers during the implementation of ISHP. These included limited resources (human resources, funds, materials, and transport), insufficient time allocated to ISHP activities, lack of support from other stakeholders, cultural beliefs, poor communication between stakeholders, poor attendance of follow-up consultations by referred learners, poor follow-ups after referrals and too many school health programmes implemented by department of health. **Conclusion:** This study makes an important contribution to the implementation of the ISHP and documenting the barriers faced during the implementation. Results of the study underscores the need for policy makers and relevant stakeholders to source more resources needed by ISHP including funds, increasing staff, vehicles for ISHP, increasing school health services offered by community based organizations, increasing mobile clinics in the communities, reviewing education curriculum to accommodate ISHP and integrating all school health programs into ISHP.

Keywords: School health, health promotion at schools, comprehensive school health, health policies in schools, Integrated School Health Policy, barriers

K8

[98]

ASSESSING PARENTAL ACCEPTANCE TOWARDS USING DIGITAL GAME AS AN EDUCATIONAL TOOL

N. Saidin ¹, S.H.Ab Hamid² and R.A. Zaki ¹

¹ *Department of Social and Preventive Medicine, Faculty of Medicine, University of Malaya, Malaysia*

² *Department of Software Engineering, Faculty of Computer Science & Information Technology, University of Malaya, Malaysia*

ABSTRACT

Introduction: Digital game playing has great potential for learning due to its capability to provide fun, challenges, outcomes and feedbacks. However, parent acceptance towards games in education is seen to be likely positive and negative especially in current setting where gadgets are accessible at home. The aim of this study is to determine the parental acceptance towards adaptation of digital game as an educational tool in Malaysia. Parents were chosen because they play a critical role in determining a future of a child. **Methods:** This survey was conducted using school-based cluster sampling design. The questionnaires were completed by 653 parents in Selangor, and comprised 73.1% Malay, 17.3% Chinese and 7.9% Indian. **Results:** Overall, 72% parents have experienced in playing digital game. 50.4% parents are occasional gamers (played at least one hour/week) and 36.6% are regular gamers (at least 1-5 hours/week) with 60.5% parents like to play on the mobile phone. Action, adventure, simulation and puzzle were the most popular genres. Parents believe in both the negative and positive effects of playing digital games. Mothers were more likely to perceive that digital game may offer opportunity for children to experience things and develop critical thinking. Overall parents' score reflecting their acceptance level for the usage of digital game as an educational tool are positive (Mean: 4.79, SD: 1.99 of seven-point scale items). **Discussion:** The study recommends that policy maker and educators offering parents hands on experience on digital educational game in order to make parents fully accepted on such technology.

Keywords: Parent, digital game-based learning, acceptance, education

K9

[99]

**INTELLECTUAL CAPACITY AND SEXUAL VIOLENCE IN CHILDREN
VISITING INTEGRATED CRISIS CENTER OF CIPTOMANGUNKUSUMO
HOSPITAL, INDONESIA**

C.S. Cherry and K. Fransiska

Department of Psychiatry, Faculty of Medicine University of Indonesia, Indonesia

ABSTRACT

Providing a safe and optimal environment is an important part of the child's developmental process. Therefore we need to recognize what factors can influence this developmental process. One of the factors that negatively affect this growth process is violence. Sexual violence is the most common case of violence that occurs in children. Komisi Nasional Perlindungan Anak stated that the prevalence of sexual violence in 2017 amounted to 52% of all cases of children's violence in Indonesia. One risk factor that increases a child's vulnerability to sexual violence is a low intellectual capacity (below average). Children with low intellectual capacity lack the ability to protect themselves and tend to be easily persuaded by the perpetrator. The objective of the study was to obtain a prevalence of sexual violence in children in regards of their intellectual capacity in those who visited the Integrated Crisis Center of Cipto Mangunkusumo Hospital (PKT RSCM) in April 2017 to May 2018. The study was a cross sectional study. The data was collected by using consecutive sampling technique using questioner and IQ examination. The results showed that sexual violence was more common in girls (63.6%). This 18.1% sexual violence occurs in pre-school age children, 48.2% occur in Primary school-aged children and 33.7% occur in adolescents. About 36.14% of children who experienced sexual violence had below average intellectual capacity. It can be concluded that below average intellectual capacity is one factor that makes children vulnerable to sexual violence.

Keywords: Child, intellectual capacity, sexual violence

L1

[100]

UNDETECTED DIABETES IN RELATION TO HYPERTENSION AND ANTHROPOMETRY; A MOVEMENT TOWARDS PREVENTIVE INDIA

B. Upreti

Dept. of Community Medicine, Sikkim Manipal University, India

ABSTRACT

Background: Diabetes mellitus(DM) has been recognised as a public health problem and it has taken an epidemic form with 41 million diabetics in India. Diagnosing prediabetes , precursor of diabetes, will reduce the burden hence the complication. **Objective:** To find the prevalence of Prediabetes and determine the factors associated with it amongst the native Sikkimese population of India. **Materials and methods:** A cross sectional descriptive study, with total enumeration of population aged 20 years and above having domicile of Sikkim(874),was conducted in the Urban field practice area of Gangtok from August 2013 –August 2014. Clinicosocial data was collected ,anthropometric measurement and blood pressure taken and FBG was measured after 8 hours of fasting using blood glucosemeter and then analysis was done using SPSS Software. **Result:** On the basis of study, the prevalence of prediabetes was found to be 24.37%. Prediabetes was significantly higher in 31-40 years of age. Type of employment, family history, sedentary lifestyle, BMI ,WHR and hypertension were significantly associated with prediabetes. There was no significant association with alcohol or smoking. **Conclusions:** Comparing with the national figure the burden of diabetes in Sikkim is quite high and thus there is an urgent need for intervention at the precursor stage.

Keywords: Diabetes mellitus, prediabetes, Sikkim

L2

[101]

SUPPORTING COMMUNITY THROUGH HEALTH EDUCATION USING JIGSAW AND THINK-PAIR-SHARE METHODS

E. Dewi¹, F.B. Rahayuningsih², D.K.A. Putri², E. Yuniawati² and S. Suwandi³

¹ *Department of Health promotion and Education, School of Nursing, Faculty of Health Science, Universitas Muhammadiyah Surakarta, Indonesia*

² *Department of Maternity Care, School of Nursing Department, Faculty of Health Science, Universitas Muhammadiyah Surakarta, Indonesia*

³ *Primary Health Care Physician, Indonesia*

ABSTRACT

The use of attractive and appropriate teaching-learning methods is vital in the implementation of health education. It supports the improvement of knowledge and attitude toward health. Although the methods have already widely used in health education, the results of knowledge level and behaviour are still varied. The purpose of this study was to analyse the effectiveness of *jigsaw* and *think-pair-share* methods in the community of pregnant women in Indonesia. This research was a pre-experimental study with one group pre and post-test only design. The sample was 31 and 39 pregnant women who participated in the jigsaw and think-pair-share methods, respectively. The results are found through paired t test analysis. There was a difference of knowledge level before and after participating in health education using jigsaw (17.42 and 22.84, p-value 0.000), whereas think-pair-share method (17.25 and 22.33, p-value 0.001). Mean value of level of knowledge of jigsaw group was 5.41 while mean value of another group was 5.077. Even though *jigsaw* is seen more effectively used in health education than the *thin- pair-share* method, further research is needed in different communities.

Keywords: Community, health education, jigsaw, think-pair-share, teaching learning method

L3

[102]

A HOLISTIC TRADITION OF BRITISH HYGIENE AND MEDICINE, REFLECTED IN E. W. LANE'S MEDICAL THEORISATION OF HYGIENE

M. Bae

University of St Andrews, UK

ABSTRACT

The nineteenth century was the time when a gradual shift in medical and hygienic paradigms took place from holism to reductionism. Against this medical and social background, E. W. Lane (MD, Edinburgh, 1853) formulated his own medical philosophies in his book *Hydropathy: Or Hygienic Medicine* (1859). Until the 1880s when he published his last book on the hygienic medicine, he consistently attempted for a medical theorization of hygiene, while adopting hydropathy as his main therapeutic measure. Lane's case reflects the mid-nineteenth century trend in which since the 1840s, the rational and holistic facets in medicine had significantly transferred to hydropathy, which was the most naturalistic healing system in the medical market. He emphasised physiology as the rational grounds for his project of medicalisation of hygiene. His medical philosophy was profoundly naturalistic and holistic against the opposite trend of the contemporary hygiene and medicine. Lane's theories on hygienic medicine did not develop into a new medical system which he believed would reconcile orthodox medicine and hydropathy had also adopted increasingly reductionist approaches since 1860s. Nevertheless, the naturalistic philosophies and approaches in Lane's hygienic medicine demonstrates a continuous effort for a theoretical reformulation of hydropathy during its stagnant and declining period to constantly fit into the holistic paradigm of medicine and hygiene. Further, analysis of Lane's medical thoughts reveals part of a 'thin red line' of naturalism in the battle ground between reductionism and holism during the nineteenth century in the history of medicine and hygiene.

Keywords: Hygiene, hygienic medicine, E. W. Lane, reductionism, holism

L4

[103]

**TO EVALUATE THE ROLE OF PRINT MEDIA IN GAINING TRACTION AND
PROMOTING COMMUNITY ENGAGEMENT IN ORGAN DONATION BY
REGIONAL ORGAN & TISSUE TRANSPLANT ORGANIZATION (ROTO), POST
GRADUATE INSTITUTE OF MEDICAL EDUCATION & RESEARCH (PGIMER),
CHANDIGARH**

A.K. Gupta ¹, V. Koushal ¹ and S.D. Madra ¹

¹Post Graduate Institute of Medical Education & Research, India

ABSTRACT

With an objective to gather information about the best suited public awareness strategy to help fast track promotion of Organ Donation in India, a comparative study of print media stories on organ donation initiatives of PGIMER tracked in last two years was undertaken to gauge their impact on community engagement. Print media was selected for study considering its better credibility, recall value and reach among population of Chandigarh and around. For the year 1st April 2015-31st March 2016, around 60 print media stories were tracked on organ donation/transplantation initiatives by PGIMER. For the year 1st April 2016 to 31st March 2017, a comprehensive media strategy was chalked out and on the basis, proactive and positive media engagement was ensured through consistent information sharing regarding initiatives on Organ Donation/ Transplantation by PGIMER, resulting in over 600 stories in print tracked in one year, leading to almost ten times increase in frequency and space coverage. Other factors remaining same, the cadaver organ donations at PGIMER from 1st April 2015-31st March 2016 were 27 which dramatically rose to 39 from 1st April 2016 to 31st March 2017. The study inferred that ensuring proactive and positive media engagement is crucial to improve the knowledge on donation/transplantation among the population and create an enabling environment, which eventually leads to community engagement and hence, increase in cadaver organ donation rates. The approach further calls for examining the association between organ donation related media coverage and organ transplantation rates in other places to advance this research line.

L5

[104]

**BUILDING LOCAL PARTNERSHIPS TO IMPACT ACCESS TO HEALTH AND
CIVIC AMENITIES IN VULNERABLE POPULATIONS: A COMMUNITY
INTERVENTION STUDY**

S. Mehnaz, A.J. Abedi, S.F. Fazli, Z. Khan and M.A. Ansari

*Department of Community Medicine, Jawaharlal Nehru Medical College, Aligarh Muslim
University, India*

ABSTRACT

In India, rural-urban migration for livelihood is common and on the rise. Migrants constitute a considerable proportion of population in cities, mostly living in unplanned slums in poor and degraded environment. The indicators of health are poor compared to native population. Their low access to health services depends on a complex set of circumstances. Poor indicators of health are also a proxy for poor access to other social and development programmes. The world Health Summit on Sustainable Development (SD) identifies health as an integral component for SD. Poor access to health system needs to be corrected in the spirit of Primary Health Care for All. This paper presents the findings of a community intervention study using data collected over a period of 3 years. The objectives were to collect and analyse baseline socio-cultural, health, and economic data, develop model of supportive intervention to improve access to government health programmes, and to test the impact of intervention by process evaluation and impact evaluation. The results of study indicates that building partnership with community, health and non-health government departments and local and national NGOs leads to marked improvement in access to health and civic amenities.

Keywords: Migration, poverty, access, sustainable development, partnerships

L6

[105]

THE NEED OF SPIRAL LEARNING IN BIOSTATISTIC : IMPLICATIONS FOR CURRICULUM DESIGN

G.S. Prihanti ¹ and M. Fauzan ¹

¹Faculty of Medicine University of Muhammadiyah Malang, Indonesia

ABSTRACT

Biostatistic is a core skill since the paradigm of Evidence Based Health Care arise and involves it in clinical decision making. The biostatistics curriculum in Faculty of Medicine University of Muhammadiyah Malang (FM UMM) spread and integrated in several modules at academic stage (pre clinical) and clinical rotation. Medical students in FM UMM used biostatistics more detail when they working on final assignment at fourth year as individual and at sixth year in term of community research groups. This study aims to identify the Biostatistics literacy among medical students at academic stage and clinical rotation through 20 question questionnaire. This could be used as tools to measure the need of spiral learning in biostatistics. 178 medical students were involved in this study which consist of 101 (56,7%) fourth year medical student and 77 (43,3 %) sixth year medical student (after finish public health clinical rotation). The result shows that the mean of fourth year medical students biostatistic score lower (41,88 with SD 8,8) than the sixth year medical student (51,1 with SD 10,9). From Mann Whitney test, there are significant differences between both groups ($p=0.000$). This indicates that there exist a need of spiral learning in biostatistic, which is spread, integrated and learning gradually based on medical students learning experience. Finishing research in final assignment is not enough for improving biostatistic literacy among medical students so there is implications for biostatistic curriculum design.

Keywords : Biostatistic, evidence based health care, curriculum, research

M1

[106]

THE ROLE OF SOCIO-CULTURAL AND ENVIRONMENTAL RISK FACTORS ON THE INCIDENCE OF TUBERCULOSIS INFECTION

F.A Siregar¹ and T. Makmur²*¹Faculty of Public Health, University of Sumatera Utara, Indonesia**²Faculty of Medicine, Islamic University of Sumatera Utara, Indonesia*

ABSTRACT

Background: North Sumatera Province is the fourth ranked for tuberculosis in Indonesia and Medan is an endemic district with high morbidity and mortality. Social determinant, lifestyle and environment are contributed to the tuberculosis incidence. Purpose :The objective of this study is to determine the influence of social factors, lifestyles and environment against to the tuberculosis incidence in Medan. Methodology: This is an observational study with unmatched case-control design. The sample consisted of 70 people with pulmonary tuberculosis and 70 people who did not have pulmonary tuberculosis in a ratio of 1: 1. The sample was selected by purposive sampling based on inclusion criteria. Data were analyzed using simple logistic regression and multiple logistic regression. Results: Of the multiple logistic regression analysis showed that the history of household contact with the patient, alcohol consumption, low nutritional status and housing density are predictor for tuberculosis incidence in Medan with the prediction model of tuberculosis incidence is $-1.394 + (2.919 \times \text{household contact}) + (1.837 \times \text{alcohol consumption}) + (1.802 \times \text{low nutritional status}) + (1.117 \times \text{housing density})$. Conclusion: Based on the study results, it is necessary to intensify health promotion and develop an effective strategy in reducing the incidence of tuberculosis.

Keywords: Tuberculosis, incidence, sociocultural, environmental risk

M2

[107]

**VALIDATION OF QUESTIONNAIRES ON LEPTOSPIROSIS KNOWLEDGE,
ATTITUDE AND PRACTICE AMONG URBAN AND RURAL COMMUNITIES IN
MALAYSIA**

W.M. Zahiruddin¹, W.N. Arifin ¹, S. Mohd-Nazri ¹, S. Sukeri ¹, R.A. Hamat ², I. Zawaha ³,
R.A. Bakar³, O. Malina ², T.Z.M.T. Jamaludin ², A. Pathman ¹, A.R. Mas-Harithulfadhli-
Agus ¹, I. Norazlin ¹, B.S. Suhailah ², S.N.S. Saudi ², N.M. Abdullah ², N. Nozmi ²,
A.W. Zainuddin³ and D. Aziah ¹

¹*School of Medical Sciences, Universiti Sains Malaysia, Kubang Kerian, Malaysia*

²*Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Malaysia*

³*Ministry of Health, Malaysia*

ABSTRACT

Leptospirosis is an endemic disease in many tropical countries including Malaysia. The objective of this study was to develop and validate a new knowledge, attitude and practice questionnaire on leptospirosis for use in urban and rural risk communities in Malaysia. The questionnaire development phase encompassed a literature review, expert panel review, focus-group testing, and evaluation. The validation phase consisted of exploratory and confirmatory parts to verify the psychometric properties of the questionnaire. A total of 973 participants were recruited from communities with a high incidence of leptospirosis. Item response theory (IRT), exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were utilized for the analysis. The development phase resulted in a questionnaire that included three main sections: knowledge, attitude and practice. In the exploratory phase, as shown by the IRT analysis of knowledge about leptospirosis, the difficulty and discrimination values of the items were acceptable. Based on the EFA, the psychometric properties of the attitude and practice sections were revised. In the confirmatory stage, the difficulty and discrimination values of the items in the knowledge section remained within the acceptable range. The CFA of the attitude section resulted in a good-fitting two-factor model. Based on analytic evidence, the questionnaire on leptospirosis were psychometrically valid for community-based studies in communities with endemic Leptospirosis.

Keywords: Leptospirosis, questionnaires, validation, knowledge, attitude, practice, communities

M3

[108]

ACCEPTANCE OF SEASONAL INFLUENZA VACCINATION AMONG NURSES IN A HONG KONG PUBLIC HOSPITAL WITH HEALTH BELIEF MODEL

L. Shuk-Hang and D. Chao

The Chinese University of Hong Kong, Hong Kong

ABSTRACT

Background: Vaccination is an important cost-effective measure for preparing against influenza, but uptake rate of flu vaccination was low among nurses worldwide. In Hong Kong, a place suffered from 2009 flu pandemic, the intention to receive flu vaccine among nurses was unexpectedly low. *Purposes:* This study aimed to identify factors associated with nurses' intention to influenza vaccination and their risk perception towards influenza and vaccination. *Methodology:* A cross-sectional questionnaire survey was conducted in January to February 2018. 300 nurses, who worked in a Hong Kong public hospital, were recruited by convenience sampling from 10 departments. Descriptive statistics, univariate analysis and binary logistic regression analysis were used. *Results:* For the coming year, 66 (24.6%) respondents were willing to receive influenza vaccine, 133 (49.6%) refused to be vaccinated, and 69 (25.7%) were undecided. For respondents who refused vaccination, "the flu vaccine may not be safe" (40.6%) and "the vaccine may not good for health" (21.1%) were the statistical significant associated factors with p-value < .05. In adjusted regression logistic model, factors related to the intention of the vaccination were "Previous experience of vaccination" (OR=62.69, 95% CI [15.69-250.53]), "Taking seasonal influenza vaccination could effectively protect me from being infected with influenza" (OR=48.34, 95%CI [9.97-234.5]) and "likelihood of being infected in the coming influenza season" (OR=3.34, 95%CI [1.03-10.82]). *Conclusion:* Education and promotion strategies which focus on vaccination safety and effectiveness are crucial to "kick-off" the journey of vaccination. Emphasizing the likelihood of contracting influenza may increase awareness and vaccination uptake rate among nurses.

Keywords: Seasonal influenza, vaccination, nurses' acceptance, intention

M4

[109]

**THE NEGATIVE VALUE OF SOME SOCIO-CULTURAL TRAITS AFFECTING
TRANSMISSION AND DEVELOPMENT OF PULMONARY TUBERCULOSIS
AMONG OPD CLIENTS AT THE EASTERN VISAYAS REGIONAL MEDICAL
CENTER (EVRMC) , TACLOBAN CITY, LEYTE , PHILIPPINES**

I.P. Balonga

Eastern Visayas Regional Medical Center, Philippines

ABSTRACT

Introduction: The Philippines is divided by geographical divisions where, each region is recognizable by its distinct traits and dialect and, its culture depicts the country's complex history. Smoking and alcohol drinking are common socio-cultural traits in Filipinos depicting positive values. These connote socializing, creating friendships, or coping with stressors in the family and workplace. **Objectives:** To determine the negative value of some socio-cultural traits affecting transmission and development of Pulmonary Tuberculosis among OPD clients.

Methods: This is a descriptive study. The subjects with Pulmonary Tuberculosis were selected by purposive sampling. Those who voluntarily participated were instructed to sign an informed consent. An interview questionnaire was used to extract data. **Results and Discussion:** A total of 108 were enrolled in the study. Majority were males, mostly in the 45-54 age group and unemployed. Seventy seven percent were exposed to visiting relatives and friends who had TB. All were positive to Chest x-ray while 33(30.56 %) were positive to AFB on sputum examination. Active smoking was common in 68 (53.7 %), others were exposed either to sibling, parents, or husband who smoked. Alcohol drinking is common among visiting relatives and friends, a trait influenced by our Chinese ancestors. Catholic colonizers not only entrenched religion but, the culture on collective festivities and celebrations. Smoking and alcohol drinking have negative value when in social group. Active smokers had 2 x more likely to develop the disease compared to those who did not. (OR= 2.2), 5x risk to the infection when both active and passive compared to those with no exposure. (OR= 5.0). On the other hand, alcohol drinking had a 4x increased risk of exposure to the disease compared to those who did not. (OR= 4.55). Sharing "round robin" with one glass among all members in drinking session had almost twice the risk to PTB compared to those who did not. (OR= 1.84) There is no evidence linking directly alcohol with TB as specific causative factor but, a person who neglects his nutritional needs reduces his resistance to the infective organism. **Conclusion:** Smoking and alcohol drinking share common positive values because both convey socialization, creating friends, happiness, success and coping from stressors while the negative effect lead a person to increased risk of exposure to *Mycobacterium bacilli*.

Keywords: Pulmonary tuberculosis, socio-cultural traits, negative value

ASSOCIATION BETWEEN HOUSEHOLD SOCIOECONOMIC AND ECOLOGICAL FACTORS AND AEADES MOSQUITO ABUNDANCE IN DHAKA, BANGLADESH

K. Bashar¹, K. Leena² and G.U. Ahsan²

¹ *Department of Zoology, Jahangirnagar University, Bangladesh*

² *North South Global Health Institute, North South University, Bangladesh*

ABSTRACT

Dengue fever (DF) and dengue hemorrhagic fever (DHF) are now endemic in Bangladesh with outbreaks occurring sporadically in recent years. Since the outbreak of dengue in 2000, dengue disease has become an emerging major public health concern. Although it is well known that transmission of dengue virus is maintained among a population *Aedes* mosquitoes, surveillance of these vector species in this country has been irregular and ex-post facto-oriented measure. In this backdrop, a collaborative international research project on dengue disease, sponsored by IDRC, was undertaken by North South University, Bangladesh; University of Manitoba, Canada; International Centre for Diarrheal Disease Research, Bangladesh (ICDDR,B); and Public Health Agency of Canada, particularly to investigate characteristics of larval abundance and determine its associated risk to dengue. A multi-stage entomological survey was conducted in 721 households in 12 randomly selected wards of Dhaka city during August-September 2013. A total of 1908 larvae and pupae of mosquitoes (*Ae. aegypti*=1557; *Ae. albopictus*=175) were collected in 144 positive containers distributed among 105 of 721 houses visited. The density of *Ae. aegypti* mosquitoes was higher than *Ae. albopictus* in each ward. Among the indoor wet containers, the highest relative frequency was observed in plastic drum (118/293; 37.25%) and the lowest was in metal pan, metal bucket, and plastic bags (0.34 %). Other commonly infested items found indoors were water tank and Tires (66.67%), broken toilet parts and money plants tub (50%). In contrast, for containers out-of-doors, the relative frequency was the highest in clay pot (12.96%) and the lowest in aluminum pots, glass bottles, and metal cans (0.33%). Tires, Ceramic pot, Aluminum pot, Metal drum (100%), Tin/metal can (66.67%), Earthen jar (Motka) (60%), Cement pot, broken toilet parts (50%), Flower tub & tray (37%) were important outdoor containers used as development sites by dengue vectors. The mean *Aedes* larval house indices was 14.56 (range 5.1 to 21.67), the mean container indices was 24.24 (range 12.24 to 45.95); and the mean Breteau indices was 19.97 (range 5.71 to 31.48). Water type ($p=0.00$), presence of vegetation ($p=0.00$) and shade (0.01) were the significant factors associated with the abundance of *Ae. aegypti*. In contrast, container location, and whether containers were sheltered from rain did not significantly ($p>0.05$) influence their use by dengue vectors. Based on the level of vector activity in the sampled households (i.e., the larval indices), it is likely that human cases of DF or DHF occurred during 2013 and this speculation is supported by the dengue morbidity data from the federal government of Bangladesh. The results of this study suggest that reducing the availability of selected, highly productive container types could have significant positive impact on dengue epidemics in Dhaka city.

Keywords: Dengue, Aedes mosquito, Dhaka Bangladesh

M6

[111]

KNOWLEDGE, ATTITUDE AND PREVENTIVE PRACTICES ON LEPTOSPIROSIS AMONG RURAL COMMUNITIES IN SELANGOR, MALAYSIA

N. Noramira¹, S. Suhailah¹, S. Surianti², S.M. Nazri², W.M. Zahiruddin², I. Zawaha³,
W.M.W.N. Arifin⁴, I. Norazlin², S.S.N. Sakinah¹, A.N.Munirah¹, A.W. Zainudin⁵, T.J.T.Z.
Maztura¹, A.R. Hejar⁶, M.S. Norbaya¹, B.D. Aziah², O. Malina¹ and A.H.Rukman¹

¹*Department of Medical Microbiology and Parasitology, Faculty of Medicine and Health
Sciences, Universiti Putra Malaysia, Malaysia*

²*Department of Community Medicine, School of Medical Sciences, Universiti Sains Malaysia,
Malaysia*

³*Health Promotion Unit, Penang State Health Department, Malaysia*

⁴*Unit of Biostatistics and Research Methodology, School of Medical Sciences, Universiti
Sains Malaysia, Malaysia*

⁵*Health Department of Federal Territory Kuala Lumpur & Putrajaya, Malaysia*

⁶*Department of Community Health, Faculty of Medicine and Health Sciences, Universiti
Putra Malaysia, Malaysia*

ABSTRACT

Little is known on the knowledge, attitude and preventive practices (KAP) of leptospirosis worldwide. The aim of the study was to determine the KAP levels of leptospirosis and its associated factors among rural communities in Selangor, Malaysia. A cross sectional study involving 444 participants (223 male; 221 female) aged between 18 and 81 years old was conducted. All participants were subjected to answer a self-administered validated questionnaire. Majority of the participants had poor knowledge (57.0%), unacceptable attitudes (90.3%) and unacceptable preventive practices (69.1%) on leptospirosis. Using multiple logistic regression analysis, ethnicity was the only significant predictor for both knowledge level (OR_{Adj}0.39, 95% CI 0.22 - 0.68) and preventive practices (OR_{Adj}1.81, 95% CI 1.20 - 2.73). Ethnicity (OR_{Adj}0.40, 95% CI 0.24 - 0.67), income (OR_{Adj}1.58, 95% CI 1.04 - 2.39) and education type (OR_{Adj}3.69, 95% CI 1.24 - 10.99) were strong predictors for attitudes. The KAP elements on leptospirosis are still lacking and poor health seeking behaviour and attitudes are of our utmost concern. Thus, effective strategies should be planned to impart knowledge, and develop proactive approaches and good preventive modules on leptospirosis to this leptospirosis-prone community.

Keywords: Knowledge, attitude, preventive practice, leptospirosis, rural community

COMPARATIVE GENOMIC ANALYSIS OF UROPATHOGENIC *Escherichia coli* ISOLATED FROM DHAKA, BANGLADESH

T. Tabassum^{1,2}, N. Khan^{1,2}, M. Sarker^{1,2}, A. Sadique^{1,2}, A. Rahman^{1,2}, A. Khaleque¹,
G.U Ahsan^{2,3} and M. Hossain^{1,2}

¹*NSU Genome Research Institute (NGRI), School of Health and Life Sciences, North South University, Bangladesh*

²*Department of Biochemistry and Microbiology, School of Health and Life Sciences, North South University, Bangladesh*

³*Department of Public Health, School of Health and Life Sciences, North South University, Bangladesh*

ABSTRACT

Urinary tract infections (UTIs) are one of the most frequently encountered bacterial infections, with uropathogenic *Escherichia coli* (UPEC) responsible for more than 80% of community acquired a that intracellular infection of bladder epithelial cells is a key feature leading to bacterial survival, antibiotic resistance, and recurrent UTI. Currently there is no information available on the genomic characterization of uropathogenic *E. coli* in Bangladesh. Here we present a comparative analysis of draft genome sequences of thirteen uropathogenic *E. coli* isolated from Dhaka, Bangladesh.

The total number of genes in the pan genome (total number of genes within a group of genomes) was found to be 13,663 genes. With 13 genomes, the number of novel genes identified with the addition of an additional genome slows but does not plateau, suggesting an open pan genome. Pan genome clustering also revealed that two major groups of uropathogenic *E.coli* circulating in Dhaka city. The total size of the draft assemblies were within the range of 4.7 Mbp -5.0Mbp, with an average N50 of 150 Kb. The average GC content was found to be 50.5 % among all the isolates. Mediators of hyperadherence *yid E* were found to be common among all the isolates. Multiple genes coding for resistance to antibiotics and toxic substances were prevalent among most strains, including the *mdt ABCD* multidrug resistance cluster, MAR locus, fluoroquinolone and tetracycline resistance, multidrug resistance efflux pumps, and the multidrug resistance tripartite system found in other Gram-negative bacteria. Core genome shared similar gene clusters or operons of genes essential for cellular growth and replication.

This first “whole-genome” comparison of Bangladeshi strains will help understanding the genetic makeup of diverse UPEC and further analysis including Genome Wide Association studies will reveal complex mechanism of host-pathogen interaction and identify potential target for intervention and vaccine development.

Keywords: Uropathogenic, genomic, bacterial infections

N1

[113]

**THE VIEW OF TOBACCO CONSUMPTION IN INDONESIA : USING INDONESIA
FAMILY LIFE SURVEY 5 DATA**

A.T. Purnamasari

Universitas Indonesia, Indonesia

ABSTRACT

Smoking is still the leading cause of preventable disease and death in many countries due to high consumption that is hard to control. Even though tobacco consumption declines in worldwide, it appears to be increasing in many countries notably in the countries with weak tobacco control regulations such as Indonesia. Indonesia is one of leading tobacco producing countries which also included highest tobacco consumption countries. The objective of this analysis was to describe the tobacco consumption in Indonesia and the National Health Insurance spending attributable to smoking related disease. This analysis used Indonesia Family Life Survey 5 which is fielded in 2014 – 2015. The respondents (both men and women, aged 15+) reporting current or ever smoking was 36,7% and 45,8% of them smoking 11 – 20 cigarettes per day. Average expenditure each week to consume tobacco was IDR 67626,23 [95% CI: 66634,56 – 68617,89]. The amount of monthly average per capita spent for tobacco and betel was being the highest three of total amount by commodity type in 2014 and 2015. Smoking related disease included the highest catastrophic cost in National Health Insurance in 2014 was IDR 5 trillion for heart disease, IDR 2 trillion for cancer and IDR 813 billion for stroke meanwhile it cost IDR 7 trillion for heart disease, IDR 2 trillion for cancer and IDR 1 trillion for stroke in 2015. In conclusion, tobacco consumption increases health risks and it spent the highest cost in National Health Insurance.

Keywords: Tobacco consumption, smoking behavior, Indonesia, smoking related disease

N2

[114]

**PREVALENCE AND PATTERNS OF TOBACCO PRODUCT USE IN JAPAN:
FIRST-YEAR RESULTS OF A REPEATED CROSS-SECTIONAL SURVEY**

P. Langer, L. Prieto, D. Skiada, M. Dobrynina, A. Van der Plas, E. Afolalu, Z. Sponsiello, G. Baker, R. Weitkunat and F. Luedicke

PMI R&D, Philip Morris Products S.A., Quai Jeanrenaud 5, Switzerland

ABSTRACT

Tobacco harm reduction (THR) is a complementary public health strategy to lower the health risks associated with the consumption of nicotine and tobacco-containing products. THR is focused on reducing or eliminating the use of combustible tobacco by switching to reduced-risk alternatives, like heat-not-burn (HNB) tobacco products. The availability of new products in the market makes it more important than ever to have valid and reliable measures of tobacco use that capture population exposure. After the launch of a new HNB product (commercialized under the brand name IQOS) in Japan, we initiated a repeated cross-sectional survey in 2016 aimed at assessing tobacco use prevalence and patterns of tobacco product use. The surveys were conducted in representative samples of the Japanese adult general population and, in addition, in non-probabilistic samples of registered IQOS users. In the general population sample (n=4,878), first-year results revealed a prevalence of 18.5% for any tobacco product, 17.6% for cigarettes, and 1.8% for IQOS. During the last 12 months, 1.3% started using IQOS; a majority (96.8%) had already been using other tobacco products. Only 0.1% of former cigarette smokers who quit more than two years ago reinitiated tobacco product use with IQOS. In the IQOS user sample (n=2,000), 98% were using other tobacco products before starting to use IQOS. In conclusion, these initial results show that IQOS is mostly used by a growing number of adult Japanese tobacco users and rarely by non-tobacco users to (re-) initiate tobacco use.

Keywords: Tobacco, tobacco harm reduction, heat-not-burn, smoking, public health

N3

[115]

THE PREVALENCE OF POSITIVE SMOKER IDENTITY AND ITS ASSOCIATED FACTORS

M.H. Ahmad¹, A. Ab Rahman¹, K.I. Musa¹, F.M. Zin², N.A. Hassan³, M. Omar⁴, R. Hasan⁵,
R.M. Zain⁶ and M.I. Ibrahim¹

¹ *Department of Community Medicine, School of Medical Sciences, Universiti Sains Malaysia, Malaysia*

² *Department of Family Medicine, School of Medical Science, Universiti Sains Malaysia, Malaysia*

³ *FCTC and Tobacco Control Unit, Disease Control Division (NCD), Ministry of Health, Putrajaya, Malaysia*

⁴ *National Poison Centre, Jalan University, Malaysia*

⁵ *School of Dental Science, Universiti Sains Malaysia, Malaysia*

⁶ *School of Health Sciences, Universiti Sains Malaysia, Malaysia*

ABSTRACT

Background: Tobacco addiction is a primary concern in Malaysia, with 22.8% of Malaysian adults smoking tobacco in 2015. Positive Smoker Identity, which was derived from PRIME Theory of West (Drug and Alcohol Dependence, 133: 740-745, 2013) was a new construct representing positive smoker thoughts, images and feeling about smoking behaviour and culture. The aim of this study were to determine the prevalence of Positive Smoker Identity among smokers in government agencies in Kota Bharu, Malaysia; and to determine factors associated with Positive Smoker Identity. Methods: A cross-sectional study was carried out using data collected from 253 smokers working in all government agencies in Kota Bharu. The respondents answered a set of proforma and questionnaires including PSmoQi, which measured Positive Smoker Identity construct. Factors associated with Positive Smoker Identity were analyzed using multiple logistic regression. Results: The prevalence of respondents with Positive Smoker Identity was 72.3%. Factors associated with Positive Smoker Identity were age (AOR: 1.042; 95% CI: 1.004, 1.081; p = 0.028), SSCS-M score (AOR: 1.216; 95% CI: 1.112, 1.329; p < 0.001), heaviness index (AOR: 1.002; 95% CI: 1.001, 1.004; p = 0.011), and educational attainment. (AOR: 0.458; 95% CI: 0.233, 0.900; p = 0.024). Conclusions: The prevalence of Positive Smoker Identity among smokers in government agencies in Kota Bharu, Malaysia was high. The application of measures to curtail Positive Smoker Identity were compelling and crucial in order to denormalize smoking behaviour, thus reducing the prevalence of tobacco smoking.

Keywords: Positive, smoker, identity, prevalence, factors, cigarette

N4

[116]

TESTING THE COMBINATION OF BEHAVIOUR CHANGE TECHNIQUES FOR SMOKING CESSATION: A FACTORIAL RANDOMISED TRIAL IN THAILAND

P. Kingkaew¹, L. Glidewell², R Walwyn³ and J.C. Wyatt⁴

¹*Leeds Institute of Health Sciences, University of Leeds and Health Intervention and Technology assessment program (HITAP), UK*

²*Leeds Institute of Health Sciences, University of Leeds, UK*

³*Leeds Institute of Clinical Trials Research, University of Leeds, UK*

⁴*Wessex Institute, University of Southampton, UK*

ABSTRACT

Effectiveness results of mobile health interventions for smoking cessation were shown to be mixed due to the diversity and complexity nature of these interventions. A lack of evidence on effective components of these interventions limits their future design. The objective of this study was to simultaneously test the effectiveness of three behavioural change components (capability to quit/opportunity to support smoking cessation/motivation to quit) in text messages and the influence of the absence and presence of each behavioural component on smoking cessation rates in Thai smokers. This was a randomised, double-blinded, controlled trial with a 2x2x2 full factorial design which considers two levels (present/absent) of three behavioural change components within text messages, 8 experimental conditions. Participants—Thai smokers who wanted to quit smoking, owned a mobile phone, and are able to read and write Thai—were randomly assigned to receive message groups in a 1:1:1:1:1:1:1:1 ratio via the web-based programme. A total of 1,571 participants were entered into the trial. At the 1-month follow-up, all three behavioural change components increased the odds ratio of smoking cessation by 1.11 to 1.23 compared to no intervention components. Baseline intention-to-quit smoking was found to improve the smoking cessation rates (OR 2.99, 95%CI 2.10 to 4.25). Providing messages aimed at increasing smokers' capability to quit and opportunity to support smoking cessation improved the smoking cessation rates in low intention-to-quit participants. The results from this study will be used to inform future design of text messages provided by the Thailand National Quitline. **Trial registration number:** ISRCTN16022919

Keywords: Tobacco cessation, behaviour change techniques, complex interventions, mobile health, text messaging, randomised controlled trial

N5

[117]

EFFECTIVENESS OF TOBACCO CONTROL MEASURES AT PUBLIC AND PRIVATE UNIVERSITY CAMPUSES IN BANGLADESH

M.G.U. Ahsan ^{1,2} and K. Leena^{1,2}

¹*Department of Public Health, North South University, Bangladesh*

²*North South Global Health Institute, North South University, Bangladesh*

ABSTRACT

Background: In compliance with Article 21 of the WHO FCTC, the Government of Bangladesh is committed to protecting their youth from the ill effects of tobacco on health. Smoking is completely prohibited in universities consistent with FCTC Article 81. But, in reality, due to lack of awareness and monitoring, implementation and compliance with the Act are not universal across the “Public Places” including Universities. Some Universities have their own more restrictive smoke-free policy that is monitored by the University proctor to determine whether students, faculty and staff are complying. Given this situation, there is a need for a better understanding of the level of compliance with smoke-free rules and regulations at public and private Universities in Bangladesh. **Objectives:** To understand the level of effectiveness of tobacco control rules and regulations and associated anti-tobacco activities among students, faculty and staff on public and private Universities in Bangladesh. **Methods:** This a comparative cross-sectional study followed by a mixed method approach. Two public and two private Universities were selected purposively from Dhaka for this study. Among the four Universities, two have their own Tobacco Control Policy in addition to the existing Tobacco Control Law of the Bangladesh Government; and, the other two follow only the Government Law. A total of representative 800 (200 from each university) eligible graduate students were selected systematically for face-to-face interview using pretested structure questionnaire. Besides, 16 key informants included Faculties and Admin Personnel were interviewed. Appropriate statistical analyses were conducted to examine the differences or associations of predictors with outcome variables. Qualitative information was synthesized to have an in-depth understanding of the issue. **Results:** Among the respondents, 43.4% students were used tobacco where 42.9% were smokers. Among users, 45.8% were from Public and 40.0% from Private universities. Irrespective of university categories, 23.6% female students were smoker. About 36.4% had personal income and similar proportion resided with parents. Majority (57.7% vs. 58.0%) of students from private and from public University were found aware about the tobacco control Act and punishable offence as well. Respondents seen any notice of prohibition regarding smoking or tobacco use in their University campus were significantly ($p<0.001$) differ between public and private (49.5% vs. 69.9%). However, 86.3% and 78.0% students from public and private respectively, ever smoked in their campus. More than one-thirds (37.6%) students from public university ever been fined/ punished for smoking in the campus as compared to their counterparts (private-16.2%) and the difference was statistically significant ($p<0.001$). Any advertisement or promotional activities seen in the campus were significantly ($p<0.001$) varied among public and private universities (59.5% vs. 78.5%). The key informants opined that Universities don’t have their mandatory tobacco control policies independently and not monitored properly in terms of its implementation. **Conclusion:** The study results revealed that a good proportion of students still not aware about the tobacco control policy in the campus.

However, majority of the students have seen in any form of notice regarding smoking prohibition but they smoked in the campus. On the other hand, majority of them reported that they have seen tobacco advertisement and/or promotional activities in the campus. There should be mandatory policy in all universities and strengthened of monitoring system. Tobacco control initiative should be strengthening in the Universities through enforcement of related rules and regulations including arrangement of awareness program in the campus. Furthermore, steps should be taken to design of future Behavior Change Communication Strategies and Youth-Friendly Tobacco Prevention Programs.

Keywords: Tobacco, policy, university

N6

[118]

PREVALENCE AND PATTERNS OF TOBACCO CONSUMPTION AMONG HIGH-RISK POPULATION OF BANGLADESH

M. Jahan^{1,2}, M. Hasan², M. Rahman², K. Leena¹, M.N. Uddin³ and G.U. Ahsan^{1,2}

¹*North South Global Health Institute, North South University, Bangladesh*

²*Department of Public Health, North South University, Bangladesh*

³*Texas University, USA*

ABSTRACT

Background: Bangladesh is one of the largest tobacco consuming countries in the world. Six million people die each year due to tobacco related health incidents in Bangladesh. Tobacco use has a large impact on every area of human life that can distort the life starting from physical to mental and social to environmental. Tobacco consumption is a leading cause of many preventable and premature deaths worldwide. Currently, Tobacco ranked fourth in the world of life lost and responsible for 12 and 6 percent of male and female deaths respectively. The annual cost of tobacco-related illnesses in Bangladesh attributable to tobacco usage was estimated at 50.9 billion taka, including 5.8 billion taka for second-hand smoking. **Objective:** To assess the prevalence and patterns of tobacco consumption habits and cultivation behavior among the high-risk population of Bangladesh. **Methods & Materials:** A cross sectional study had been accompanied among high-risk population of the northern region of the country during May to August 2015. Simple random sampling technique was followed for conducting the study. The data had been collected by a field survey through semi structured questionnaire, face to face interviewed with 232 respondents. **Results:** In this study, prevalence of smoking was 38.7 percent. Subject of the study was both male 54.7 percent (n=127) and female 45.3 percent (n=105). The mean age of the respondents was 38 years. More than three fourth of the respondents (77.6%) were married and belongs to day labour, farmer, housewife etc. of occupation. Among the respondents 23.3 percent are directly involved in tobacco cultivation whereas majority of them (85%) do not have own farming land. 54.8 percent was started smoking during their adolescence period. Half (51%) of the respondents work >7 hours/daily in the tobacco factory. They are used to consume tobacco in shape of smoking 29.3 percent, zorda 40.9 percent and gul 18.5 percent. The elderly (age >53 years) people are more used to regular smoking (47.6%) than the middle age (36-52 years) who are used to smoke (28.2%) occasionally. 87.5 percent using tobacco more than ten times daily. 31.5 percent of the respondents tried to quit tobacco consumption but they failed. Female respondents are more sufferers in cough, COPD and peptic ulcer than the male. Among them, 45.7 percent of female respondents have regular tobacco consumption habit in terms of cigarette/biri smoking (29.3%), zorda (40.9%), gul (18.5%), sadapata that are affected in the productive work and health hazards. **Conclusion:** Overall, the research findings have shown the importance to create awareness among tobacco consumers and inhabitants of the region to protect from multidisciplinary health hazards.

Keywords: Tobacco consumption, high-risk population, illness

N7

[119]

**CROSS-SECTIONAL STUDY ON TOBACCO USE AMONG ADULT POPULATION
IN AJMAN UAE**J. Sreedharan ¹, J. Muttappallymyalil ¹, R.B. Shaikh ¹, S. Al Sharbatti ¹ and S. Sherman ²¹*Department of Community Medicine, Gulf Medical University, UAE*²*New York University, UAE***ABSTRACT**

Tobacco use continues to be the leading cause of preventable death worldwide. As per the tobacco atlas, the prevalence of tobacco use in the UAE is 18.3% in men and <1% among women. To assess the prevalence of various forms of tobacco use among the adult multi-ethnic population in Ajman, UAE. A cross-sectional study among adults above the age of 18 years residing in Ajman Emirate. 4047 participants were included in the study. Quota sampling technique was used to recruit the participants. An interviewer-administered questionnaire was used for data collection. A total of 4047 residents of Ajman were included; 2022 Asians, 929 Arabs, 763 Emiratis and 333 others. Of the total, 31.7% were past or present tobacco users. The prevalence of cigarette use among males was 44.7% and females 14.7%. The various forms of tobacco used by the participants included cigarettes by 26.1%, cigar 2.6%, shisha 10.3%, dokha 2.7%, snuff 1% and 3.5% other forms. A significant difference ($p < 0.05$) in the prevalence of cigarette use between males and females was observed. The overall prevalence of tobacco was 24.6% among Emiratis, 32.2% Asians and 33.9% Arabs. The overall prevalence of tobacco use was less among Emiratis compared to participants from other countries. A significant difference in the prevalence of cigarette use was observed with regard to gender.

Keywords: Prevalence, cigarette, dokha, shisha, multiethnic population

N8

[120]

**JFC (JEMBER FASHION CARNAVAL) FOR JEMBER CITY FREE FROM
NEGATIVE EFFECTS OF SMOKING**

B. Abdillah

*University of Jember, Indonesia****ABSTRACT***

Indonesia is the only ASEAN country not yet accessed by FCTC (frame work convention on tobacco control). this is an international treaty of WHO member states in the control of tobacco-related epidemics. Currently there is a shift in the age of active smokers in Indonesia. The highest number of active smokers is at <17 years of age. This is a matter of concern for the nation. This distressing state moves the writer to initiate an action. Together with KOPDAR (*Komunitas Peduli Udara Bersih*/Clean Air Care Community), the writer made an action called "Time Capsule". It is a symbol of a young collective's commitment to protecting the present and future generations of the negative effects of smoking and exposure. The Time Capsule is promoted through the JFC (Jember Fashion Carnival) event which is the annual international carnival in Jember city. JFC uses 3.6 km of road as catwalk. And the Time Capsule was paraded all the way to the finish. The model that carries the Time Capsule is Ainil Islach, a student who supports the issue of tobacco control. The event was attended by ministers of human development co-ordinator, Puan Maharani and minister of marine and fishery, Susi Pudjiastuti. Many photographers both national and international immortalize this moment. This action aims to introduce the existence of FCTC and support the Indonesian government to immediately accession FCTC for the welfare of its people.

Keywords: FCTC, KOPDAR, JFC, time capsule

Q1

[121]

**EFFECT OF *Morinda citrifolia* EXTRACT ON CYTOKINE IL - 4 AND IL - 10 IN
WHITE RATS WISTAR STRAIN INDUCED PIRAZINAMIDE, LEVOFLOXACIN
AND ETAMBUTOL**

T.D.N. Subchi

University of Muhammadiyah Malang, Indonesia

ABSTRACT

Second Line Drugs TB is a drug for MDR TB that causes many adverse effects. The adverse effects increase when they disturb normal cells involving immune and inflammatory responses. The inflammatory process protects host from the offending agent, but on the other side, it also damage to the host cells. One of inflammatory mediators is cytokines. *Morinda citrifolia* is one of the plants that has benefits and high nutritional value for health and has anti-inflammatory effect. In this research we want to know the effects of *Morinda citrifolia* extract and cytokine expression of IL-4 and IL-10. This study was conducted on rats wistar strains mice induced by Pyrazinamide, Ethambutol and Levofloxacin drugs and induced several doses of *Morinda citrifolia* extract. The results of this study showed the effects of *Morinda citrifolia* extract on the expression of IL-4 and IL-10 cytokines

Keywords : *Morinda citrifolia* extract, IL-4, IL-10

Q2

[122]

TREATMENT OUTCOMES AND THEIR ASSOCIATION WITH TYPE OF RESISTANCE AMONG DRUG RESISTANT TUBERCULOSIS PATIENTS DURING 2014-2015 IN PUNJAB, PAKISTAN: A RETROSPECTIVE COHORT ANALYSIS

S. A Khan

Provincial Tuberculosis Control Program, Pakistan

ABSTRACT

Tuberculosis still the deadliest infectious disease among all communicable infections and DRTB remains an evil for low income countries like Pakistan. Irrational use of second line drugs including fluoroquinolones and second line injections along with lack of proper awareness to both level community and treatment provider, less number of diagnostic and treatment centers, poor adherence to treatment, primary default, infection prevention and lack of technical resources in Punjab may lead to rise in incidence of DRTB. To find out treatment outcomes and their associations with type of resistance among DRTB patients in Punjab, retrospective cohort analysis was done. Of the total bacteriologically confirmed DRTB registered patients at various PMDT sites across Punjab, n=2046 patient's records were analyzed. Bivariate analysis shows a significant positive association (relative risk [RR] 1.7 & p-value = < 0.001) between type of resistance and treatment outcome in DRTB patients. Overall treatment success rate for DRTB in Punjab was 61.14% and favorable outcomes including cured and treatment completed were 59.4% and 1.7% respectively. While the unfavorable treatment outcomes including died, LTFU, not evaluated, treatment failure were 22.3%, 9.7%, 3.5%, and 2.7% respectively. Scale up DRTB surveillance activities, contact screening, integration of DRTB with other public health programs, active case finding among populations will have a positive impact on drug resistance tuberculosis case notification and control over spread of diseases.

Keywords: MDR, tuberculosis, Pakistan, treatment outcome, XDR, type of resistance, DRTB

Q3

[123]

NEONATAL THYROID STIMULATING HORMONE LEVEL AND ITS ASSOCIATION WITH PREMATURITY STATUS

U.K. Rizqi¹, M.M. Pasaribu^{2,4}, N. Yanti¹, L. Anandari⁴, D.N. Kose⁴ and I.S. Timan^{2,4}

*¹Faculty of Medicine, University of Indonesia/Cipto Mangunkusumo General Hospital,
Indonesia*

*²Departement of Clinical Pathology, Faculty of Medicine, University of Indonesia/Cipto
Mangunkusumo General Hospital, Indonesia*

*³Departement of Neurology, Faculty of Medicine, University of Indonesia/Cipto
Mangunkusumo General Hospital, Indonesia*

*⁴Human Genetic Research Cluster, Indonesia Medical Education and Research Institute,
Faculty of Medicine, University of Indonesia, Indonesia*

ABSTRACT

Congenital hypothyroid (CH) is one of the most common causes of mental retardation. Organ immaturity in preterm birth and/or low birth weight considered risk factors for CH. Screening for CH is necessary for this population. This study aimed to determine association between neonatal TSH level with prematurity status and neonatal TSH reference values for preterm and aterm infants in Indonesia. This cross-sectional study used subjects from congenital hypothyroid screening data in Dr. Cipto Mangunkusumo Hospital from May to June 2017. Among 2987 subjects, 1700 subjects fulfilled the inclusion and exclusion criteria. Subjects were divided into two groups; preterm infants (n=111) and aterm infants (n=1589). Preterm infants percentage was 6.5%. Neonatal TSH reference values for preterm infants were 1.0-8.9 mU/L with median 2.5 (1.0-12.8) mU/L and for aterm infants were 1.5-8.0 mU/L with median 3.2 (1.0-19.8) mU/L. There was significant association between neonatal TSH level and prematurity status ($p<0.001$). Correlation test between gestational age birth on preterm infants and neonatal TSH level also showed significant weak positive correlation ($r=0.306$; $p=0.001$). The association between neonatal TSH level with prematurity status is related to organ immaturity, delayed in hypothalamus-hypophysis-thyroid axis causes inadequate TSH secretion.

Keywords: Neonatal TSH level, premature, congenital hypothyroid screening

R1

[124]

VALIDITY AND RELIABILITY TEST OF MEDICATION ADHERENCE RATING SCALE FOR PSYCHOSIS (MARS) INSTRUMENT INDONESIAN VERSION

A. Kasmianto

*Department of Psychiatry, University of Indonesia, Indonesia***ABSTRACT**

Assessment of medication adherence is an important part of pharmacological treatment of psychotic disorders. This study aims to obtain an instrument to assess medication adherence in psychotic patients, MARS – Bahasa Iversion, and to evaluate the validity and reliability of the instrument. This is a cross-sectional study conducted in the Psychiatric Clinic of Cipto Mangunkusumo Hospital from January to July 2017. Subjects were recruited through consecutive sampling (N = 100, aged 18-59 years old). Psychotic disorders were diagnosed using SCID (Structured Clinical Interview and Diagnosis DSM-IV). The instrument was translated, adapted to Indonesian culture, and back-translated. Content validity and test-retest reliability (N = 35 using systematic sampling) of MARS – Bahasa Indonesia version were evaluated. All items in the instrument are relevant to theory, as evidenced by content validity coefficient of 0,90. Construct validity test showed that the items represent theoretical as well as conceptual construction of medication adherence. Internal consistency reliability was good, with Cronbach's alpha of 0,80 and 0,798 in the test-retest evaluation. This study produced a valid and reliable MARS – Bahasa Indonesia Version. Currently there is no other instrument assessing medication adherence in psychotic patients in Indonesia.

Keywords: Medication adherence, medication adherence rating scale, psychosis, reliability, validity

R2

[125]

HEALTH STATUS, PSYCHOSOCIAL PROFILE AND LIFE SATISFACTION OF SUBSTANCE ABUSERS: AN INSIGHT WITHIN INMATES OF INABAH PROGRAMME

P.L. Lua ¹, A.N.N. Afiqah ², M.A. Manam ³, H. Azmi ⁴, M. Mokhairi ⁵ and A.J. Julaily ⁵

¹*Faculty of Pharmacy, Universiti Sultan Zainal Abidin (UniSZA), Kampus Besut, Malaysia*

²*Faculty of Health Sciences, Universiti Sultan Zainal Abidin (UniSZA), Kampus Gong Badak, Malaysia*

³*Faculty of General Studies and Advanced Education, Universiti Sultan Zainal Abidin (UniSZA), Kampus Gong Badak, Malaysia*

⁴*Institute for Community (Health) Department (iCODE), Universiti Sultan Zainal Abidin (UniSZA), Kampus Gong Badak, Malaysia*

⁵*Faculty of Informatics and Computing, Universiti Sultan Zainal Abidin (UniSZA), Kampus Besut, Malaysia*

ABSTRACT

Health, psychosocial status and life satisfaction are undeniably important virtues in rehabilitating substance abusers. Our main study objectives were to 1) identify health status, psychosocial profiles and substance use pattern 2) correlate these profiles with life satisfaction of substance abusers undergoing an Islamic-oriented Inabah programme in Malaysia. A cross-sectional study among eligible inmates from three Inabah centres was conducted. The Opiate Treatment Index measured health status, psychosocial profiles, substance use pattern (higher score = more dysfunction) while life satisfaction was measured via Psychological Measure of Islamic Religiousness (higher score = more satisfaction). Descriptive statistics and Spearman's correlation coefficient were utilised (SPSS 23.0). Sixty-five participants were recruited (age = 28.9 ± 7.0 years; single = 15.4 %; programme duration < 2 months = 73.8 %; poly-drug users = 52.3%). Good health status was reported and *Substance Use Pattern* was low. Majority (> 90%) had abstained from all substances (heroin, cannabis, opiates and inhalants etc) except for nicotine. Only the consumption of amphetamine derivatives was still at 24.6%. *Social Functioning* was relatively less favourable (31.7 ± 11.6) compared to *Life Satisfaction* (68.6 ± 21.2). Significant weak correlation between *Psychological Adjustment* and *Life Satisfaction* was found ($r_s = -0.278$; $p < 0.05$), while the rest were negligibly poor associations. Our overall findings indicated that health status, psychosocial profiles, substance use pattern were generally favourable for abusers under recovery in Inabah programme. Nevertheless, the poor relationship between life satisfaction and psychological adjustment necessitates further in-depth studies.

Keywords: Health status, psychosocial profile, substance abusers, life satisfaction, Inabah programme

R3

[126]

**HOME BASED CARING OF MENTALLY ILL PERSONS; COPING STRATEGIES
AND ISSUES FACED BY FAMILIES**

J.M.S.N. Jayasooriya

National Water Supply & Drainage Board, Sri Lanka

ABSTRACT

Mental illness refers to a specific set of medically defined conditions. It has now become a social problem in the world. In Sri Lanka, the majority of severely mentally ill persons live in the community not in government or other private hospitals. Serious mental illness often leads to personal distress, uncleanness, death, stigmatization, marginalization and economic deprivation to the individual or to the family. The major barrier to mental health care is due to social stigma attached to being identified as mentally ill and assessing treatment for mental illness. The main objective of this study was to identify the difficulties in providing care and support for the mentally ill persons by their families and to identify their coping strategies. Field intervention was focused on a selected sample of 20 psychiatric patients attending for psychiatric clinics and the patients who had been admitted at the National Institute of Mental Health within the Municipal Council area of Colombo. Data collection methodology was more qualitative with in depth interviews and case studies. This study reveals the critical issues involved with the rehabilitation process of the mentally ill patients. It shows that, mental illness often leads to divorce or separation, and family breakdown. Hence, patients who are suffering from long-term mental illnesses are a burden to the caregivers. Therefore, they use different coping strategies to overcome their burden.

Keywords: Mental health, stigmatization, coping strategies, care givers, rehabilitation

R4

[127]

HELP-SEEKING AND ACCESS TO SERVICES FOR MENTAL HEALTH PROBLEMS AMONG ADOLESCENTS IN SELANGOR, MALAYSIA

R. Khairudin, N.D.N. Farid and M. Ismail

*Department of Social and Preventive Medicine, Faculty of Medicine, University of Malaya,
Malaysia*

ABSTRACT

Recent corpus of research suggests that mental health problems among adolescents are an emerging global challenge. Despite availability of the mental health services, large number of adolescents are reluctant to seek help for their mental health problems. This study was aimed to determine help-seeking behaviour and factors associated with services utilisation for mental health problem, as framed by the Andersen's Behavioural Model of Healthcare Utilisation. A cross-sectional survey was used to gather the data on 758 students aged 18-19 years old from 11 secondary schools in Selangor, Malaysia. Univariate and multiple logistic regression for complex sample analysis were used to analyse the data. Overall, 53.2% of the adolescents sought help from any mental health service in the past 12 months regardless of their current mental health status. Of these, only 3.7% of them used formal mental health services. Majority of them also sought help from informal sources such as friend, parent, sibling, relative and the internet. Of those with abnormal score of depression, anxiety and stress, 59.2% sought help from any mental health service. The adolescents who had good to excellent knowledge on symptoms of depression (OR=2.10; 1.31, 3.36), self-reported experience of depression (OR=1.44; 1.02, 2.02), aware about available resources (OR=1.90; 1.08, 3.36) and perceived need for help (OR=1.61; 1.12, 2.29) were significantly related to use of mental health services. Thus, findings suggest the importance of enhancing adolescent's knowledge on mental health, increase awareness on the availability of the mental health resources and address their needs in order to improve help-seeking and access to mental health services as well as improve mental well-being of the adolescents.

Keywords: Help-seeking, service utilization, mental health, adolescents

R5

[128]

SEVERITY AND SOURCES OF PERCEIVED STRESS AMONG PHARMACY UNDERGRADUATE STUDENTS IN MALAYSIA

S. Ahmad, N.I.H. Bashri, Y.Z. Wong, C.Q. Chow, F.A. Shaikh and M. Qamar

Faculty of Pharmacy, MAHSA University, Bandar Saujana Putra, Malaysia

ABSTRACT

The stress among students may negatively affect their academic performance, physical health, and psychosocial well-being. This study aimed to determine the severity and sources of perceived stress among undergraduate pharmacy students. A cross-sectional, questionnaire-based survey was carried out among a sample of 156 undergraduate pharmacy students enrolled from six private sector universities situated in Selangor, Malaysia. The questionnaire included questions on socio-demographic characteristics (n=5), sources of stress (n=1, open-ended question), and stress scale (n=20). The data were analyzed using Statistical Package for the Social Sciences (SPSS®), version 23. Majority of the enrolled students were female (n=126, 80.8%) and Chinese (n=68, 43.6%). The finalized questionnaire was proved to a reliable instrument (Cronbach's $\alpha = 0.61$). The frequently cited sources of stress (open-ended question) were academic overload, lack of time for recreational activities, family expectations, future job concerns, competition with peers, and constant pressure to succeed. Majority of the respondents showed medium level of stress (should reconsider means of coping with stress) (n=96, 61.5%), followed by low level of stress (n=52, 33.3%), and remaining students (n=8, 5.1%) possessed high level of stress (needs counseling). In present study, no student showed good control over stress. The findings of independent t-test/one-way ANOVA suggested no statistically significant differences in stress scores across the respective categories of socio-demographic data. A substantial proportion of enrolled students was found to be stressed. The better student counseling services and collaborative strategies are imperative to curb this problem and improve the stress coping capacity in this high-risk population.

Keywords: Stress, pharmacy students, Malaysia

R6

[129]

FACTORS ANALYSIS AFFECTING ANTENATAL CARE DROP OUT IN PRIMARY HEALTH CARE

G.S. Prihanti, Y. Baidowi, S. Handayani, M.F. Febriady, W.W.P.M. Rohmasari, S.F.
Amaliya and G.R. Novianti

Faculty of Medicine University of Muhammadiyah Malang, Indonesia

ABSTRACT

Maternal Mortality Rate is important for detecting general mothers health. Antenatal care is one of the efforts in decreasing MMR. Based on the data from Work Assessment of Primary Health Center X in 2016, the coverage of antenatal care still has not met the target of less than 5%. This study aims to analyze the factors affecting antenatal care's drop out in the working area of Primary Health Center X. Case control design with purposive sampling technique was used in this study. 200 people were involved in this study. The result of multivariate analysis shows that there are three variables that have significant impact on antenatal care's drop out, such as income factor at $\text{sig}=0.003$ ($p<0.05$), ($\text{OR}=6,91$; $\text{CI}=2,287-59,178$), knowledge factor at $\text{sig}=0.003$ ($p<0.05$), ($\text{OR}=11,63$; $\text{CI}=1,952-24,464$), family support factor at $\text{sig}=0.005$ ($p<0.05$), ($\text{OR}=9,33$; $\text{CI}=1,977-44,051$). Nagelkerke R square value indicates that 36,1% of antenatal care in the Primary Health Center X can be explained by the four related variables, while 63,9% completeness of antenatal care can be explained by other variables that have not been studied yet. Furthermore, the most dominant factor that affects antenatal care drop out is the variable indicated by the highest β value of ($\beta=11,633$) which is low income. Low income, average knowledge, and low family support can affect antenatal care drop out in primary health care.

Keywords: Antenatal care, drop out, postpartum, primary health center

R7**[130]**

**PERINATAL ANXIETY SCREENING SCALE (PASS): A VALID TOOL TO
DETECT ANXIETY AMONG PREGNANT WOMEN**

M.N. Priyadarshanie¹, M.D.I.A. Waas², D.M.S. Fernando³, B.C.V. Senaratna⁴,
C.S.E.Goonewardena⁴ and A. Balasuriya⁵

¹ *Department of Nursing & Midwifery, Faculty of Allied Health Sciences, Kotelawala
Defence University, Sri Lanka*

² *Department of Psychiatry, Faculty of Medical Sciences, University of Sri Jayewardenepura,
Sri Lanka*

³ *Department of Physiology, Faculty of Medical Sciences, University of Sri Jayewardenepura,
Sri Lanka*

⁴ *Department of Community Medicine, Faculty of Medical Sciences, University of Sri
Jayewardenepura, Sri Lanka*

⁵ *Department of Public Health, Faculty of Medicine, Kotelawala Defence University, Sri
Lanka*

ABSTRACT

Anxiety disorders during pregnancy are not routinely assessed, despite being common and causing adverse pregnancy outcomes. Early detection using simple questionnaires and management are likely to improve pregnancy outcomes. We aimed to determine the validity of Perinatal Anxiety Screening Scale (PASS) to detect anxiety among Sri Lankan pregnant women. A cross sectional study was conducted in antenatal clinics of Colombo South Teaching Hospital. Pregnant women-(n=221) were sequentially recruited and assessed by a psychiatrist until 81 women with anxiety disorder were diagnosed according to International Classification of Diseases -10 criteria-(gold standard). PASS was administered to all recruited pregnant women, including 139 women without anxiety. Psychiatrist's assessment and PASS administration were blinded to each other. Each woman's PASS score was tabulated against the psychiatrist's diagnosis. Performance of PASS against the psychiatrist's diagnosis was assessed using sensitivity, specificity and predictive values. Receiver-Operating-Characteristics-(ROC)analysis was performed. Internal consistency was assessed using Cronbach's alpha. Mean age of the women was 30±5.8 years. Most (68%) had completed primary education and 53.7% were multiparous. Psychiatrist diagnosed anxiety disorder in 37% of women while PASS at its optimal cut off of 20, classified 37.5% of women as having anxiety. Sensitivity, specificity and positive and negative predictive values of PASS were 93%, 90%, 88% and 93% respectively. Area under the ROC curve was 0.96 [95% CI:0.94-0.99]. Internal consistency was very high [Cronbach's alpha = 0.95]. PASS is a valid and reliable instrument to screen for anxiety disorders in antenatal women in Sri Lanka.

Keywords: PASS, Sri Lanka, valid instrument, anxiety, pregnancy

R8

[131]

**THE ASSOCIATIONS BETWEEN DISCRIMINATION AND SELF-REPORT
HEALTH IN CHINESE MIGRANT WORKERS: MODERATED BY SOCIAL
INTEGRATION AND PERCEIVED STRESS**

L. Tong¹, Q. Yan¹ and I. Kawachi²

*¹Department of Maternal, Child and Adolescent health, School of Public Health, Fudan
University, China*

*²Department of Social and Behavioral Sciences, Harvard T.H. Chan School of Public Health,
Boston, US*

ABSTRACT

There were an estimated 287 million rural migrant workers in China in 2017, making up more than one third of the entire working population. The discrimination and refused by local social system faced by migrants workers may undermine their health. This study aims to clarify the associations between discrimination and self-reported health among migrant workers in China, as well the moderating effect of social integration and perceived stress. The data utilized in this study were obtained from a special survey on Social Integration and Mental Health for Migrant Workers as part of the National Health and Family Planning Dynamic Monitoring for Migrant Workers conducted in 2014. A total of 15999 participants aged 15 to 59 years were recruited by a stratified, multistage clustered probability and proportionate to size sampling for 8 cities of China. The Wilcoxon Rank-Sum test and Structural Equation Modeling (SEM) were applied to analysis data. The results indicated that discrimination had a directly negative effect on social integration ($\beta=-0.25$, $P<0.01$), which resulted to a negative effect on self-report health of migrant workers. Social integration also positively affected on self-report health ($\beta=0.16$, $P<0.001$). In addition, discrimination significantly associated with perceived stress ($\beta=0.21$, $P<0.01$), furthermore, perceived stress exacerbated self-report health ($\beta=-0.12$, $P<0.01$). Both objective SES ($\beta=0.21$, $P<0.001$) and subjective SES ($\beta=0.21$, $P<0.01$) had a significantly positive effect on self-report health. In conclusion, discrimination negatively related with self-report health of migrant workers, while social integration and perceived stress play opposite roles during the process.

Keywords: Migrant worker, discrimination, social integration, self-reported health, China

R9

[132]

REDUCED PSYCHOSOCIAL RISK IN 31 AUSTRIAN COMPANIES

R. Polacsek-Ernst

Faculty of Health, University Witten, Herdecke, Germany

IBG – Innovative Occupational Health Management

ABSTRACT

Objectives: In context of the 2010-2012 European Committee of Senior Labor Inspectors (SLIC) Campaign on psychosocial risks, Austria amended its Occupational Health and Safety Act in 2013. Now it includes psychosocial risk and forces companies to evaluate the stressors in an objective and regular way. To comply with this law, in over 270 companies the Module2 of Psychosocial Stressors (PBM2) was used to analyze and benchmark the stressors. Measures and adaptations of the work situation and environment are taken to improve the working conditions.

Method: The PBM2 is at its core a survey with 30 questions designed to fulfill the quality requirements of the EN ISO 10075. 31 companies with about 14.699 employees already reevaluated the psychosocial stressors with the PBM2 to assess the success of their psychological interventions.

Results: All companies were able to improve their working conditions and reduce work related distress. The average improvement is 7% (on a 100% scale). The best overall development was made in the work environment, with 11%, followed by social climate with 8%, the job requirements with 6% and finally work organization with 3%. The effects of different interventions will be highlighted.

Conclusion: The PBM2 is a useful instrument to plan and evaluate psychological interventions. The first 31 reevaluations confirm the effectiveness of psychological interventions to reduce work related distress. The changes in the Austrian law and consequent implementation by the labor inspectorate have already improved the working conditions significantly. There are already best practice models to speed up the development.

Keywords: Psychosocial risk, psychosocial stress, intervention, evaluation, PBM2

R10

[133]

**INTERNALIZING AND EXTERNALIZING BEHAVIORAL PROBLEMS AMONG
PATIENTS WITH BORDERLINE PERSONALITY DISORDER: MEDIATING
ROLE OF ADAPTIVE FAMILY FUNCTIONING**

S. Khan and A. Kamal

National Institute of Psychology, Quaid-I-Azam University Islamabad , Pakistan

ABSTRACT

Objective: To study the relationship between Internalizing and Externalizing behavioral problems among patients with Borderline Personality Disorder and exploring the mediating role of adaptive family functioning in relation between Internalizing behavioral problems and Borderline Personality Disorder.

Study design: Cross sectional study

Place and Duration of study: The study was carried out at National Institute of Psychology, Quaid-i-Azam University Islamabad, during the period of August 17, 2015 to June 10, 2017.

Methodology: Employing the technique of convenience sampling 408 individuals seeking treatment in psychiatric wards and OPDs of government hospitals of Rawalpindi, Islamabad and Lahore were approached. Formal permission from hospital authorities and Informed consent was taken from subjects. After the initial analysis 183 out of total 408 assessed met the criteria for Borderline Personality Disorder. It was found to be most prevalent among the clinical population and it had a very strong comorbidity with other personality disorders as well.

Results: Correlation analysis indicated that both Internalizing and Externalizing behavioral problems were positively related to Borderline Personality Disorder (BPD). Adaptive family functioning was found to be negatively related with Internalizing, Externalizing and BPD. Mediation Analysis indicated that Adaptive family functioning mediates the relationship between Internalizing behavioral problems and BPD. It accounted for an additional 3 % variance.

Conclusion: The present research highlights the importance of understanding relationship patterns within the family that are responsible for initiation and maintenance of Borderline Personality disorder. Special consideration needs to be given to assess the risk of committing suicide in patients having Borderline personality disorder. Both these factors can aid in developing better intervention programs.

Keywords: Borderline personality disorder, suicide, externalizing behavioral problems, internalizing behavioral problems, adaptive family functioning

R11

[134]

**PSYCHOLOGICAL DISTRESS ON DIABETES PATIENT EXPERIENCE
RELATED TO LIFESTYLE CHANGES**

A. Pratiwi¹, A. Muhlisin¹, Y.I. Permana² and F. Nursita¹

¹*Nursing of School, Universitas Muhammadiyah Surakarta, Indonesia*

²*Medical Surgical Hospital of Surakarta, Indonesia*

ABSTRACT

Background: Individuals were diagnosed with Diabetes should adapt to their lifestyle habits. Psychological responses always accompany in adapting to their illness. Psychological response is one of group symptom that crucial to prevent distress Diabetes. The aim of this study is to explore the patients' experiences of distress-diabetes in a daily living. **Methodology:** Interpretive methodological approach was applied to investigate the participants' perception and explore the lived experiences of patients with Diabetes. In-depth interviews of 33 respondents with purposeful sampling were conducted as achieving of density sampling. Open ended questions were developed from 4 components distress Diabetes screening scale. The Van - Manen strategy was utilised to qualitative analysis the respondents' information. **Result:** Three main themes emerged from the participants' information, these comprised of the bored experience of rule of life, making sense of anxiety of blood sugar level, and unsupported of couple. The three themes lead to a super-ordinate theme of emotional distress. **Conclusion:** emotional distress may be occurred among patients with diabetes in community life. The chronic condition of the disease, lifestyle changing, makes the patient discouraged and requires support from the surrounding environment.

Keywords: Distress diabetes, lifestyle changes

R12

[135]

SUBNATIONAL INEQUALITY OF CAESAREAN SECTION IN URBAN-RURAL AREA OF INDONESIA

Suparmi¹, N. Kusumawardhani¹ and K.A. Susiloretni²

¹National Institute of Health Research and Development, Indonesia

²Semarang Health Polytechnic, Indonesia

ABSTRACT

Caesarean section rates in Indonesia increased almost doubled during the last five years. The study aims to examine urban-rural inequality and determinant of caesarean section in Indonesia. Cross-sectional data from national household health survey (Riskesdas) conducted in 2013 were used, including women aged 15-49 years having live births in the last 3 years preceding the survey. A total of 49,045 respondents were included into the analysis. We report inequality of caesarean rates by urban-rural and the absolute difference and ratio between urban and rural for each province. The logistic regressions were used to identify determinant of caesarean section in urban and rural area. The caesarean section rates were high in urban and low among rural area; accounted for 5.4% and 13.4%; respectively. Province estimates of caesarean section rates ranged from 3.1% in Southeast Sulawesi to 19.1% in DKI Jakarta. Subnational inequality between urban and rural among province occurs, accounted for absolute difference between -0.2% (West Papua) to 16.2% (Gorontalo). The logistic regression indicates factors associated with caesarean section delivery in urban and rural include pregnancy complications, post-term pregnancy, multiple births/twin, maternal age over 35 years, and high socioeconomic status. This study provides evidence that subnational inequalities of caesarean section rates between urban and rural in Indonesia remain. There were overuse of caesarean section among urban and underuse among rural and the rates varied between provinces. These inequalities might due to inadequate access to emergency obstetric care among rural subgroups. Subnational specific intervention among rural population is needed to address these inequalities.

Keywords: Caesarean section, sub-national, inequality, Indonesia

R13

[136]

**ARE WOMEN WITH DEPRESSION MORE PRONE TO THE DEVELOPMENT OF
OTHER CHRONIC DISEASES? A LONGITUDINAL STUDY AMONG MARRIED
WOMEN IN RURAL BANGLADESH**

S. Aziz

Independent University, Bangladesh

ABSTRACT

Depression among women can lead to poor functioning, low birth weight and under-nutrition. Several studies have seen the association of chronic diseases and medical illnesses with increasing prevalence of depressive symptoms and disorders. However, few studies have seen the impact of depression on the onset of other chronic diseases among women. This study aims to see the impact of depression on the onset of other chronic diseases among the married women in rural Bangladesh.

The study has used data from “IUB Health and Socio Economic Survey” a longitudinal surveillance on rural Bangladesh. A sample of 1434 currently married women (above 18 years) was selected from four districts of Bangladesh for the purpose of the Study. Data was collected by face to face interview using pre-tested questionnaire. Women with no chronic diseases were taken at the baseline year 2013 and followed up in 2015 to assess the predictive outcome. Binary logistic regression was used to explore the association using STATA 12. Results showed that 9.09% of women with depression in baseline developed chronic diseases in follow-up year. After controlling for socio-demographic characteristics, risk behaviors and life events, results depict that women with depression in baseline have 81% higher odds of developing another chronic disease compared to women without depression (OR = 1.795, CI 0.711, 4.534). Identification and management of women with depression in community settings is imperative to reduce not only the disability associated with depression but also to reduce the subsequent burden of developing other chronic diseases.

Keywords: Depression, chronic diseases, Bangladesh

R14

[137]

**A STUDY ON THE KNOWLEDGE AND ATTITUDE REGARDING THE
INTERNET BLUE WHALE GAME AMONG ADOLESCENT SCHOOL CHILDREN
IN A PRIVATE SCHOOL IN A RURAL AREA OF KERALA , SOUTH INDIA**

V.T.K. Menon¹ and V. Joshy ¹

¹Department of Community Medicine Amala Medical College, India

ABSTRACT

In the past few months there has been a lot of news about the Blue whale game on the internet . There have been disturbing reports about suicides following this game particularly among teenagers. This preliminary study seeks to assess the knowledge and attitudes of Blue Whale internet game among adolescent school children in a rural area of India. This was done among students from class 10- 12 of Vidya Vihar school , Kakkasery , Thrissur district Kerala. This was done using a self-administered questionnaire. A total of 189 students participated in the study . Out of 189 , 98 were male and the rest 91 or 2% female. Majority of them 186 or 98.4 % had knowledge about it. 160 of them felt it was challenging (84.7%) while 24 or 12.7% felt it wasn't challenging. 178 felt it was dangerous (94.2%) while 10(5.3 %) felt it was not dangerous. 182 or 96.3% felt it should be banned study shows that most students were aware of the Blue Whale game . There is however need to educate students regarding the dangers of the game.

R15

[138]

EFFECT OF YOGA ON THE INDIVIDUALS WITH ALCOHOL USE DISORDERS. Tambare ¹ and T. Varade ¹*¹Ayush Institute for Indian Medical Sciences, India***ABSTRACT**

Alcohol abuse is now major universal problem. As per WHO alcoholism is third leading preventable cause of death. The term alcoholism means when a person shows signs of physical addiction to alcohol and continue to drink, despite problems with physical, mental health and social, family or job responsibilities. Yoga is an ancient art based on harmonizing system of development for the mind, body and spirit. The continued practice of yoga will lead you to sense of peace and well being. The aim of the study was to assess the effect of yoga on chronic alcoholism. The study was undertaken on 30 patient in the age group of 20 to 50 years presenting with history of chronic alcoholism. These all 30 patients were practiced Yogasanas, pranayama, shavasana and meditation therapy i.e. Dharna & Dhyan daily in the morning for 50 -60 min. for the period of 30 days in the supervision of yoga teacher and then allowed to practice at home for 2 months.

This paper throws light on chronic alcoholism, a combination of Yogasanas, Pranayamas and meditation practiced by chronic alcoholics for 3 months were found to cause significant changes in clinical, psychological and biochemical parameters Which are found to be abnormal in chronic alcoholism.

Keywords : Yoga, alcohol use disorder, AUD

R16

[139]

I'M FINE' - A SHORT-FILM ON MENTAL ILLNESS STIGMA

A.S. Reddy

*SNDT Women's University, India****ABSTRACT***

Campus acts of violence, student suicide and the relative increase in mental health incidents among college students are several reasons that mental health is a pressing issue. Unfortunately, stigma surrounding mental-health issues impacts youth and their abhorrence towards seeking professional help. However recent times have seen a lot been written and spoken about mental health and depression. The sooner one accepts that there is a problem and seeks treatment, the better the recovery. The purpose of this phenomenological study is to explore the lived experiences of stigma for youth who self-identify with a mental health issue. The only hope is that this study would provide rich descriptions of the lived experiences of stigma, which will in turn lead to a better understanding by professionals of the impact stigma has on today's college students. The research was accompanied by a short-film titled '*I'm Fine*' which was generated through all the stages of production, i.e. pre-production, production and post-production. As a part of pre-production, documentaries were watched to know more about the topic. Subject experts were also interviewed. The short-film was shown to an audience to gather their feedback. Recent times have seen a lot been written and spoken about mental illnesses. However, the perception of stigma among people has not altered to a great extent. Thus it is time to increase awareness about mental illness stigma so that people suffering can reach out to seek professional help at the right time and save lives.

Keywords: Mental health, mental illness, stigma

POSTER PRESENTATIONS

P1

[140]

LOW BACK PAIN AND DISABILITY STATUS IN RURAL HOUSEWIVES

I.N. Noor and M.A. Rahman

*National Institute of Preventive and Social Medicine (NIPSOM), BSMMU, Bangladesh***ABSTRACT**

Low back pain (LBP) is the most common cause of activity limitation among the population under 45 years of age in Women. A cross-sectional study was done to evaluate the prevalence and magnitude of low back pain and low back functional disability status in nonworking rural housewives. Randomly selected 288 housewives (18 to 59 years) were interviewed in one year of duration from three villages of Jhenaidah district at south west part of Bangladesh. A pretested structured questionnaire, Oswestry Low Back Pain Disability Questionnaire and guideline of Centre for Disease Control and Prevention was followed to collect data. The analysis revealed around 1/3rd of the respondents were aging from 3rd decade with a mean age of marriage 16.04 years \pm SD 3.103. Prevalence of lifetime and chronic LBP were found 77.43% and 57.63% respectively. Minimal, moderate and severe disability status was found among women 49.7%, 29.9% and 14.2% respectively, where 4.9% were crippled and 1.4% of them were bed bound. Increasing BMI was associated with chronic LBP ($p=0.02$) but not with disability status ($p=0.45$). Waist circumference had positive correlation with OLBPQ score ($p=0.493$). Increasing age was found associated with worsening of disability status ($p=0.016$). Though squatting posture was associated with suffering from LBP ($p=0.024$), sitting without back support was associated with higher OLBPQ score ($p=0.04$) and their disability needs to be treated in greater proportion ($p=0.001$). Education about good posture, ergonomic measures and activity pacing can help rural housewives to understand the beneficial preventive measurements against low back pain.

Keywords: Low back pain, disability status, women, functional status

P2

[141]

THE DEVELOPMENT AND VALIDATION OF HEALTHY LIVING PATTERN MOBILE APPLICATION FOR ADOLESCENT

Erfi Prafiantini¹, Fiastuti Witjaksono¹, Aziz Jati Ananda², Roselyne Anggraini², Khalida Fauzia¹, Meirina Khoirunnisa¹, Okky Lupita Sari¹, Thia Juniaty Manik¹, Laga Patriantoro¹, Dyah Saptarini¹, Nora Sutarina³, Muctaruddin Mansyur^{2,3}

¹*Department of Nutrition, Faculty of Medicine Universitas Indonesia, Cipto Mangunkusumo General Hospital, Indonesia*

²*Southeast Asian Ministers of Education Organization Regional Center for Food and Nutrition (SEAMEO RECFON), Universitas Indonesia, Indonesia*

³*Department of Community Medicine, Faculty of Medicine Universitas Indonesia, Indonesia*

ABSTRACT

The access improvement for health services is primarily needed. One of the ways is by software application which usually used by adolescents. The study aims to validate the health-nutrition status mobile application in Depok, West Java, Indonesia. The study was conducted in August-December 2017: preparation and validation phases. The preparation was done by developing the Behy's features; daily food intake record refers to pre-survey result, daily Bouchard physical activity record, nutritional status record, health tips, the location of health and sports facilities, and inbox. Validation of food intake and physical activity record was conducted using 24HR recall. The application was introduced to 152 grade 10th students from three senior high schools in Depok, of which 92% (139 students) filled the data on application and 69% (96 students) agreed to join data validation. In the Behy's application, there were 400 kind of foods and beverages, along with their pictures and nutritional values, that usually consumed by adolescents in Depok. Based on validation analysis result, there are strong correlations on weight ($r=0.970$ ($p<0.001$)) and height feature ($r=0.824$ ($p<0.001$)). There are very weak correlations in food intake feature ($r=0.259$ ($p=0.034$)) as well as physical activity feature ($r=0.183$ ($p=0.116$)) with the validation data. The application has a potential to be developed more because the students had good impression on it and it will be useful tool for future researches.

Keywords: Validation, healthy living, mobile application, adolescents

P3

[142]

**DISCRIMINATORY ATTITUDE TOWARDS HIV/AIDS AMONG PUBLIC
HEALTH CARE PROFESSIONAL IN URBAN MALAYSIA: A DESCRIPTIVE
STUDY**

R.Z. Saguntala and L.P. Wong

*Department of Social and Preventive Medicine, Faculty of Medicine, University of Malaya,
Malaysia*

ABSTRACT

Stigma and discrimination towards HIV/AIDS remain to be a challenge. Particularly stigmatization from health care provider is something to be taken into serious consideration. In addition to distressing the lives of people living with HIV/AIDS, stigma is also causing hurdles to the progress and application of HIV prevention, treatment, care and support programs. This study aimed to identify the discriminatory attitude towards HIV/AIDS from the perspective of professional health care personnel in the urban setting of Malaysia. A cross sectional survey was used to gather data among 370 doctors from tertiary hospital and primary health care facilities in Federal Territory of Kuala Lumpur, Malaysia. Univariate and multiple logistic regression analysis were used to analyse the data. Almost 90% of the participants admitted to have experience of treating or caring HIV patients. Of these, 45.6% revealed to have discriminatory attitude towards people living with HIV. In addition, 76.8% of the doctors disclosed they have not attended any form of updated version of training or courses regarding HIV/AIDS in the past one year. This study findings shows stigma and discrimination still lingers among health care providers in urban Malaysian health care settings. The discriminatory attitude appear to be driven primarily by their beliefs, misconceptions and fear of casual transmission. Hence, stigma reduction interventions are urgently needed to tackle this misconceptions. The application of this study also can be used to improve health seeking behaviour and treatment adherence of the patients as well as provide a better quality of care plus support for the HIV positive individuals.

Keywords: Discriminatory attitude, stigma, HIV/AIDS, health care personnel

P4

[143]

NUTRITIONAL CARE IN HOSPITAL DISCHARGE PLAN: A DISTRICTED HOSPITAL EXPERIENCE

Yu-Ru Lin, Ya-Wen Fan, Yi-Ling Yang, Hsiao-Chun Lin and Chung-Mei Ouyang

Dept. of Dietetics, National Taiwan University Hospital Hsin-Chu Branch, Taiwan

ABSTRACT

Many patients leave hospital in poor nutritional states. Discharge plan is a process used to decide what a patient needs for a smooth move from one level of care to another. Good planning requires anticipation of potential problems by good information gathering, early resolution of potential barriers to discharge, and timely referral to the multidisciplinary team. Dietitian should recommend appropriate individualized nutrition plans and educate caregiver how to prepare foods. This study is to investigate the ratio of patients receiving nutritional consultation in the hospital and what the diet recommendation most patients need. We collected data of in the discharge plan patients (all patients with tube feeding, readmission in 7 days and length of hospitalization ≥ 21 days) from January to December of 2017, containing basic information and the number of discharge planning services, number of nutrition consultations, and post-discharge care patterns. The results showed that the total number of patients received was 1525. The 1034 subjects (67.8%) were requested to consult dietician for diet advice. About 261 subjects (17.1%) transfer to retirement center and the 238 subjects (15.6%) transfer to nursing home. Most diet recommendation for those discharged patients were nutritional assessment, tube-feeding formula adjustment, dysphagia and soft diet instruction and oral dietary supplement etc. It also showed that patients discharged from hospital discharge plan are mostly discharged from hospital for home care. Therefore, discharge nutrition-care are very important for patients to follow nutrition recommendations provided in hospital for maintaining better nutrition status.

Keywords: Hospital discharge plan, nutritional consultation, dietitian

P5

[144]

**EFFECTIVENESS TEST OF DECREASING HEXAVALENT CHROMIUM IN
BATIK LIQUID WASTE USING CHITOSAN OF SHRIMP AND CRAB SHELL AT
LAWEYAN VILLAGE, SURAKARTA**

K.P. Putera¹ , G. Pramudani¹ and A.D.Y. Rahayu¹

*¹Occupational Health and Safety department, Faculty of Medicine, Sebelas Maret University,
Indonesia*

ABSTRACT

Batik industry has been developed in Indonesia. The one of batik industry center is Laweyan village located in the city of Surakarta. This industry produces liquid waste containing toxic heavy metal is chromium. The chitosan is one of the chemical compounds that can be used to decrease the hexavalent chromium (Cr^{6+}) in batik liquid waste. The purpose of the research is to compare the effectiveness between the chitosan from shrimp shell and crab shell to reduce hexavalen chromium (Cr^{6+}) in batik liquid waste. The research uses stratified random sampling method in its retrieval. The chitosan of shrimp shell and crab shell is produced through of the processes of deproteinization, demineralization and deasetilation. This process is obtained the chitosan of shrimp shell and crab shell are 30.63% and 40.30%. In the adsorption, the chitosan as adsorbent is mixed with batik liquid waste, both of crab and shrimp separately. The acidity of solution is adjusted with HCl for pH 4.0 and stirred at 100 rpm for 60 minutes . The research results showed that the efficiency for hexavalen chromium concentration decrease between the chitosan of shrimp shell and crab shell are 64.29% and 80.11%. It can be concluded that the chitosan of crab shell more effectively to reduce the concentration of hexavalen chromium (Cr^{6+}) in batik liquid waste.

Keywords: Batik liquid waste; chromium hexavalent; chitosan

P6

[145]

**CULTIVATING HEALTH SERVICE DELIVERY OF ETHIOPIA'S PRIMARY
HEALTH CARE THROUGH LEADERSHIP, MANAGEMENT AND GOVERNANCE
(LMG)**

M.S. Abdulkader

USAID Transform: Primary Health Care Project, Ethiopia

ABSTRACT

Ethiopia's indigenous Transform: Primary Health Care (PHC) is a USAID funded project. Its interventions have designed to support the government Health Sector Transformation Plan (HSTP) and applied in the four big regions of the country i.e. Amhara, Oromia, SNNP and Tigray, by stretching its support in more than 10 thematic areas. LMG is one of its thematic focused area and striving to create transformational leaders at the PHC level. LMG capacity enhancement aimed to improve the health system performance by improving the work environment and designing responsive health systems. USAID Transform: Primary Health Care project has taken LMG trainings using the standard manual developed by Ethiopia's FMOH. It has a tailored approach based on the PHC's tier and performances: for high performing Districts/Woredas (LMG block course, LMG projects and coaching) and for mid & low performing Districts/Woredas (LMG divided courses [W/shop I & W/shop II], LMG projects and coaching). In six months period, the project has reached 20 districts and trained & coached 489 PHC managers and workers. Accordingly, 140 PHC initiative LMG projects have designed in the areas of health quality improvement e.g. Applying the Ethiopian Health Center/Hospital Reform Standard Guideline; creating model kebeles; increasing skilled birth attendant; reducing patient waiting time; and establishing a standard surgical operation room etc. In general, once PHC managers and health workers have skilled in L+M+G and applied its thirteen practices to overcome their PHC challenges, it could ensure a health system strengthening and leads to quality health service delivery.

EFFECTIVENESS OF TOBACCO CONTROL MEASURES AT PUBLIC AND PRIVATE UNIVERSITY CAMPUSES IN BANGLADESH

M.G.U. Ahsan ^{1,2} and K. Leena^{1,2}

¹*Department of Public Health, North South University, Bangladesh*

²*North South Global Health Institute, North South University, Bangladesh*

ABSTRACT

Background: In compliance with Article 21 of the WHO FCTC, the Government of Bangladesh is committed to protecting their youth from the ill effects of tobacco on health. Smoking is completely prohibited in universities consistent with FCTC Article 81. But, in reality, due to lack of awareness and monitoring, implementation and compliance with the Act are not universal across the “Public Places” including Universities. Some Universities have their own more restrictive smoke-free policy that is monitored by the University proctor to determine whether students, faculty and staff are complying. Given this situation, there is a need for a better understanding of the level of compliance with smoke-free rules and regulations at public and private Universities in Bangladesh. **Objectives:** To understand the level of effectiveness of tobacco control rules and regulations and associated anti-tobacco activities among students, faculty and staff on public and private Universities in Bangladesh. **Methods:** This a comparative cross-sectional study followed by a mixed method approach. Two public and two private Universities were selected purposively from Dhaka for this study. Among the four Universities, two have their own Tobacco Control Policy in addition to the existing Tobacco Control Law of the Bangladesh Government; and, the other two follow only the Government Law. A total of representative 800 (200 from each university) eligible graduate students were selected systematically for face-to-face interview using pretested structure questionnaire. Besides, 16 key informants included Faculties and Admin Personnel were interviewed. Appropriate statistical analyses were conducted to examine the differences or associations of predictors with outcome variables. Qualitative information was synthesized to have an in-depth understanding of the issue. **Results:** Among the respondents, 43.4% students were used tobacco where 42.9% were smokers. Among users, 45.8% were from Public and 40.0% from Private universities. Irrespective of university categories, 23.6% female students were smoker. About 36.4% had personal income and similar proportion resided with parents. Majority (57.7% vs. 58.0%) of students from private and from public University were found aware about the tobacco control Act and punishable offence as well. Respondents seen any notice of prohibition regarding smoking or tobacco use in their University campus were significantly ($p<0.001$) differ between public and private (49.5% vs. 69.9%). However, 86.3% and 78.0% students from public and private respectively, ever smoked in their campus. More than one-thirds (37.6%) students from public university ever been fined/ punished for smoking in the campus as compared to their counterparts (private-16.2%) and the difference was statistically significant ($p<0.001$). Any advertisement or promotional activities seen in the campus were significantly ($p<0.001$) varied among public and private universities (59.5% vs. 78.5%). The key informants opined that Universities don’t have their mandatory tobacco control policies independently and not monitored properly in terms of its implementation. **Conclusion:** The study results revealed that a good proportion of students still not aware about the tobacco control policy in the campus.

However, majority of the students have seen in any form of notice regarding smoking prohibition but they smoked in the campus. On the other hand, majority of them reported that they have seen tobacco advertisement and/or promotional activities in the campus. There should be mandatory policy in all universities and strengthened of monitoring system. Tobacco control initiative should be strengthening in the Universities through enforcement of related rules and regulations including arrangement of awareness program in the campus. Furthermore, steps should be taken to design of future Behavior Change Communication Strategies and Youth-Friendly Tobacco Prevention Programs.

Keywords: Tobacco, policy, university

EFFECT OF EXTRACT NONI FRUIT (*Morinda citrifolia* L.) ON LIVER DAMAGE HISTOPATHOLOGY OF WHITE MALE RATS

D.Y. Lestari¹ and N.R. Alifany¹

¹*Department of Pathology, Faculty of Medicine, Muhammadiyah Malang University,
Indonesia*

ABSTRACT

Background. Alcohol is one of the chemical substance that is in charge of hepatocyte destruction, which can be seen by the amount of hepatocyte swelling. Noni fruit extract contains proxeronine, vitamin A, ascorbic acid, riboflavin and scopoletin that works as antioxidant.

Objective. Determining the effect of Noni fruit (*Morinda citrifolia* L.) extract towards the amount of hepatocyte swelling in alcohol-induced male white rat.

Method. True experimental with post test only control group design. Sample was divided into 4 groups, all of them were given 2 ml/200grBW of alcohol, while group 1, 2 and 3 were given Noni fruit extract of 22.4, 44.8 and 89.6 (ml/200grBW) respectively for 28 days. Data was analyzed using Kruskal-Wallis, Post Hoc Mann-Whitney test and linear regression test.

Result. Kruskal-Wallis resulted in signification of 0.001, implying the existence of the effect of Noni fruit extract towards the reduction of hepatocyte swelling ($p < 0.05$). Post-Hoc test showed that there were significant difference ($p < 0.05$) between control group and treatment group 2 and 3. Linier regression test resulted in $R^2 = 0,818$ which showed that Noni fruit extract (*Morinda citrifolia* L.) had 81.8% influence towards the reduction of hepatocyte swelling because of its contents: proxeronine, vitamin A, ascorbic acid, riboflavin and scopoletin.

Conclusion. Noni fruit extract administration could suppress the amount of hepatocyte swelling in alcohol-induced male white rat.

Keywords: Hepatocyte swelling, cheese fruit extract, proxeronine, antioxidant

P9

[148]

**FACTORS WHICH DETERMINES THE SEVERITY OF FLUID LEAKAGE IN
DENGUE HEMORRHAGIC FEVER PATIENTS: AN ANALYSIS DONE IN A
MEDICAL WARD IN SRI LANKA**

A.K.D. Nadeeshani¹, P.M. Mendis¹, I.S Almeida² and N. Sritharan³

¹*General Medical Unit, DGH Negombo, Sri Lanka*

²*General Paediatric Unit, DGH Negombo, Sri Lanka*

³*DGH Negombo, Sri Lanka*

ABSTRACT

Dengue continues to be a major mosquito-borne disease of serious public health concern and Dengue haemorrhagic fever (DHF) which is the most severe form is a leading cause of hospitalization and mortality in Sri Lanka. This study sought to elucidate the factors which decides the severity of the amount of fluid leakage in DHF such as sex, age, day of admittance to a hospital, day of leakage, past history of dengue fever, allergic history, 2^{ry} infections during illness. A retrospective cohort study was conducted with 80 DHF patients who are admitted to a general medical ward in General Hospital, Negombo, Sri Lanka from March to August 2017. Clinical data was obtained from each patient's clinical records. P values less than 0.05 were considered statistically significant. 80 patients (male: female: 57:23) with a mean age of 36 years (SD \pm 14.4, range 14-69) were evaluated. 17 patients (21.5%) had co-morbidities (Hypertension 2.5%, Diabetes 2.5%, Bronchial Asthma 5%, others 2%, Multiple 6%). No significant associations were found between severity of DHF with sex, age, co-morbidities, gender, allergies, secondary infections, fever day of leakage, past history of DF/DHF ($P > 0.05$). At the end of the study no significant factors were found that can determine the severity of DHF. Further studies are required to assess more factors that can lead to more fluid leakage in DHF.

Keywords: Dengue fever, dengue haemorrhagic fever, Sri Lanka

P10

[149]

HEALTH CARE FINANCING: A CASE FOR HEALTH INSURANCE

S. Bhuyan

*Girijananda Chowdhury Institute of Management and Technology, India***ABSTRACT**

The health of the people is very important for any country like developed or developing but state has shown a very little concern for such a important component of total productivity of the workers in both organized and unorganized sector of the country. Available literature suggests that very few studies are conducted to see the pattern of expenditure of the workers in both formal and informal sector with respect to health care and their attitude towards it. The present study intends to study the pattern of utilization of health care facilities and attitudes towards health care by the workers in both the organized and unorganized sector and suggest some policy implications that can be utilized by the government to make health a universal right. Based on both primary and secondary sources of data, we have done cross tabulation and Probit and Tobit analysis to show the importance of health care expenditure and thereby evaluating the willingness to pay of the workers towards health care. Findings suggest that health care expenditure is a very important component of the total expenditure and therefore state needs to revise its role to provide the health care facilities at a subsidized rate or free of cost and one of the way is to provide health insurance for all.

Keywords: Health care, health insurance, Probit Model, Tobit Model willingness to pay

P11

[150]

EFFECT OF NEMATODE DRIVED PEPTIDE ON ACTIVATION OF COLLAGEN SYNTHESIS AND SKIN WOUND HEALING

M.K. Park, H. Kim, S.A. Kang, J.H. Choi , D.I. Lee, S.H. Park and H.S. Yu

Department of Parasitology, School of Medicine, Pusan National University, South Korea

ABSTRACT

Collagen is a major matrix protein that constructs skin and bone, and it is known to be involved mainly in the strength and cohesion of skin, cell maintenance, and the induction of cell differentiation. Such collagen proteins have been studied as cosmetic or pharmaceutical products for use in skin regeneration, improvement of skin wrinkle, and prevention of cell senescence. It is known that *Trichinella spiralis*, which is parasitic to animals including humans, induces a large amount of collagen from the host to form nurse cell. We examined the protein secreted by *T. spiralis*, which regulates the collagen synthesis of the host cell, and then cloned that protein. Moreover we confirmed the effect of the recombinant protein on skin. An effective peptide TS 15-1c, which promotes collagen synthesis, was identified by immuno-screening method. The expression of genes related to collagen synthesis was confirmed by treating on mouse embryonic fibroblast cells. In order to confirm the skin regeneration effect of TS 15-1c, the ear of C57BL/6 mice was irradiated with UV light, and treated with TS 15-1c peptide. Changes of collagen synthesis and histopathological features in the ear tissues were confirmed by Sirius red collagen staining and H&E staining. When TS 15-1c was treated, the expression of type 1 collagen in mouse embryonic fibroblast cells was increased and the expression of TGF- β and p-Smad2/3, genes related to collagen synthesis, was increased. In addition, when staining results were confirmed, collagen synthesis in the ear tissues of TS 15-1c peptide-treated mouse was increased and the wound quickly healed. We confirmed that artificially induced ear wounds were healed quickly after treatment with TS 15-1c, and this results is suggesting that up-regulation of type 1 collagen synthesis may be connected with this process. Based on our study, TS 15-1c peptide could be developed as a substance that helps anti-oxidation, tissue regeneration, and improvement of wrinkle.

Keywords: Parasite, Collagen synthesis, Peptide, TGF- β signal pathway

P12

[151]

LOW BACK PAIN AMONG NURSES IN PUBLIC HOSPITALS: A VALIDATION STUDY OF BACKS TOOL

W.M.W.N. Arifin ¹, Z.I. Uzair ², S.M. Nazri ³ and I.M. Ismail ³

¹ *Biostatistic and Research Methodology Unit, School of Medical Sciences, USM, Malaysia*

² *Penang Health State Department, Malaysia*

³ *Department of Community Medicine, School of Medical Sciences, USM, Malaysia*

ABSTRACT

Background: BACKS refer to Back Apparatus developed by a strong collaboration between experts in National University of Malaysia and Social Security Organization. The tool was developed in a Malay-language aimed to assess work-related chronic low back pain in Malaysia. **Objective:** This study provided internal structure evidence of construct validity of BACKS Tool among nurses. **Methods:** A cross-sectional study involving 1290 nurses in six public hospitals in Penang, Malaysia was conducted. Job demands sub-scale consists of two factors namely Physical Demand (5 items) and Psychological Demand (9 items). The data was analyzed by confirmatory factor analysis. **Results:** The analysis showed two- and one-factor models fit the data equally good (CFI and TLI>0.9, RMSEA<0.08, SRMR<0.08) with good composite reliability. However, the two-factor model showed poor discrimination between the Physical Demand and Psychological Demand factors ($r=0.944$). **Conclusion:** Although the discrimination could be justified based on the content of the items, it is recommended to consider combining the factors into a single factor in future studies.

Keywords: BACKS Tool, confirmatory factor analysis, internal structure, public hospital nurses, validity

P13

[152]

POST-DISCHARGE SUPPORT FOR PERSONS WITH MENTAL ILLNESS: A NURSING RESEARCH REVIEW

J. Shimasawa¹, M. Osawa², M. Ueno³, Y. Shimizu¹ and Y. Kubo¹

¹ *The Jikei University, Chohu, Japan*

² *Gunma Prefectural College of Health Science, Maebashi, Japan*

³ *Shonan Medical University, Japan*

ABSTRACT

Background and objective: In Japan, in terms of support immediately after hospital discharge and until patients become accustomed to life in the community, nursing support has yet to be fully developed.

In the present study, we organized outcomes of nursing support research conducted within the past 5 years that examined the period between immediately after discharge from the psychiatric ward and accustomization to life in the community. Ultimately, we aimed to identify challenges related to support.

Methods: Using the web version of Igaku Chuo Zasshi (Ichushi-Web) as our database, we conducted a literature search using the keywords “persons with mental illness”, “hospital discharge”, and “nursing support” for the category “original articles” published within the past 5 years. We then identified articles for analysis based on the following criteria: whether the article was a nursing study about hospital discharge in persons with mental illness; whether its content was suitable; and whether support methods were described in detail. As a result, six articles were selected for analysis.

Results: All studies adopted a qualitative descriptive study design. Two studies examined support for community service use after hospital discharge for persons with severe mental illness, four examined discharge and post-discharge support for patients following long-term hospitalization. Studies on post-discharge support described the implementation of services used and utilization of peer support; they did not illustrate details of support for disease states or day-to-day living.

Conclusions: Further work is necessary to devise tangible methods for providing intensive support for disease state stabilization and living skills, which are thought to be required immediately after hospital discharge.

Keywords: Persons with mental illness, nursing care, Post-discharge support

P14

[153]

**EFFECT OF VITAMIN D STATUS ASSOCIATED WITH AGE AND OBESITY AS
RISK FACTORS OF VITAMIN D DEFICIENCY**R.V. Suryadinata^{1,2}, B. Wirjatmadi³, M.Adriani³ and S. Sumarmi³*¹Doctoral Candidate, Faculty of Public Health, Airlangga University, Surabaya, Indonesia**²Departement of Public Health, Faculty of Medicine, Surabaya University (UBAYA),
Indonesia**³Faculty of Public Health, Airlangga University, Indonesia***ABSTRACT**

Vitamin D status can provide general information of vitamin D levels at certain population in the community. Aging and weight gain were believed to increase the risk of vitamin D deficiency. Thus, aim of this study is to determine the effect of aging and obesity to the vitamin D status. Case Control study was performed by giving questionnaire about vitamin D status to 72 people including adult and the elderly at Puskemas Taman, Sidoarjo, East Java. Samples were selected using the purposive sampling method. Validity and reliability of the questioner has been tested prior the experiment. Obese and non-obese groups were divided based on Body Mass Index of each individual. The results showed that aging lowering vitamin D status in obese and non-obese groups, Chi-square $p = 0.001$ and $p = 0.000$, respectively. Further, obesity decreased the vitamin D status in the adult group (Chi-square, $p = 0.000$) and geriatric group (Chi-square, $p = 0.026$). Conclusions, aging and obesity increase the risk of vitamin D deficiency. Further, obese elderly group might have a high risk of low vitamin D status.

Keywords: Obesity, adult, geriatric, Vitamin D

P15

[154]

HEALTH-RELATED QUALITY OF LIFE AND MENTAL HEALTH OUTCOMES OF DRUG DEPENDENTS UNDERGOING INABAH PROGRAMME IN MALAYSIA

P.L. Lua¹, A.N.N. Afiqah², M.A. Manam³, H. Azmi⁴, M. Mokhairi⁵ and A.J. Julaily⁵

¹*Faculty of Pharmacy, Universiti Sultan ZainalAbidin (UniSZA), Kampus Besut, Malaysia*

²*Faculty of Health Sciences, Universiti Sultan ZainalAbidin (UniSZA),Kampus Gong Badak, Malaysia*

³*Faculty of General Studies and Advanced Education, Universiti Sultan ZainalAbidin (UniSZA), Kampus Gong Badak, Malaysia*

⁴*Institute for Community (Health) Department (iCODE), Universiti Sultan ZainalAbidin (UniSZA), Kampus Gong Badak, Malaysia*

⁵*Faculty of Informatics and Computing, Universiti Sultan ZainalAbidin (UniSZA), Kampus Besut, Malaysia*

ABSTRACT

Health-related quality of life (HRQoL) and mental health are critical issues for drug dependents in recovery process. The Inabah programme aims to provide a religion-based intervention with Islamic faith and ritual emphasis to improve these components. Our study attempts to examine HRQoL and mental health outcomes of Inabah among substance dependents. A convenience sample of 57 Malay Muslim participants in Malaysia was recruited in this prospective pre- and post - intervention study. Mental health was measured via Hospital Anxiety and Depression Scale (higher score = greater psychological problem) and for HRQoL, the WHO Quality of Life-BREF instrument was utilised (higher score = better profile). Included participants had to be ≥ 18 years, newly-registered and cognitively capable of completing the entire study. Those displaying symptoms of mental disorder and unacceptable behaviours were excluded. Descriptive statistics Wilcoxon signed-rank test and Cohen's *d* were applied (SPSS 23.0). Eligible participants were recruited from three Inabah centres in Terengganu, Kelantan and Kedah during pre-intervention (onset age of addiction = 19.5 ± 6.0 years; residency duration = $126.1 \text{ days} \pm 76.8$; single = 73.3 %; self-employed = 47.4%). Only 40 participants completed the post-intervention phase (drop-out = 17). Majority of the domains have improved, with significant over - time changes and small effect sizes in *Overall HRQoL* ($d = 0.45$) and *Anxiety* ($d = 0.32$). This programme had positively impacted upon general HRQoL and anxiety, indicating its effectiveness in tackling these vital components. Consequently, its utility in rehabilitating drug dependents is highly promising.

CAN INABAH DRUG REHABILITATION PROGRAMME IMPROVE RELIGIOSITY AND CLINICAL SYMPTOM PROFILES?

P.L. Lua¹, A.N.N. Afiqah², M.A. Manam³, H. Azmi⁴, M. Mokhairi⁵ and A.J. Julaily⁵

¹*Faculty of Pharmacy, Universiti Sultan ZainalAbidin (UniSZA), Kampus Besut, Malaysia*

²*Faculty of Health Sciences, Universiti Sultan ZainalAbidin (UniSZA),Kampus Gong Badak, Malaysia*

³*Faculty of General Studies and Advanced Education, Universiti Sultan ZainalAbidin (UniSZA), Kampus Gong Badak, Malaysia*

⁴*Institute for Community (Health) Department (iCODE), Universiti Sultan ZainalAbidin (UniSZA), Kampus Gong Badak, Malaysia*

⁵*Faculty of Informatics and Computing, Universiti Sultan ZainalAbidin (UniSZA), Kampus Besut, Malaysia*

ABSTRACT

For drug addicts, it is also essential to ensure good religiosity for positive well-being and self-development, in addition to improvements of clinical symptoms. In the Inabah drug rehabilitation module, strong Islamic principles and rituals are embedded for this purpose. This study intended to explore religiosity, withdrawal and craving outcomes of this programme among drug addicts in recovery in Malaysia. A prospective pre- and post-intervention study was conducted, selecting participants of ≥ 18 years, newly-registered and have cleared initial detoxification process. The Psychological Measure of Islamic Religiousness (PMIR) was administered to measure religious faith and commitment (higher score = better religiosity). Clinical symptoms were assessed using Withdrawal Symptoms List (higher score = higher frequency) and Brief Substance Craving Scales (higher score = higher craving). Descriptive statistics, Wilcoxon Signed-rank test and Cohen's d were employed in data analysis (SPSS 23.0). Fifty-seven male Muslims participated from three Inabah centres in Kelantan, Terengganu and Kedah (age = 28.4 ± 6.9 years; residency duration < 4 months = 61.0 %; SPM / Cambridge O-Level = 45.8%). Of the 40 participants who completed post-intervention (70.2 % response rate), significant changes with moderate effect size in craving was demonstrated ($p < 0.05$; $d = 0.52$). Religiosity profile remained almost unaltered while withdrawal symptoms were reduced, but these were statistically insignificant. Craving reduction was encouraging and could be the positive implications from Inabah programme. Lack of changes in religiosity required further exploration and a longer follow-up period. More comprehensive studies are clearly warranted.

Keywords: Religiosity, withdrawal symptoms, craving, Inabah programme, drug addiction

P17

[156]

**DISINFECTION AND STERILIZATION OF MEDICAL EQUIPMENTS: A
MULTIMODAL CAPACITY BUILDING INITIATIVE FOR ENSURING PATIENT
SAFETY**

M.E.H. Tamal¹, N.K.A. Siddiquee¹, S.M.N. Mowla¹, M.N.H. Alam¹, M.S.A. Sarker¹ and L.
Ara¹

¹The International Centre for Diarrhoeal Disease Research, Bangladesh

ABSTRACT

Proper disinfection and sterilization of medical equipments is crucial in preventing health care associated infection (HAIs). The study aimed to assess the role of a multimodal intervention (MMI) in enhancing healthcare workers' (HCWs) competency to proper disinfection and sterilization of reusable medical equipments in Bangladesh. A pre-post quasi-experimental study was carried out in five hospitals (2 government, 1 autonomous, and 2 private hospitals) from 2012 to 2017 and a MMI for 6 months was provided to 654 participants. MMI included (i) class room and hands-on training, (ii) posters as reminders, (iii) assessment and feedback to the HCWs and (iv) development of internal committee for infection control. Following intervention, compliance to standard method of disinfection of instruments by 10% NaOCl (sodium hypochlorite), cleaning of instruments, drying of instrument, packaging instruments before autoclaving and avoid overloading of autoclave increased significantly ($p<0.01$) by 53%, 68%, 34.3%, 93.4% and 54.1% respectively; while compliance in documentation, that is labeling of pouches and record keeping improved ($p<0.01$) by 61.3% and 74% respectively. This intervention also leads to an increase in hand hygiene compliance from 1.7% to 63.5% ($p<0.01$), use of gloves from 1.7% to 59.7% ($p<0.01$) and cleanliness of autoclave room from 29.8% to 84% ($p<0.01$). Study findings illustrate that capacity building initiatives by a MMI can play a vital role in proper disinfection and sterilization of reusable equipments in resource poor countries as well as helps in promoting quality and safety for better health care management.

Keywords: Disinfection, sterilization, medical equipments, safety

P18

[157]

**RECOGNIZING PEOPLE AFFECTED BY LEPROSY IN HEALTH COMMUNITY
BY REDUCING SIGMA THOUGH RIGHT-BASED COUNSELING MODEL**

M.M. Lusli

*Faculty of Atma Jaya University, Indonesia***ABSTRACT**

Everyone has rights to health care, but does everyone has it? It cannot build a health community if there is still one person left behind who cannot access health care!

In ensuring healthy lives, people need knowledge and rights awareness. Moreover people should have confidence, think positive and feel free from stigma. Stigma such labeling, prejudice, isolation, stereotype can make people lose their quality health care. Particularly stigmatizing diseases which are leprosy, TB, HIV-aids etc including disability, people affected by leprosy for instance almost for their life, they live with stigma. Even the health worker have given a medical statement saying that they have been cure, they never trust, they stigmatize themselves as a sickness person. The quality health care for stigmatized people are still far. People affected by leprosy are afraid of community stigma such gossiping that make them not to go to the health center for taking medicine. People with disabilities when they are ill, they are worry going to the health center because of stigma such discrimination.

The quality health care is for all, it is the most important factors for healthy life. To achieve this, stigma should be reduced, and referring to the research on stigma assessment reduction of impact (Cirebon-Indonesia 2010-2014), a rights-based counseling model is one promising intervention to reduce stigma toward health community.

P19

[158]

**ANALYSIS OF PERCEPTION DIFFERENCES OF PATIENT SATISFACTION
WITH CATASTROPHIC DISEASE ON HOSPITAL SERVICE BEFORE AND
AFTER BPJS**

M.Wartiningih^{1,2}, S. Supriyanto³, D. Chalidyanto³ and H.T. Silitonga²

¹Faculty of Public Health, Universitas Airlangga Surabaya, Indonesia

*²Departement of Public Health & Humaniora, Medical Faculty of Universitas Ciputra,
Surabaya, Indonesia*

³Faculty of Public Health, Universitas Airlangga Surabaya, Indonesia

ABSTRACT

BPJS Kesehatan is a public legal entity that organizes a health insurance program for all Indonesians starting 2014. The purpose of this study is to analyze whether there are differences in customer satisfaction based on Parasuraman theory, before and after BPJS implementation in the field of health services in Surabaya. This research used cross sectional observational method. The sample was selected by purposive random sampling of 92 respondents. With one of the inclusion criteria of patients with catastrophic disease. The data were collected with validated and reliable questionnaires based on the gap value differences between performance and expectations. There is a difference between before and after the implementation of bpjs ($p = 0.000$). But there is no correlation between satisfaction of respondent before and after BPJS ($r = 0.41$). Conclusion: There is a change of respondent's satisfaction to BPJS program. But uncorrelated. This is due to various factors that affect the overall satisfaction of respondents.

Keywords: Customer satisfaction, BPJS, catastrophic disease

P20

[159]

**THE INFLUENCE OF QUALITY OF HEALTH SERVICE TO PATIENT
SATISFACTION LEVEL OF INPATIENT IN MUNA HOSPITAL BASED ON
SERVQUAL DIMENSION**

F.E.B. Setyawan, S. Supriyanto, F. Tunjungsari and W.O.N. Hanifaty

*Doctoral Program of Health Sciences, Faculty of Public Health Airlangga University,
Indonesia*

ABSTRACT

In essence, there are three important things in health services: first, access to health facility (accessibility), second is quality of health service (quality) and such as financing (cost). Quality of health services is one factor that can affect the level of patient satisfaction. Patient satisfaction is the first indicator of hospital and development standards. The research design was an observational analytic study with cross sectional study design. The sample was 314 inpatients, determined by simple random sampling. Indicators use SERVQUAL dimensions and community satisfaction index. Data analysis using linear regression test. On all dimensions SERVQUAL shows high enough category (3.41-4.16), Highest value in real dimension. In the analysis of patient satisfaction level obtained results that most (59.55%) quite quite satisfied. The linear regression model shows the result of 93.9% with equation $Y = 0,026 + 0,226X_1 + 0,332X_2 + 0,1X_3 + 0,075X_4 + 0,235X_5$. Quality of health services can be used with SERVQUAL (Reliability, Guarantee, Tangible, Emphaty, Responsiveness) while the index of patient satisfaction with IKM from Kemenpan RI. Patient satisfaction is in in Muna Hospital by the quality services, medical personnel where all SERVQUAL dimensions have become the only ones that distinguish the linear regression formula.

keywords: Quality, medical doctor, satisfaction, inpatient

P21

[160]

**EFFECT OF *Morinda citrifolia* EXTRACT ON CYTOKINE IL - 4 AND IL - 10 IN
WHITE RATS WISTAR STRAIN INDUCED PIRAZINAMIDE, LEVOFLOXACIN
AND ETAMBUTOL**

T.D.N. Subchi

University of Muhammadiyah Malang, Indonesia

ABSTRACT

Second Line Drugs TB is a drug for MDR TB that causes many adverse effects. The adverse effects increase when they disturb normal cells involving immune and inflammatory responses. The inflammatory process protects host from the offending agent, but on the other side, it also damage to the host cells. One of inflammatory mediators is cytokines. *Morinda citrifolia* is one of the plants that has benefits and high nutritional value for health and has anti-inflammatory effect. In this research we want to know the effects of *Morinda citrifolia* extract and cytokine expression of IL-4 and IL-10. This study was conducted on rats wistar strains mice induced by Pyrazinamide, Ethambutol and Levofloxacin drugs and induced several doses of *Morinda citrifolia* extract. The results of this study showed the effects of *Morinda citrifolia* extract on the expression of IL-4 and IL-10 cytokines

Keywords : *Morinda citrifolia* extract, IL-4, IL-10

P22

[161]

**THE INVISIBLE POPULATION –INFECTIOUS DISEASES AND RURAL
LIVELIHOOD IN DEVELOPING COUNTRIES**

F.A. Mphande-Nyasulu

*TIA Bio-Consulting, Malawi****ABSTRACT***

Rural populations (RPs) are one of the most invisible groups in many countries around the world. As of 2012, approximately 47 % (3.365 Billion) of the world population lived in rural areas with low income countries having the highest population. Rural populations endure poverty, poor healthcare, conflict, and diseases. This paper explores the public health challenges affecting RPs in developing countries, and how poverty, health and livelihood contribute to primary healthcare. Case studies from literature were collected, and an in depth analysis on the challenges affecting RPs was carried out. Our findings show recurring challenges which maybe be attributed to social, economical, and human factors. With poor health affecting livelihoods and loss of livelihoods contributing to poverty this further affects health systems and primary healthcare. As long as RPs remain invisible, these populations will continue to suffer the effects of poor healthcare, and poverty; which will further influence their livelihoods.

Keywords: Rural populations, communicable diseases, poverty, health, livelihood, primary healthcare

P23

[162]

IMPLEMENTATION OF “GERAKAN DESA/KELURAHAN SEHAT DAN CERDAS (GDSC)” PROGRAM TO ACCELERATE VILLAGE DEVELOPMENT

(STUDY ON SANITARY PARAMETERS ODF AND NON ODF IN POMAHAN HAMLET, POMAHAN VILLAGE, BAURENO SUB-DISTRICT, BOJONEGORO DISTRICT, EAST JAVA PROVINCE)

A.N. Chabibah

Faculty of Public Health, Airlangga University, Indonesia

ABSTRACT

In 2014, the Government of Bojonegoro District regent a regulation number 47 about the development acceleration program in the villages and subdistrict in Bojonegoro District, East Java, Indonesia. This program called "Gerakan Desa/kelurahan Sehat dan Cerdas (GDSC)" which includes 8 indicators of healthy parameters and 11 indicators of intelligent parameters, one of the healthy parameters is ODF and non ODF sanitation. This research method is descriptive quantitative and the research design is cross-sectional study. Data collected by interview, survey, observation, and documentation. 167 data of respondent in Pomahan Hamlet, Pomahan Village, Baureno Sub-district, Bojonegoro District, East Java Province was collected in July 2017 with simple random sampling method. Theoretical analysis using the Decree of the Minister of Health of the Republic of Indonesia Number 829 in 1999 on Housing Health Requirements, healthy home education facilities that including clean water, healthy latrines, and waste management. The result of the study shows that 84% of people use well water as a source of clean water and 66% use refill water as a source of drinking water, the number of people with latrines is 92% and all of them are ODF, while 90% people still burns waste because there is no integrated garbage disposal facilities from the village.

Keywords: Sanitation, health, village

P24

[163]

SEX EDUCATION IN DIGITAL AGE: INCREASING SELF AWARENESS AMONG TEENAGERS THROUGH A COLLABORATIVE APPROACHN.Y.K. Surya ¹, N.P.A. Harjana ¹ and I.M.A. Wirawan ¹*¹ School of Public Health, Faculty of Medicine, Udayana University, Indonesia***ABSTRACT**

The increasing incidence of sexually transmitted infections among teenagers in Bali indicates that the awareness regarding risk factors of the diseases remains low. Nowadays, digital technology has widely used in daily life. Therefore, use of digital technology as a media to raise the awareness regarding sexually transmitted infection and to promote sex education has a good potential. The purpose of this study was to describe the sex education model through a collaborative approach to increase self-awareness among teenagers regarding sexually transmitted infections. This was a descriptive cross-sectional study involving 500 teenagers in Bali Province and comprising 4 youth organizations which promotes sex education among teenagers. The result shows that most (96,2%) of the teenagers agreed and were willing to involve in social media campaigns regarding sexually transmitted infections. Providing interactive and attractive sex education for teenagers is important to raise their awareness. Collaborate with local organization to provide better access of sex education is one of the best way. In conclusion, use of social media and collaborative approach involving both youth organizations and teenagers have good potential to promote sex education. Some issues that need to be noticed that there is still a stigma in the local community which believe sex education is still a taboo and should not be introduced to the teenagers.

Keywords: Sexually transmitted infection, teenagers, sex education, collaborative approach

P25

[164]

ASTHMA PHARMACEUTICAL CARE SERVICE TO PROMOTE PATIENTS' SAFETY: SELF-ASSESSMENT FROM THE INDONESIAN PHARMACISTS

A. Widayati and P.D. Christasani

Department of Social, Behavioural and Administrative Pharmacy (SBA), Faculty of Pharmacy, Universitas Sanata Dharma, Indonesia

ABSTRACT

This research aims to assess service on asthma care delivered by pharmacists through self-assessment questionnaire. This study was part of a bigger project evaluating asthma care service delivered by pharmacists in Yogyakarta Indonesia. An invitation letter requesting for participation was sent to 103 targeted pharmacists who work at hospitals, primary health centre, and pharmacy. Data were gathered using a self-administered questionnaire which contains 27 self-assessment questions evaluating pharmacists' service provided to their asthma patients, which were structured based on the national guideline of asthma from the Indonesia Ministry of Health. Participants were asked to self-reporting their activities on asthma services using scores: 0 for no activity, 2 for seldom, 4 for often, 6 for always. Data were analysed descriptively. Response rate was 92.2% (95 participants of 103 invitations). Five of the 95 participants did not answers the self-assessment questionnaire completely, resulted in 90 data set for analysis. About 42% of all participants were community pharmacists, 18% were hospital pharmacists, 10% were primary health pharmacists, and 30% did not mention. The highest to the lowest of score means of self-reporting pharmacist' activities related to asthma care are as follows: Providing good communication with asthma patients (score mean: 3.4); Conducting prescription assessment (3.3); Delivering asthma medication information (3.0); Attending a continuing education on asthma (2.8); Monitoring asthma therapy (2.3); Delivering information on asthma disease (2.2); Gathering information on asthma patient's history (2.0); Documenting the process (1.7); Providing information on side effects (0.6). Pharmaceutical care intervention should be reformulated to improve patient's safety.

Keywords: Asthma, pharmaceutical care, Indonesia

P26

[165]

**ENHANCE CLEANLINESS, EXCEL IN HEALTHCARE: A CAPACITY BUILDING
INITIATIVE IN BANGLADESH**

F. Hossain¹, M.E.H. Tamal¹, N.K.A. Siddiquee¹, S.M.N.Mowla¹, M.N H. Alam¹, M.S.A.
Sarker¹ and L. Ara¹

¹ *International Centre for Diarrhoeal Disease Research, Bangladesh*

ABSTRACT

Despite adopting several strategies and guidelines, the spread of healthcare associated infections (HAIs) remains a global public health care concern and hospital environment plays a vital role in prevention of HAIs and improving quality of health care. This study aimed to build capacity among hospital cleaning staff by a multimodal intervention (MMI) and improve hospital environment cleaning in Bangladesh. A pre-post quasi experimental study with MMI for 6 months was conducted across the five study settings (2 government, 1 autonomous, and 2 private hospitals) from 2012 to 2017 and a total 225 cleaning staff were included in the study. MMI included (i) class room and practical training (ii) posters, (iii) observation and feedback and (iv) establishment of infection control committee. After the intervention, noteworthy improvements were observed in hospital environment cleaning and housekeeping. Rate of compliance to floor cleaning significantly improved from 29.5% to 85.7% while use of disinfectant during floor cleaning increased from 72.0% to 97.1%. In addition, compliance to patient bed side cleaning, de-dusting and toilet cleaning remarkably increased from 25.3% to 77.8%, 16.4% to 77.8% and 14.9% to 65.8% respectively. Study results denote that proper education and training combined with MMI is effective in increasing efficiency of cleaning staff in hospital environment cleaning and housekeeping, which will ultimately help in promoting healthy community.

Keywords: Hospital environment, cleaning, housekeeping, education

P27

[166]

BREAST FEEDING AMONG WORKING MOTHERS AT TAYLOR'S UNIVERSITY, MALAYSIA

J.A. Andoy-Galvan

School of Medicine, Taylor's University, Lakeside Campus, Selangor, Malaysia

ABSTRACT

Objectives: Research shows that the most common reason for discontinuing breastfeeding was the return to work of mothers. The purpose of this study is to investigate the breastfeeding rate among mothers working at Taylor's University, Malaysia and correlate with the existing workplace design.

Methodology: A cross-sectional study involving 61 mothers with 112 babies was done by self-administered questionnaire distributed within campus. Babies born before employment at the current workplace were used as a control.

Results: Majority (60%) of the mothers breastfed their babies for more than 6 months. The mean age of breastfeeding is at 10 months with a range from 0.25 to 59 months (SD 10.07360). Respondents report their workplace to be equipped with the following: fridge (72%), sink to wash breastfeeding equipment (68.9%), and private place to pump (57.4%). Half of the respondents (47.5%) report that they have flexible working hours. Workplace was not associated with the breastfeeding rates (p value=0.251). Mothers with better breastfeeding knowledge have a significant association with breastfeeding rate: knowledge on breast cancer prevention (P=0.000), ovarian cancer prevention (.002), risk of bottle-fed infection (P value= 0.001), risk of diarrhoea and pneumonia (p value= 0.006). Taylor's University is more "baby friendly" as compared to the previous employment of the mothers, being equipped with sink to wash (p value= 0.011) and fridge to store breast milk (p value= 0.004).

Conclusion: Knowledge on breastfeeding benefits shows a significant association with breastfeeding rates among working women in Taylor's University. More working women should be aware of the advantages of breastfeeding to increase the prevalence of breastfeeding rate in the future.

P28

[167]

**PUBLIC HEALTH MIDWIVES' HEALTH PROMOTION ACTIVITIES TOWARDS
ABNORMAL VAGINAL DISCHARGE**

I.M.P.S. Ilankoon, C.S.E. Goonewardena, R.C. Fernandopulle and P.P.R. Perera

*Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka***ABSTRACT**

Abnormal vaginal discharge is a common gynaecological complaint among women aged 15 to 49 years. Public Health Midwife (PHM) is the family health care worker who care women at community level in Sri Lankan health care system. This study aimed to assess PHMs' knowledge on vaginal discharge, attitudes, and present health education activities related to vaginal discharge.

This community based cross sectional study was conducted among all consenting PHMs who work in Colombo district, Sri Lanka. A self-developed, validated, pretested self-administered questionnaire was used to collect data. Descriptive and inferential statistics were used in analysis.

A total of 308 PHMs participated and the mean age was 40.69 years ($SD \pm 10.72$). Nearly half of the participants had work experience for more than 11 years. Majority of PHMs have performed health education during home visits (72.7%) and at clinics (66.2%). Mean knowledge score regarding vaginal discharge and causes was 53.6 ($SD \pm 12.43$). Only few participants (3.2 %) had good knowledge on vaginal discharge while 48% of participants obtained poor knowledge. Lack of knowledge was observed in the areas of reproductive tract infections and causes for pathological vaginal discharge. The mean knowledge scores was significantly higher among those who had less than 40 years of age ($p = 0.004$) and work experience less than 15 years ($p = 0.002$) to their counterparts.

Majority agreed that educate females on vaginal discharge as a primary responsibility (97%) and nearly 17% rated their competency in providing health education on vaginal discharge as poor. Lack of available time (84.7%), lack of teaching aids (75%) and women's anxiety and shyness in revealing health problems (73.4%) were the major challenges faced.

The PHMs showed motivation towards health education at community level. As the insufficient level of knowledge was found, there is a need of upgrading their knowledge and skills as a strategy to meet the growing demand for quality health education and referral activities at community level.

Keywords: Vaginal complaint, family health care workers, women's health, community education, health promotion

P29

[168]

**KNOWLEDGE, ATTITUDES AND PRACTICES ON FALLS INJURY AMONG
MOTHERS OF CHILDREN 1-5 YEARS OF AGE AT A SELECTED MEDICAL
OFFICER OF AREA OF SRI LANKA**

H.C. Mallawatantri¹ and S. Maduwage²

¹ *Trainee HR ,Sri Lanka*

² *Consultant Community Physician ,Sri Lanka*

ABSTRACT

Childhood injuries are a public health problem worldwide. Majority of the childhood falls injuries are preventable. Literature shows that the lack of awareness among caregivers including parents has become a contributory factor for childhood fall injuries Purpose of the study was to describe maternal knowledge, attitudes and practices on falls injuries of children aged 1-5 years. Descriptive cross-sectional study was conducted at the selected Medical Officer of Health area of Sri Lanka. Sample size of 160 mothers of children aged 1-5 years who brought their children to the well-baby clinics. Sample was selected based on inclusion and exclusion criteria. Interviewer administered questionnaire was used. Of the sample majority (32.5%) of mothers were 30-34 years of age. Of the working mothers (39%) , 28.7% were working in the government sector and 10.3% were working in the private sector. Common type of child fall was falling from bed (71%), falling from staircase (9.8%) and falling due to household interior decors (4%). Of the study population 35.6% mothers had overall good knowledge score. Majority of mothers (50%) did not know that child fall injuries could lead to long term disability and 80% did not aware on appropriate first aid measures to a fall injury. Sixty-seven percentage of the study population did not know that fixing toddler gates to the stairs to prevent child fall injuries. Of the study sample 2% had an attitude of restricting of child mobility to prevent falls.

Conclusion : Mothers need more awareness on causative factors and prevention of child fall injuries

Keywords: Fall injuries, disabilities, prevention

P30

[169]

KNOWLEDGE, ATTITUDE & PRACTICE ABOUT DENGUE FEVER AMONG STUDENTS OF TAYLOR'S UNIVERSITY

J.A. Andoy-Galvan

School of Medicine, Taylor's University, Lakeside Campus, Malaysia

ABSTRACT

Objectives: Dengue Fever (DF) is a mosquito borne viral infection that is a global public health issue and an endemic disease in Malaysia, with Selangor state encountering the highest amount of cases throughout the country in 2005. This study aims to understand student's perception, awareness and behavior in regard to DF and aid the process of combatting this possibly fatal disease.

Materials & Methodology: A survey was carried out from 13th June 2017 till 14th June 2017 at Taylor's University Lakeside Campus, Subang Jaya, involving a total of 100 students from the University using a convenient sampling method. Data was collected on a self-administered questionnaire with a nominal scale. Socio-demographic variables included in this study were schools at Taylor's University, gender, age group, current education level, original & current address, family income and race. Variables included in this study are knowledge, attitude and practice. A nominal scale was used and the data from this study is expressed as frequencies, percentages and overall percentages..

Results: All 100 respondents were interviewed and no missing data was recorded. Among the 100 respondents, 45% were males and 55% were females. 24% were from Sciences and 76% were from Non-Science schools. 19% were Pre-U students, 79% were undergraduates and 2% were post graduate students. All respondents originated and are currently living in urban areas. 97% of the respondents were within the age group of 15-25 years and 3% were within the age group of 26-45 years. 38% of respondents had a family income of less than RM 5000 while 45% were within the range of RM 5000-RM 10,000 and 17% were in the range of more than RM 10,000. 23%, 12% and 47% of the respondents were Malays, Indians and Chinese while the remaining 18% belonged to the "Others" category. Overall the average score for knowledge was 31.10% with, only 8% of the respondents falling under the "Good" category, while the remaining 92% in the "Poor" category. In the case of attitude, 60% of the respondents were under the "Good" category while 40% were classified as "Poor" and the average attitude score was 24.64%. The average score for respondents with positive practice was 15.84% with a total of 61% of the respondents falling under the "Poor" category while 39% in the "Good" category.

Lastly, the average score for Knowledge, Attitude and Practice (KAP model) was 71.58% with only 19% of the respondents being under the "Good" category while a whopping 81% of the respondents being under the "Poor" category.

Conclusion: Authorities should disseminate more information to the general public regarding DF and useful practices that can prevent DF using a variety of sources that is available in order to combat the rising problem of DF.

P31

[170]

THE RELATIONSHIP BETWEEN MENOPAUSAL STATUS AND CENTRAL OBESITY: STUDY ON RURAL WOMEN IN BANJAROYO VILLAGE, YOGYAKARTA, INDONESIA

P.D. Christasani

Universitas Sanata Dharma, Indonesia

ABSTRACT

Central obesity occurs when excessive abdominal fat around the stomach and abdomen has built up to the extent that it can increase the risk of cardiovascular disease. One indicator to measure central obesity is Waist-to-Hip Ratio (WHR). In postmenopausal women, there is an increased risk of cardiovascular disease due to the reduced protective effect of estrogen. The aims of this study are to determine the relationship between menopausal status and central obesity in women in the Banjaroyo Village, Yogyakarta. This study used 185 respondents obtained by cluster random sampling technique. Data were analyzed using Chi-Square test to determine the relationship between menopausal status and central obesity. The results of this study indicate that there is a significant relationship between menopausal status with central obesity ($p = 0.010$). Postmenopausal women have a risk of 2,892 times of central obesity compared with women who are still in reproductive years. The conclusion of this study is the status of menopause has a relationship with central obesity where the risk of central obesity will increase when women have experienced menopause.

Keywords: Central obesity, Waist-to-Hip Ratio, menopausal status, rural women

P32

[171]

EFFECTIVENESS OF THE DIABETES CONVERSATION MAP EDUCATION TOOLS ON DIABETES-RELATED PARAMETERS OF OUTPATIENTS WITH DIABETES

Hsiao-Chun Lin¹, Chung-Mei Ouyang¹, Yi-Ting Chan^{1,4}, Yuh-Lin Liu², Shio-Jen Tsay² and Ching Lu³

¹*Dept. of Dietetics, National Taiwan University Hospital Hsin-Chu Branch, Taiwan*

²*Dept. of Nursing, National Taiwan University Hospital Hsin-Chu Branch, Taiwan*

³*Dept. of Internal Medicine, National Taiwan University Hospital Hsin-Chu Branch, Taiwan*

⁴*School of Nutrition and Health Sciences, Taipei Medical University, Taipei, Taiwan*

ABSTRACT

Diabetes Conversation Map™ Tools are interactive instruments for health education invented by International Diabetes Federation. With small groups' brainstorming as well as visually learning methods, these tools have better effects on education than the traditional ones. In order to help diabetes patients to have better control of their blood sugar, they need to acquire more knowledge and understanding about their diabetes self-care. In this study, we examined the changes of patients on diabetes-related parameters after receiving the conversation map classes. We provided two-hour Conversation Map health education classes 1-2 times per month hosted by registered dietitian or diabetes educator and 3-8 participants joined it each time since February 2014. Blood glucose, HbA1c, weight data, knowledge, exercise frequency, scores of Diabetes attitude, wishes and needs (DAWN) questionnaires were collected before and after classes. Seventy-five participants had joined the study which included 40 times of group education. Blood sugar controlling had improvement. The fasting blood sugar had decreased from 149.4±50.7 mg/dL to 134.0±41.0 mg/dL (p=0.027). HbA1C decreased from 8.0±2.0% to 7.2±1.3% (p=0.0003). Weight and BMI change were not significant (p=0.189 and p=179). The average percentage of knowledge was improved from 64% to 75% (p=0.013). There was also more than 65% of participants achieved the good exercise frequency (150 min/week) (p=0.0002) after attending classes Conclusion: This study showed that the diabetes small-group education classes effectively improved patients' blood glucose, HbA1c, knowledge and self-management behaviors through the structural and interactive tools (Diabetes Conversation Map).

Keywords: Diabetes Conversation Map™ Tools, HbA1C, Self-Management, Diabetes Mellitus

P33

[172]

IMPROVING QUALITY OF LIFE OF CERVICAL CANCER PATIENTS IN AN APEX HOSPITAL, INDIA: AN INNOVATIVE APPROACH

A. Singh ¹, V. Suri ², S. Ghoshal ³, S. Kaur ⁴ and A. Singh ¹

¹*Department of Community Medicine, PGIMER, India*

²*Department of Obstetrics and Gynaecology, PGIMER, India*

³*Department of Radiotherapy, PGIMER, India*

⁴*NINE, PGIMER, India*

ABSTRACT

There have been significant advances in treatment modalities of cancers. Patient survival has improved. But in a developing country like India, Quality of Life aspect is ignored. Tertiary care hospitals are usually overburdened with patients. Therapy related queries of patients/caregivers remain unanswered. This study aims to identify the information gap and to develop a counseling protocol for cervical cancer patients. Problems faced by cervical cancer patients during and after treatment were noted. In depth interviews for all cases and their care givers were done. Two Focus Group Discussions were also done. Thematic extraction was done using N-Vivo software. The information obtained was reviewed and assembled. An information booklet was developed. The booklet was then circulated amongst experts (n=10) and patients (n=10) for validation. The major themes extracted were 'worrying about future', 'stress regarding spread and recurrence', 'lack of information regarding treatment modalities and their potential side effects/complications', 'lack of awareness regarding self-care/home remedial measures', 'unawareness regarding when/where to report during schedule/emergency' amongst others. A definite information gap was seen amongst cervical cancer patients and their care givers. A special counseling room was used where the queries of cervical cancer patients and their care givers were successfully resolved. Hence a special room may be established in hospitals for counseling cancer patients to improve their Quality of Life.

Keywords: Quality of life, cervical cancer, caregivers, counseling

P34

[173]

**VISUAL ATTENTION OF FUNCTIONAL BRAIN NETWORKS USING EEG IN
YOUNG ADULTS**

Ming-Chang Chiang

*Department of Life Science, Fu Jen Catholic University, Taiwan***ABSTRACT**

Visual attention plays an important role in cognitive ability, including attention, memory, reading, learning, and social aspects. In recent years, brain science has actively studied the neural mechanisms of visual attention, hoping to explore better and more effective visual attention. On the other hand, autism spectrum disorders (ASD), asperger syndrome (AS), attention deficit hyperactivity disorder (ADHD), attention deficit disorder (ADD); patients have visual search difficulties and lack of focus behavior, and these are brain dysfunction caused by the performance. The study allows subjects to display visual searches on community pages and shopping platforms and record changes in the brain with electroencephalography (EEG). Here, we exhibit the dorsolateral prefrontal cortex, superior temporal gyrus, and angular gyrus has significantly alteration between the normal group and the attention deficit group. These findings improve our understanding of the role of prefrontal cortex, superior temporal gyrus, angular gyrus, and nucleus accumbens in the brain, and may aid in the development and implementation of new therapeutic strategies for the treatment of attention deficit patients.

Keywords: Visual attention, attention deficit, EEG

P35

[174]

**CHILD NUTRITIONAL STATUS AND PERINATAL DEPRESSION SYMPTOM IN
INDONESIA**

A.Y.M.S. Rahma

*Center for Economics and Development Studies (CEDS) Universitas Padjadjaran, Indonesia***ABSTRACT**

According to Annette et al (2014), maternal depression during pregnancy and within a first year after having baby is relatively high, among 10-20% of mother develop this condition. If it is not treated, it can lead the destructive development not only for the women but also for the children. Indonesia Family Life Survey (IFLS) longitudinal data is used to collect the data of depression symptoms on women while pregnancy and within the first year after having a baby in IFLS 4 which collected in 2007 and the development of the children in nutritional status at the age of 6-7 years using data in 2014 (IFLS5). Depression symptoms were assessed by using self-report measure of depression of Center for Epidemiologic Studies Depression Scale Revised (CESD-R). To estimate the value of depression symptoms, we used Rasch Model to change the ordinal data into logit form. Ordered probit regression analyses were conducted to examine the relationship between perinatal depression symptoms and children development. The analysis shows that development of children particularly in nutritional status were connected with perinatal depression symptoms during pregnancy and within first year of having baby.

Keywords: IFLS, perinatal nutritional symptoms, nutritional status

P36

[175]

**ASSESSING THE IMPACT OF IRON CONSUMPTION ON ANEMIA AMONG
PREGNANT WOMEN VISITING TO HEALTH FACILITIES OF PPHI SINDH**

S.Bakhtawar, G. Mustafa and Z. Dahar

*PPHI (Public Private Partnership), Pakistan***ABSTRACT**

Anemia is defined as hemoglobin less than 10grams and it is important public health concern among pregnant women in Pakistan associated with multiple adverse consequences. Lack of iron supplements is one of the factor that leads to anemia. In Pakistan only 22% of women took daily iron supplements for 90 or more days during last pregnancy. **Purpose:** To determine frequency of anemia and to assess proportionality of anemia versus iron tablets consumption among reproductive aged women visiting to health facilities of PPHI Sindh. **Methodology:** The descriptive retrospective study was conducted in all health facilities of PPHI Sindh, Pakistan and comprised data from structured registers (DHIS and additional summary tools) from July, 2017 to March, 2018. **Results:** From July to September 2017, antenatal visits were 127995 and 51% women were anemic during this time period 5905409 iron tablets were consumed. From October to December 2017, 114617 women came for antenatal visits and 49% were identified as anemic. During this time period iron consumption was increased up to 6815407. While from January to March 2018, 135905 women came for antenatal visits and 45% were anemic. In these months' iron consumption was 8677277. As iron consumption was increased the proportion of anemia decreases. **Conclusion:** High need to sensitize health care providers regarding high consumption of iron tablets to prevent anemia and its related adverse consequences.

Keywords: Anemia, hemoglobin, pregnant women

P37

[176]

PREVALENCE AND PATTERNS OF TOBACCO CONSUMPTION AMONG HIGH-RISK POPULATION OF BANGLADESH

Mobashera Jahan^{1,2}, M. Hasan², M. Rahman², K. Leena¹, M.N. Uddin³ and G.U. Ahsan^{1,2}

¹*North South Global Health Institute, North South University, Bangladesh*

²*Department of Public Health, North South University, Bangladesh*

³*Texas University, USA*

ABSTRACT

Background: Bangladesh is one of the largest tobacco consuming countries in the world. Six million people die each year due to tobacco related health incidents in Bangladesh. Tobacco use has a large impact on every area of human life that can distort the life starting from physical to mental and social to environmental. Tobacco consumption is a leading cause of many preventable and premature deaths worldwide. Currently, Tobacco ranked fourth in the world of life lost and responsible for 12 and 6 percent of male and female deaths respectively. The annual cost of tobacco-related illnesses in Bangladesh attributable to tobacco usage was estimated at 50.9 billion taka, including 5.8 billion taka for second-hand smoking. **Objective:** To assess the prevalence and patterns of tobacco consumption habits and cultivation behavior among the high-risk population of Bangladesh. **Methods & Materials:** A cross sectional study had been accompanied among high-risk population of the northern region of the country during May to August 2015. Simple random sampling technique was followed for conducting the study. The data had been collected by a field survey through semi structured questionnaire, face to face interviewed with 232 respondents. **Results:** In this study, prevalence of smoking was 38.7 percent. Subject of the study was both male 54.7 percent (n=127) and female 45.3 percent (n=105). The mean age of the respondents was 38 years. More than three fourth of the respondents (77.6%) were married and belongs to day labour, farmer, housewife etc. of occupation. Among the respondents 23.3 percent are directly involved in tobacco cultivation whereas majority of them (85%) do not have own farming land. 54.8 percent was started smoking during their adolescence period. Half (51%) of the respondents work >7 hours/daily in the tobacco factory. They are used to consume tobacco in shape of smoking 29.3 percent, zorda 40.9 percent and gul 18.5 percent. The elderly (age >53 years) people are more used to regular smoking (47.6%) than the middle age (36-52 years) who are used to smoke (28.2%) occasionally. 87.5 percent using tobacco more than ten times daily. 31.5 percent of the respondents tried to quit tobacco consumption but they failed. Female respondents are more sufferers in cough, COPD and peptic ulcer than the male. Among them, 45.7 percent of female respondents have regular tobacco consumption habit in terms of cigarette/biri smoking (29.3%), zorda (40.9%), gul (18.5%), sadapata that are affected in the productive work and health hazards. **Conclusion:** Overall, the research findings have shown the importance to create awareness among tobacco consumers and inhabitants of the region to protect from multidisciplinary health hazards.

Keywords: Tobacco consumption, high-risk population, illness

P38

[177]

THE DEPRESSION CONUNDRUM AND THE ADVANTAGES OF UNCERTAINTYJ. Celie ¹, T. Loeys ¹, M. Desmet ¹ and P. Verhaeghe¹¹*Faculty of Psychology, Ghent University, Belgium***ABSTRACT**

According to the WHO (2012), the prevalence of unipolar depressive disorders is rising, even in those places where mental health treatments are widely available. The WHO predicts that these disorders will be the leading contributor to the global burden of disease by 2030. This sobering projection fits poorly with how psychological treatments for depression are presented in the mainstream scientific literature: as highly effective therapies, based upon a sound understanding of the causes of distress. There is a clear discrepancy between the rising prevalence figures on the one hand, and the confident claims of this effectiveness research on the other. This discrepancy prompts a set of complex interlinked questions, which we have called ‘The Depression Conundrum’. In search of a partial answer, the aim of our study was to critically analyse five meta-analytic studies investigating the effectiveness of psychological EBTs for depression, all of which had been published in high impact factor journals. Our examination established a number of methodological and statistical shortcomings in every study. Furthermore, we argue that the meta-analytic technique is founded upon problematic assumptions. The implications of our analysis are clear: decades of quantitative research might not allow us to conclude that psychological EBTs for depression are effective. The uncertainty and questions raised by our findings might act as a catalyst to broaden the way in which depression and associated therapies are researched. In addition, it might contribute toward a more vigorous and interdisciplinary debate about how to tackle this soon-to-be global public health priority number one.

Keywords: Depression, EBTs, meta-analysis, effectiveness, quantitative research

VIRTUAL PRESENTATIONS

[178]

**DISRESPECT AND ABUSE (D &A) AMONG WOMEN UNDERGOING
DELIVERIES IN DISTRICT LEVEL HOSPITAL OF WESTERN UTTAR PRADESH,
INDIA**

E. Talib

*Uttar Pradesh Health Systems Strengthening Project, India***ABSTRACT**

With time India has seen decrease in the deaths of mothers and infants, still much remains unachieved. One of the major factors in decreasing the MMR and IMR is the increase in number of institutional deliveries. This is a cross-sectional study aimed to focus on one of the deterrents to institutional deliveries that is the incidence of Disrespect and Abuse (D & A) among women giving birth in health facilities. The study was done in a District level Combined Health facility (Catering to both men and women) in urban area of Western Uttar Pradesh, India. All the women undergoing normal deliveries at the hospital were included in the sample for the study which was conducted from February 1, 2018 to March 31, 2018. Exit interviews were conducted to record their opinions with the help of a questionnaire based on the categories of D &A among women by Browser and Hill (2010). The total number of normal deliveries conducted during this time period was 203 out of which 49 women were non -responsive. This non response includes 35 women who Left Against Medical Advice (LAMA) and women who were referred to higher centers. The results of the filled questionnaire were analyzed using SPSS. Out of 154 women around 89 percent, reported incidents of at least one form of D& A. Associations were also found to be statistically significant within certain categories of D & A and educational status and among a particular caste of women.

Keywords: Disrespect and abuse, cross- sectional, birth, district level, health facilities

[179]

**RISK PERCEPTION TOWARDS TOBACCO USE IN PREGNANCY AMONG
MARRIED MEN AND WOMEN OF RURAL AREAS IN MYANMAR**K.L.Show¹, A.P. Phy¹, S. Saw¹, K.K. Zaw², T.C. Tin³, N.A. Tun³ and K.T.Wai¹¹ *Department of Medical Research , Myanmar*² *University of Public Health, Yangon , Myanmar*³ *Department of Public Health , Myanmar***ABSTRACT**

During pregnancy, tobacco use is the most important modifiable risk factor to prevent pregnancy complications and fetal outcomes. This is the first study in Myanmar to assess the knowledge and perceived risks of tobacco use among married men (n=301) and women (n=316) in rural areas and its associated factors to inform public health programs on reducing neonatal deaths by tobacco cessation. A cross-sectional study focused 32 villages in delta region randomly selected through multistage sampling procedure by using the pre-tested structured questionnaire during 2016. Around 65% to 86% of married men and 71% to 90% of married women expressed perceived risks of smoking on miscarriages and fetal outcomes while 60% to 80% of married men and married women had perceived risks of second-hand smoke on similar outcomes. Moreover, between 53% and 73% of married women expressed their perceived risks of smokeless tobacco on aforementioned untoward outcomes. Around 80% of total respondents (n = 489) were current smokers, of whom 16.4% reported the presence of a pregnant woman in their smoking area. Risk perceptions of smoking, second-hand tobacco smoke or smokeless tobacco did not significantly differed by socio-demographic factors. However, good knowledge on the risks of tobacco on pregnancy outcomes had significant influence on their perceived risk of on undesirable impact of tobacco use. Further implementation research on challenges in scaling up risk communication programs on tobacco use among married people in rural areas is essential. (Word count - 235)

Keywords: Perception, tobacco, pregnancy, rural

[180]**MATERNAL OBESITY AND PREGNANCY-RELATED DEATH****K.L. Goh***Monash University Malaysia****ABSTRACT***

In 2017, Economist Intelligence Unit's report has rated Malaysia as 'the most obese Asian country'. Worldwide, 1 in 4 women of reproductive age are obese before pregnancy. This statistic is alarming as maternal obesity has been associated with several devastating effects, ranging from antenatal till postpartum issues, which can potentially cause maternal death. A literature search of articles, using MESH terms of maternal, obesity, maternal death; covering the years 2013- 2018 was undertaken and 50 articles were identified. Papers which do not fit into the clinical question are excluded. It is proven that there is clinically significant difference between the rate of all cause pregnancy-related death in obese women and non-obese pregnant women. In conclusion, strategies to optimize weight before pregnancy are urgently needed to reduce pregnancy-related death.

Keywords: Maternal obesity, maternal death, pregnancy-related death

[181]

SEROLOGY DETECTION OF *Treponema pallidum* IN CEREBROSPINAL FLUID WITH INTRACRANIAL INFECTION

N. Yanti¹, M.M. Pasaribu^{2,4}, L. Anandari⁴, D.N. Kosen⁴, S. Immanuel², T. Loho² and
Yusra², D. Imran³ and I.S. Timan^{2,4}

¹*Clinical Pathology Specialist Program, Faculty of Medicine, University of Indonesia/Dr.
Cipto Mangunkusumo General Hospital, Jakarta, Indonesia*

²*Department of Clinical Pathology, Faculty of Medicine, University of Indonesia/ Dr. Cipto
Mangunkusumo General Hospital, Jakarta, Indonesia*

³*Department of Neurology, Faculty of Medicine, University of Indonesia/ Dr. Cipto
Mangunkusumo General Hospital, Jakarta, Indonesia*

⁴*Human Genetic Research Cluster, Indonesia Medical Education and Research Institute,
Faculty of Medicine, University of Indonesia, Jakarta, Indonesia*

ABSTRACT

Syphilis is a chronic sexually transmitted disease, vary in clinical manifestations and persist for a long time. Neurosyphilis is one of the complications of systemic syphilis with abnormal laboratory findings in cerebrospinal fluid with or without obvious clinical symptoms. Currently, laboratory diagnostic to support the condition were cerebrospinal fluid analysis and serology of *Treponema pallidum*. Prevalence of neurosyphilis in the research hospital and serologic profile of *Treponema pallidum* from cerebrospinal fluid were remain unclear. This study was a cross sectional study, conducted November 2017-March 2018. Samples were 50 cerebrospinal fluid (CSF) and serum from patients with suspected intracranial infection. CSF analysis were performed to the CSF samples. Serum and CSF examined by RPR, TPHA, and *Treponema pallidum* rapid test for CSF. From a total of 50 CSF and serum, 4(8%) had reactive cerebrospinal fluid *T. pallidum* rapid tests, RPRs and TPHAs. From serum there were 8(16%) reactive RPRs and 9(18%) reactive TPHAs. Among 50 samples, 7 (14%) had neurosyphilis, 4 were confirmed neurosyphilis and 3 were probable neurosyphilis according to Center for Disease Control and Prevention criteria. The CSF macroscopic profile were all colorless, clear, and without clot. The CSF microscopic and biochemistry profile were; (mean, \pm 2SD) cell count 12.71 (9.20) cells/ μ l, mononuclear 11.57(9.47) cells/ μ l, positive for Pandy 42.29(21.49) mg/dl, glucose 55(5.16) mg/dl, serum glucose 101.04(20.10) mg/dl, and chloride 122.14(2.48) mEq/L. Neurosyphilis was found in 14% of our patient population and 85.71% was reactive for HIV.

Keywords: Cerebrospinal fluid analysis, neurosyphilis, RPR, TPHA

[182]

**AN AGE MATCHED CASE-CONTROL STUDY OF SOCIOECONOMIC FACTORS
AND RISK BEHAVIORS ASSOCIATED WITH GESTATIONAL DIABETES
MELLITUS IN CHINESE WOMEN**

X.M. Carroll, X.H. Liang, W.Y. Zhang, W.J. Zhang and S. Leeper-Woodford

Mercer University School of Medicine, USA

ABSTRACT

Gestational diabetes mellitus (GDM) is a common health problem during pregnancy and its prevalence is increasing globally, especially in China. The aim of this study was to investigate the socioeconomic factors and risk behaviors associated with GDM in Chinese women. An age matched case-control study was conducted with 300 GDM women and 300 non-GDM women in two hospitals in Beijing, China. GDM subjects were defined based on the International Association of Diabetes Study Group criteria. A conditional logistic regression model with backward stepwise selection was performed to predict the significant factors associated with GDM. The data show that single/divorce/widowed status (OR = 2.78, $p = 0.043$), residency in Beijing more than 5 years (OR = 1.89, $p = 0.002$), alcohol consumption (OR = 2.19, $p = 0.001$), and family history of diabetes in first degree relatives (OR = 3.53, $p < 0.001$), were significant factors associated with GDM in Chinese women. Development of diabetes in pregnancy may be prevented through public health intervention and lifestyle modification, but the adoption of a healthy lifestyle requires individual behavior changes, and also changes in the social environment. Public health strategies that focus on these risks, regulation of the sales and consumption of alcohol in China, and health education especially for unmarried women in Beijing would be positive steps to approach solutions to this problem.

Keywords: Gestational diabetes mellitus, socioeconomic factor, risk behavior, alcohol consumption, pregnant women

[183]

THE INCIDENCE AND MANAGEMENT OF PATIENT VIOLENCE AGAINST US MEDICAL PROFESSIONALS

A.C. Oguagha¹; J. Chen ¹ and Q.X. Yang ¹

*¹Huazhong University of Science and Technology, Tongji Medical College, School of
Medical and Health Management, China*

ABSTRACT

Background: Occupational violence in the healthcare field negatively affects staff and organization however written reporting of violent incidents are low. This study investigated the incidences and characteristics of physical and psychological violence experienced by healthcare personnel in the United States as well as managerial actions following workplace violence. **Methods:** A questionnaire developed by ILO/ICN/WHO/PSI was modified for research use. An online survey was conducted and 226 valid questionnaires were received. **Results:** 48.5% and 76.1% of respondents respectively experienced physical violence and psychological violence in the past year. Nurses compared to other healthcare professionals had a higher incidence of both types of violence ($P<0.05$). Respondents with 1-5 years working experience at their present hospital compared to those with 6+ years working experience had a higher incidence of psychological violence ($P<0.05$). Respondents with 1-5 years medical experience compared to those with 6+ years medical experience had a higher incidence of physical violence ($P<0.05$). Victims of workplace violence suffered from negative emotions or aftereffects (48.3%) and tended to be more worried about violence in the hospital ($P<0.05$). 17.7% of cases reported for violence were investigated and 38.6% saw consequences meted out to perpetrators. The most reported response to violent incidents was informally telling another person (74.1%). **Conclusion:** The incidence of violence was high and medical professionals were negatively affected by violence, however formal reporting of episodes was low and measures combating violence were inadequate. Hospitals need to implement guidelines and strict policies for workplace violence offenders.

Keywords: Healthcare professionals, physical violence, psychological violence, workplace violence incidence, occupational safety

[184]

**THE INDOOR AND OUTDOOR RADON EXPOSURE ASSOCIATED RISK IN
LUNG CANCER DISEASE IN RAJAMANGALA UNIVERSITY OF TECHNOLOGY
ISAN, KHON KAEN CAMPUS, THAILAND**

V. Atyoth¹ and J. Sontua²

*¹Faculty of Engineering, Rajamangala University of Technology Isan Khon Kaen Campus,
Thailand*

²Group Strategy Management and Research, Regional Health Promotion Center 7, Thailand

ABSTRACT

At present, long-term exposure to high indoor radon concentrations has been determined to be the risk of second-leading environmental cause of lung cancer. Therefore, the elevated radon concentrations in both indoor and outdoor are considered a significant environmental cause of lung cancer deaths. This study evaluated the concentration of radon in indoor and outdoor at Rajamangala University of Technology Isan, Khon Kaen Campus, Thailand using the active detecting method by a radon detector (RAD 7). The indoor radon concentration was determined inside building containing 30 rooms and the outdoor radon concentration was determined at outside around University throughout the period study from October, 2017 to February, 2018. The results showed that the indoor radon concentrations were the range of 25.65– 35.60 Bq/m³, with a mean value of 30.51±5.52 Bq/m³. In addition, the outdoor radon concentrations were the range of 0 – 16.25 Bq/m³, with a mean value of 6.71±2.59 Bq/m³. Moreover, all data were calculated a risk value indicating lung cancer for people who live in this area including the annual effective dose (AED), the dose rate due to alpha-radiation ($D_{\text{soft tissues}}$, D_{lung} and H_{eff}), and the cancer probability (%). In summary, this study demonstrated that the radon concentration in indoor and outdoor at Rajamangala University of Technology Isan, Khon Kaen Campus is likely to be safety from the radon in air caused the risk of lung cancer which compared to the standard values from World Health Organization.

Keywords: Indoor radon, outdoor radon, lung cancer, RAD 7, Khon Kaen

[185]

**JANGER* DANCE IN PREVENTING RABIES CASES: INCREASING THE SCALE
AND POTENTIAL ADOPTION OF HEALTH PROMOTION INTERVENTIONS
INTO DAILY PRACTICE**

S. Budayanti, K.R. Rahayu, M. Subagiarta and N.K.S. Yanti

One Health Collaborating Center, Udayana University, Indonesia

ABSTRACT

Rabies is one of the major fatal zoonotic diseases in Indonesia. According to Bali Provincial Health Office in 2016, there were 167 people infected by rabies died on the island since the first case of rabies was found in 2008. Promoting rabies control to optimise community's education has encouraged the health educators to design a creative and engaging health promotion. *Janger* (Stay Rabies Free) is an innovative One Health approach practice in preventing rabies which modified the existing popular traditional Balinese dance with songs, drama and beautiful movements to educate the community by using art in its delivery. This study aim was to characterise how the unique principles of *Janger* dance influenced the dancers as health promoters and to identify important lessons from their experiences.

Through semi-structured interviews with ten *Janger* dancers and singers, we explored participants' perspectives and knowledge in the areas of rabies-related issues. In results, all participants have agreed that through *Janger*, they are not only delivering the information to the audience but also feed themselves with proper knowledge regarding Rabies. Four major themes emerged from the interview transcripts: the importance of understanding the prevention and early treatment; the significant rule of vaccination; the value and challenges of collaborations in public health practice and operationalising holistic approaches to the community; and the human health-environment relation. Despite their lack of familiarity with these fields, overall study participants were found to be heavily influenced by *Janger* dance in preventing rabies infection.

Keywords: Rabies, Health Promotion, Innovation, Local Wisdom, One Health

**Janger* stands for Jangan Rabies, translated as Stay Rabies Free

[186]

IMPROVEMENT STRATEGIES OF JOB PERFORMANCE: A PERSPECTIVE ON NURSING PROFESSION IN VIETNAM

P.V. Nguyen¹, L.T.X. Nguyen² and N.H.T. Nguyen¹

¹*International University, Vietnam National University-Ho Chi Minh City, Vietnam*

²*Hospital Accountant, Heart Institute, HCMC, Vietnam and MBA Student, Van Hien University, HCMC, Vietnam*

ABSTRACT

As an increasing of overloaded general hospitals in Vietnam, nurses are under intensive pressure but receive little opportunities for learning new technical skills and for developing obvious career path. Meanwhile, nurse performance is essential to quality outcomes of healthcare services. Therefore, this study aims to investigate primary drivers of nurse performance by using structural equation modeling approach to analyze a data survey of 372 nurses working in four hospitals in Ho Chi Minh City and Bac Lieu province, Vietnam. The results show that job resources are positively related to psychological safety. Likewise, psychological safety affects affective commitment. Specifically, affective commitment and continuance commitment are influenced by perceived organizational support; however, neither of them has significant impacts on job performance. Furthermore, the empirical evidence supports the positive correlations between self-leadership and communication competence, both of which are related to boosting job performance. The study indicated that affective commitment and continuance commitment to the organization is not critical elements of the process of improving job performance in the nursing industry in Vietnam. The result is due to nurses' perception of conscience as a decisive impetus for dedicating their intrinsic effort to deliver high-quality patient care. Besides, nurses having proficiency in self-leadership and communication competency are more likely to attain high job performance. Therefore, managers should implement strategies to enhance nurses' conception of self-leadership and communication capability, which would be an efficient approach to improve quality healthcare services in Vietnam.

Keywords: Job performance, nurses, affective commitment, continuance commitment, self-leadership, communication competence

[187]

CLINICAL PRESENTATION AND CHALLENGES IN MANAGEMENT OF LUDWIGS ANGINA

L.M. Kaluvu

Kilifi County Referral Hospital, Kenya

ABSTRACT

Ludwig's Angina is a massive cellulitis of the facial spaces involving the submandibular, submental and sublingual spaces bilaterally. First described by Wilhelm Fredrick Von Ludwig, a German physician in 1836, it is a potentially fatal infection that rapidly spreads through the lymphatic channel to the neck and floor of the mouth. It is caused by an infection arising from an infected molar, especially the second and third molar, and sometimes the second premolar. It extends into the space below the mylohyoid ridge and rapidly descends to the rest of the spaces. A 21 year old male presented with a bilateral submandibular swelling with difficulty in swallowing and speaking, neck pain and difficulty in breathing. He reported a history of a tooth ache on the right lower jaw three days prior. He also reported labored breathing and exhibited a 'hot potato appearance'. He was pale with yellowing of the eyes and had general malaise. Extraoral examination revealed a bilateral cellulitis extending from the submandibular region to the lower cervical region. Intraoral examination showed trismus and elevation of the tongue. A diagnosis of Ludwig's Angina was made. The patient was admitted immediately and diagnostic tests done. Available intravenous antibiotics, corticosteroid and analgesic were then administered. Incision and Drainage was done under local anaesthesia and drains left in-situ. The patient was monitored overnight and extraction of the causative tooth done the following day. Diagnosis of Ludwig's Angina is based on clinical presentation. Despite early management, the mortality rate of Ludwig's Angina in our low resource setup remains markedly high. The shortage of broad spectrum antibiotics and corticosteroids and absence of a maxillofacial surgeon in the hospital is a major challenge.

Keywords: Cellulitis, ludwig's angina, mylohyoid ridge, trismus

[188]

ABC STRATEGY: HOW UNIVERSITY STUDENTS PERCEPTION OF ABC STRATEGY INFLUENCES UPTAKE OF REPRODUCTIVE HEALTH PROGRAMS

M.N. Wanjau, L.N. Kathuri-Ogola and L.W. Maina

*Pan Africa Christian University Kenya, Kenya***ABSTRACT**

Attitude is what influences all actions an individual undertakes in life. Young adult's attitude on sexual reproductive health has proven to have a significant influence on their sexual health lifestyle and access to healthcare. institutions of higher learning have put in place measures to ensure student have access to youth friendly services yet this has not been matched with students utilizing the various reproductive health services within the university. To fully understand students attitude towards uptake of reproductive health services, the current study grounded on the health belief model builds on previous researches examining on youth attitudes' to sexual and reproductive health. Reflecting on 178 structured questionnaire administered to undergraduate students in Kenyatta University. This paper highlights how students' attitude to ABC strategy influences uptake of reproductive health services. Results indicated that student had a negative attitude towards abstaining, nearly half had a positive attitude to being faithful to one partner. Findings also showed a positive attitude to condom use contrary to some literature on the use of condoms among youths. ABC strategy had a significant impact on uptake to reproductive health programmes. The study established that students' attitude to the ABC strategy for protective sexual behavior influenced uptake of reproductive health services. In light of these findings, the study recommends need for reproductive health programmes to redouble their efforts in strengthening the ABC strategy among university students in order to positively influence students' sexual attitudes and behavior.

Keywords: Attitudes, ABC, sexual reproductive health, students, uptake

[189]

**THE INTERNAL AND EXTERNAL FACTOR OF WORKPLACE ENVIRONMENT
AFFECTS JOB PERFORMANCE OF THE NURSE**

P.V. Nguyen ¹ and T.N.B. Ton¹

¹International University, Vietnam National University-Ho Chi Minh City, Vietnam

ABSTRACT

Many previous studies illustrated that working environment has a beneficial effect on job performance. However, a few studies have conducted on this topic in nursing services in Vietnam. Therefore, this study aims to develop elaborate model to investigate the effects of internal and external factors of workplace environment on nurse performance in Vietnamese hospitals. By using structural equation modeling approach to analyze a questionnaire survey of 302 nurses, who are working at general hospitals in Ho Chi Minh City and Binh Duong province, Vietnam, the findings demonstrated that commitment and coworker's relationship have no impact on job performance. Meanwhile, the leader member exchange is positively associated with job performance, high quality workplace relationship, as well as commitment. Moreover, high quality workplace relationship has a positive influence to social impact and commitment, but it is negatively associated with job stress. Notably, coworker's relationship has no significant effect on job performance and workplace relationship. The results highlight some meaningful stories behind the scenes of nursing job in the healthcare services in Vietnam. The research also conducted ten in-depth interviews with top managers of five hospitals to insight findings to suggest for managerial implications.

Keywords: Healthcare, nurse, performance, leader member exchange, workplace relationships, job stress

[190]

**KNOWLEDGE, ATTITUDE AND PRACTICES OF HEALTH CARE PERSONNEL
AND POSSIBLE BARRIERS TOWARDS BIOMEDICAL WASTE MANAGEMENT:
A CROSS-SECTIONAL STUDY IN KARACHI**

B. Sehrish

*Institute of Business Administration (IBA) · Karachi, Pakistan***ABSTRACT**

The “biomedical waste” defined “any waste that is produced during diagnosis, treatment, immunization of human beings, animals or in the research activities “.BMW is the second dangerous-waste in the World that needs to be correctly disposed by trained health-care-staff. In Pakistan, there is lack of information related to infectious biomedical-waste-management. The study conducted from December 2016 - June 2017. It was a cross-sectional-study. Participants included doctors-interns, nurses, paramedical-staff, housekeeping-staff working in the tertiary-secondary-primary-care institute who are dealing with BMW. The data was tabulated and interpreted done by using percentage through SPSS 21-software.500 health-care-personnel participated in study, which included age-range of 20-56 years. 359(71.8%) male, 141(28.2%) female. Hospital-setting include tertiary-care 240(48%), secondary-care150 (30%), primary-care 110(22%).Blood-Bank 50(10%), Laboratory 119(23.8%), OPD 85(17%),Ward 246(49.2%).169(33.8%)paramedical-staff, 123(24.6%) housekeeping-staff, 113(22.6%) doctors- interns, 95(19%) nursing-staff were included. Only 39.4% study-participants received training for BMW-management. Response-Rate of Doctor 17.07%, Nurse 13.66%, and Paramedical-Staff 26.6%, Housekeeping-Staff20.9%. The results of this study have demonstrated a lack of knowledge-awareness of aspects of BMW-management among healthcare-personnel who work in the different healthcare-sittings. The results provide the hospital authorities with data upon which they can develop a strategy for improving BMW-management. Parctices among BMW were not found up to the standards in the hospital-sittings and were not following the proper guidelines and WHO rules.

Keywords: Bio-Medical-Waste (BMW), knowledge, attitude, practice, health -care -personnel

[191]

**REASONS FOR NON-COMPLIANCE AMONG PROBABLE DIABETIC
RETINOPATHY PATIENTS REFERRED FROM A DIABETES CLINIC TO A
TERTIARY HOSPITAL**

Z. Khair, Y. Jahan, K.A.T.M.E. Huq, M.M. Rahman and M. Moriyama

Graduate School of Biomedical & Health Sciences, Hiroshima University, Japan

ABSTRACT

Diabetic Retinopathy (DR) is an eye condition that may be caused if a person has uncontrolled diabetes for a long time. The estimated number of people with DR in Bangladesh is 1.54 million (27% of people with diabetes). It is imperative for a person with diabetes to undergo annual eye check-up to prevent blindness. The purpose of this research is to find the reasons why persons with diabetes who are referred to an Ophthalmologist do not avail their referral appointment. For this research, a diabetic hospital situated in Barisal Division of Bangladesh will be chosen where many patients opt to have their eyes checked. Patients with probable DR are referred to an Ophthalmologist for further management of the disease. However, about 60% patients do not avail their appointment with an Ophthalmologist. This will be a cross-sectional study using mixed method. In-depth interviews will be conducted with both compliant and non-compliant patients referred from September 2017 to August 2018 (N=300) to understand the reasons why they do/do not avail eye care services at the referred facility. Multiple Logistic Regression analysis will be conducted to identify variables that significantly influence successful referrals. Findings will help to recommend effective strategies for strengthening the referral system to management personnel and policy makers. This will ensure that patients with diabetes who are more at risk of developing DR are adhering to referral protocol.

Keywords: Referral, diabetes, Diabetic Retinopathy, screening, compliance

[192]**AN INVESTIGATION ON HEALTHCARE RECEIVERS' ACCEPTANCE OF
TELECARDIOLOGY IN MALAYSIA**Kee-Jiar Yeo¹, R.H.A. Al-Ashwal² and Shih-Hui Lee¹*¹Faculty of Education, Universiti Teknologi Malaysia, Johor, Malaysia**²Faculty of Biosciences & Medical Engineering, Universiti Teknologi Malaysia, Johor,
Malaysia***ABSTRACT**

This quantitative study investigates acceptance towards implementation of telecardiology in Malaysia. The purpose of this study is to explore and understand the potential factors that could be key elements in cultivating positive behaviour towards telecardiology adoption in Malaysia. Data was gathered from 149 patients and publics who use internet service in their daily lives by using survey method. The questionnaire was developed by integrating Technology Readiness Index (TRI), Technology Acceptance Model (TAM) and Theory of Planned Behaviour (TPB) which consists of 42 items. Descriptive statistics, exploratory analysis and one-way ANOVA were conducted to analyse the data. The analysis reveals that Malaysia generally hold a positive perception towards implementation of telecardiology with some reservations. Besides that, gender and income of the respondents were statistically influence the variables in telecardiology readiness. Therefore, implementers should include these two variables into considerations when launch telecardiology. The result of this study can provide some important insight for the policy makers and implementers to develop effective implementation strategies that could reduce user's resistance and adoption barriers in telecardiology adoption.

Keywords: Telecardiology, acceptance, theory of planned behaviour, technology readiness index, technology acceptance model

[193]

**KNOWLEDGE, ATTITUDES AND PRACTICE REGARDING CONTRACEPTIVE
METHODS AMONG THE FEMALE GARMENT FACTORY WORKERS IN
KATUNAYAKE FREE TRADE ZONE**

P.D.A.C. Perera¹, A.H.I. Priyadarshani¹, E.G.B. Sachinee¹, K.W.C. Nuwanthika¹,
O.G.T.C. Nisanka¹, R.L.C. Silva¹, B.M.R. Fernandopulle² and M.N. Priyadarshani¹

*¹Department of Nursing and Midwifery, Faculty of Allied health Sciences, General Sir John
Kotelawela Defence University, Sri Lanka*

*²Department of Pharmacology, Faculty of Medicine, General Sir John Kotelawela Defence
University, Sri Lanka*

ABSTRACT

Contraception is the prevention of pregnancy by interfering the process of conception. Information on knowledge, attitude and practice regarding contraceptive methods are scanty. Therefore, it is vital to study on that aspect among female garment factory workers as an attempt to reduce abortion related maternal deaths and unintended pregnancies of garment factory workers. A descriptive cross sectional study was carried out in Free Trade Zone, Katunayake in Gampaha district and included 426 female garment factory workers aged between 15-45 years. Data was collected using a pre-tested self-administered questionnaire. The majority of the study population were Sinhala(90.4%), Buddhist (86.5%). More than half of the participants (52.5%) were married. The overall knowledge on contraceptive methods was poor (57.7%). The participants had good knowledge on OCP and condoms relative to other methods. The knowledge on implants, LRT and vasectomy was very poor. It was revealed that 53% of participants had neutral attitudes on contraceptives while OCP was the most common (37.6%) method and the next preferred method was male condoms (26.2%). There was a significant association between age and marital status with knowledge and attitude on contraceptive methods. Significant association was not found between level of education, religion and nationality with knowledge, attitude and practice of contraceptive methods. It was identified that the health care professionals were the source of the information for many participants of the study (73%) followed by books, magazines and leaflets (15%). Reproductive health educational health programs are highly recommended to address the inadequate knowledge.

Keywords: Contraceptive methods, female garment factory workers, Katunayake Free Trade Zone, Sri Lanka, knowledge, attitude, and practice

[194]

**ENVIRONMENTAL HEALTH FOOD HYGIENE INSPECTION VIOLATIONS
ASSOCIATED WITH UK FOODSERVICE SMALL MEDIUM ENTERPRISES
(SMES): IMPLICATIONS FOR PUBLIC HEALTH**

O.T. Irawo, A.S. Tatham, D. Clayton and E.C. Redmond

*Cardiff School of Sport and Health Sciences, Cardiff Metropolitan University, Western
Avenue, Llandaff, UK*

ABSTRACT

Internationally, food-service establishments are associated with the largest proportion of foodborne illness and in the UK, SMEs account for 43-47% of this sector. Good hygiene practice and an effective food safety management system is essential to minimise the risk of foodborne illness; this is monitored and regulated by Environmental Health Officers (EHOs) using enforcement inspections. The study evaluated enforcement inspection reports (n=299) to quantify food hygiene contraventions in food service SMEs to identify frequently occurring violations. Cumulatively, 160 (54%) food-service SMEs reports indicated risk factors associated with incidence of foodborne disease. This included cross contamination in 72 (24%) of SMEs e.g. lack/ inadequate segregation of raw and cooked items, uncovered food and visually unclean food contact surfaces. Stock rotation contraventions were evident in 65 (22%) of SME reports, predominately indicating non-labelling of food or out of date. Poor temperature control was recorded in 47 (16%) of reports e.g. high-risk food above 8°C or food stored at ambient temperature; this was more prevalent in takeaway businesses. Personal hygiene issues were recorded in 42 (14%) of SMEs indicating inadequate facilities for hand washing and protective clothing not provided/inadequate. Identification of frequently reported violations determined in this study can inform development of potentially effective targeted training/interventions to reduce the risk of foodborne illness and help EHOs safeguard public health in the food sector.

Keywords: Environmental-health, food-hygiene, food-safety, risk-factors, regulation

[195]

ASSOCIATION BETWEEN FATIGUE AND ERGONOMIC PAIN IN THE DANISH FISHING INDUSTRY

S. H. Busingye¹ and G. Berg-Beckhoff¹

¹ *Unit for Health Promotion Research, University of Southern Denmark, Denmark*

ABSTRACT

Background: Ergonomic pain occurs because of improper use of one's own body in relation to his or her environment. The heavy workload by fishermen puts them at high risk of ergonomic pain. Some studies have shown workload to be a risk factor for fatigue. This study thus set out to check if there is an association between fatigue and the prevalence of ergonomic pain in the Danish fishing industry.

Materials and Methods: Data was obtained from a cross-sectional study conducted among full-time active commercial fishermen from February to April 2015. A questionnaire was used for data collection; achieving a 28% response rate partly due to mortality and lack of contacts. 270 full-time active commercial fishermen were considered. The questionnaire utilised the Multi-dimensional fatigue inventory (MFI-20), Nordic questionnaire for Musculoskeletal symptoms and FINALE project questionnaire. Statistical analysis used multiple linear regression and multinomial logistic regression.

Results: There was a high prevalence of ergonomic pain among fishermen. Pain in the lower back was most common (82.13%) and had the highest degree of pain (mean score 5.17/10.0, SE=0.19). Results also showed a stronger association between general and physical fatigue and ergonomic pain than between mental fatigue and reduced activity and ergonomic pain after adjusting for confounders.

Conclusion: The study confirmed an association between fatigue and ergonomic pain among Danish fishermen. Ergonomic pain may be reduced through interventions targeting fatigue reduction such as workload reduction through technological advancements for fishing vessels and programs targeting safe work practices such as use of correct lifting procedures.

Keywords: Ergonomic pain, fatigue, fishermen, MFI-20

[196]

CODING ERROR AND CODER SKILLS IN IMPLEMENTATION OF INTERNATIONAL CLASSIFICATION OF DISEASE (ICD) CASE-MIX SYSTEM IN MALAYSIA

S. Anian¹ and N. Ismail²

¹School of Business and Management, KPJ Healthcare University College, Nilai, Malaysia

²KPJ Perdana Specialist Hospital, Malaysia

ABSTRACT

Clinical coding develop a rich database that can be used for administrative functions including planning for health service programs and beneficial for health organization with appropriate use of disease and procedure classification system. As the coded clinical data are used in variety of areas, coding errors have the potential to produce far-reaching consequences. This study aims to assess the accuracy of principle diagnosis coding. In particular, (a) the type of coding error and (b) efficiency of medical record practitioners on practicing ICD information in hospital management were examined. A cross-sectional study was conducted and classification of coding error was chosen at fourth digit level. The data was collected through Health Information Technology System (HITS) and diagnosis of patient through inpatient discharge summary. An independent senior coder was appointed to review in a blind audit on the selected disciplines and clinical codes were re-coded. Comparison were made between the original codes and the auditor-assigned codes. Post audit evaluation showed the highest of error from the Pediatrics discipline with 20% of total record contained a coding error in the assignment of diagnosis. Coding errors were also particularly found 18% in Surgical discipline, 12% in O&G discipline and 10% in Medical discipline. The most significant of factors underlying coding error was poor quality of documentation. It was concluded that the auditing process plays a critical role in identification of causes of coding inaccuracy and hence the hospital should carry out regular monitoring of clinical coding quality to prevent any error in the future.

Keywords: Coding error, clinical coder, International Classification of Diseases (ICD)

[197]

THE INFLUENCE OF LEAD-ACID BATTERY RECYCLING IN DRINKING WATER, SOIL AND BLOOD LEAD LEVELS

G.B. Aquino, R.P. Gonzaga, M.M. Basila, N.E. Florendo, B.C. Magsino, C.J. Pekson and
B.B. Rengconda

De La Salle Medical and Health Sciences Institute, Philippines

ABSTRACT

Used lead-acid batteries, are classified as toxic, and therefore, their disposal and recycling have to be handled properly and regulated. In the Philippines, there are more people involved in lead recycling from the informal sector as compared with the formal sector. The continued recycling especially if it is not compliant with the government requirement poses serious environmental pollution and health effects. Thus, this study was conducted to determine the influence of lead exposure from used lead battery recycling in the environment and human health. Water and soil lead concentration from both the exposed (recycling sites, n=4) and unexposed sites (n=4) were measured by atomic absorption spectrophotometer. Blood lead levels were also measured from the recyclers and compared with the unexposed. The medial lead content in soil is 64.96 mg/kg with the lowest being 3.33 mg/kg and highest is 307.96 mg/kg. Water samples all yielded negative results. There is significant difference in the mean blood lead levels of the exposed group which is 6.55 ug/dl and 2.21 ug/dl for the unexposed (p-value of 0.0206). The association between blood lead and soil lead content had an r-value of 0.68 with a p-value of 0.0037 therefore, there is a significant moderately strong positive association between the two. Based on the results of the study, there is a need to strictly enforce government policies for handling toxic waste and initiate health education campaigns among recyclers.

Keywords: Lead, used lead-acid battery, blood, soil

[198]

**REVISITING THE TERMS OF THE PATRIARCHAL BARGAIN: EXPLORING
THE GENDER POLITICS OF HOUSEHOLD MONEY MANAGEMENT IN RURAL
NEPAL**

L. Gram¹, J. Skordis-Worrall¹, J. Mannell¹, G. Shannon¹, D. Manandhar², N. Saville¹
and J. Morrison¹

¹Institute for Global Health, University College London, United Kingdom

²Mother Infant Research Activities, Nepal

ABSTRACT

Although power struggles between daughters-in-law and mothers-in-law in the South Asian household remain an enduring theme of feminist scholarship, current policy discourse on ‘women’s economic empowerment’ in the Global South has tended to focus on women’s power in their spousal relationship to the neglect of intergenerational power dynamics. We conducted a qualitative study of 42 households from the Plains of Nepal involving semi-structured interviews with 15 mothers-in-law, 3 senior daughters-in-law, 22 junior daughters-in-law, and 20 husbands. The aim of the study was to explore the gender politics of money management in the contemporary rural Nepali household. Our study uncovered numerous ways in which junior wives and husbands in the extended family became secret allies in a quest for financial autonomy from the rule of the mother-in-law. Most prominently, husbands sometimes secretly transferred part of their income to their wife to save up for a household separation from the in-laws. Anticipating such a move by the junior couple, extended household members sought to keep the daughter-in-law and husband financially apart by restricting their access to cash, which only further strengthened the junior couple’s incentive to separate. We argue these household processes reflect a re-negotiation of Kandiyoti’s ‘patriarchal bargain’ wherein junior married women trade their own autonomy for economic security and the opportunity to attain the privileges of becoming a mother-in-law later in life. Researchers, activists and policy-makers concerned with women’s economic empowerment need to consider the impact of intergenerational power relations on women’s control over cash.

Keywords: Empowerment, agency, money management, mother-in-law, daughter-in-law

[199]

MENTAL STRESS OF FEMALE SEX WORKERST.A. Haque ¹, S. Hamid ¹, M.U. Ahmed¹, U.K. Alam ¹ and I. Hossain ¹¹ *National Institute of Preventive and Social Medicine, Mohakhali, Bangladesh***ABSTRACT**

Although prostitution or sex work is a global and deeply rooted social phenomenon, substantial disparity exists in its perception, depending on different social and cultural factors. Women engaging in sex work may be exposed to serious health risks and exposure to highly stressful life events which may have long term implications on their mental health. A cross-sectional study was done in drop-in center 'Swajan-33' in Sylhet district among 105 respondents aged of 14 to 38 years of age to assess the level of mental stress of female sex workers. Mean length of involvement in the sex industry was 5.16 years, majority 61% involve in this profession for 1-5 years. Mean age of initiation sex work was 18.92 years and 45.7% respondents started sex work at the age of 16 to 20 years. The finding of this study showed that 85.7% were suffering from high perceived stress and 14.3% were suffering from moderate stress. Age, level of education, income was not associated with level of mental stress ($p>0.05$). All of them were suffering from mental stress and this mental stress seems to decline with the duration of their profession. Literacy rate among the female sex workers are still low and invariably they are suffering from high perceived mental stress. Policies for their financial independency such as technical education, allocation of isolated educational institution, increasing social support may help them to lead a prosperous life.

Keywords: Female sex worker, mental stress, sex work

[200]

RESPIRATORY HEALTH PROBLEM AMONG BRASS UTENSILS FACTORY WORKERSN. Chowdhury ¹, S. Rahman ¹, A. Sharmin ¹, M.H. Khan ¹ and I. Hossain ¹*¹National Institute of Preventive and Social Medicine, Mohakhali, Dhaka, Bangladesh***ABSTRACT**

The industrial revolution and the great economic success that accompanied had a wide variety of victims. Brass flakes, dusts, and fumes cause lung disease are poised to become major health problem in brass sector. This cross sectional study which was conducted among 113 Brass utensils factory workers to explore relation of workplace related factors with respiratory health problem and to assess their volumetric lung function. Prevalence of respiratory health problems was higher in younger age about 80% of the 18-30 age group respondents. Prevalence of respiratory health problems was higher which 80% among the smoker group. In this study the mean FEV1 of respondents from 18-30 years is 1.94 ± 0.389 , 31-45 years is 1.74 ± 0.494 and 46-68 years age group is 1.72 ± 0.444 L/sec respectively. FVC of respondents from 18-30 years is 2.19 ± 0.342 , 31-45 years is 1.94 ± 0.477 and 46-68 years age group is 1.971 ± 0.430 L/sec respectively. Workers who worked in cutting section had 99%, Polishing section had 100%, and cleaner and helper section had 100% reduced FEV1. Workers who worked in cutting section had 99%, Polishing section had 100%, and cleaner and helper section had 100% reduced FVC. Workers of all three sections had same outcome in case of FEV1 and FVC. There was no statistically significant difference found in potentiality of exposure with lung function test. Based on the study findings important recommendations are forwarded which could help to reduce the prevalence of respiratory health problem and to create healthy and conducive working environment.

Keywords: Respiratory health problem, brass utensil factory workers

[201]

GENDER DISPARITY & PSYCHOSOCIAL STATUS OF ELDERLY PEOPLE IN RURAL AREA OF BANGLADESH

S. Rabeta and B. Afroza

NIPSOM, BSMMU, Bangladesh

ABSTRACT

Aging is byproduct of demographic transition globally. It is an emerging issue for all over the world. Elderly population is increasing in our country gradually. They suffer from various problem regarding psychological wellbeing and social support specially women. The purpose of this study is to find out gender disparity in psychosocial status of elderly people. Psychosocial status is related to psychological wellbeing and social support. Socioeconomic factors, religious, cultural, social norms create gender disparity which can affect nutrition, health, human rights in elderly people. It was a cross-sectional study done in community among 270 elderly people. Data were collected through face to face interview by using pretested semi structure questionnaire. Goldberg General health questionnaire (GHQ-12) and Duke-UNC functional social support questionnaire were used to assess psychological wellbeing and social support. Majority of the elderly people (82.2%) suffer from probable psychological disturbance. Irrespective of sex, eight out of ten suffer from probable psychological disturbance. Gender disparity is not found in psychological wellbeing. But the elderly female who are single (51.6%) have more probable psychological disturbance than that of others ($p: 0.005$). A male gets more social support than female ($p: 0.000$). Social support is more in educated, financially dependent and married people in both male and female. Social support is related to age ($p= 0.007$ in male, $p=0.000$ in female). Majority of female (83.9%) are illiterate, more than half (51.6%) of them are widow.

Keywords: Gender disparity, psychological wellbeing, social support, elderly people, rural area

[202]

PREDICTORS OF BREASTFEEDING SELF-EFFICACY AMONG EXPECTANT MOTHERSS.B.A. Hamid¹ and N.M. Zaidi¹

¹Centre of Nutrition & Dietetics, Faculty of Health Sciences, UiTM Selangor Puncak Alam Campus, Selangor, Malaysia

ABSTRACT

Breastfeeding self-efficacy refers to how mother's ability to breastfeed their new born. Mothers who have higher self-efficacy are more likely to have intention to breastfeed prenatally, initiate breastfeeding early and has longer duration of breastfeeding. The purpose of this study is to determine the predictors of breastfeeding self-efficacy among expectant mothers. A total of 180 expectant mothers were recruited in this cross sectional study. The Iowa Infant Feeding Attitude and Breastfeeding Self-efficacy Scale Short-Form questionnaires were administered. Findings depicted number of pregnancy was associated with breastfeeding self-efficacy ($p=0.002$), while area of residency, employment status, level of income showed significant associations with breastfeeding knowledge ($p<0.05$). Further analysis suggested, predictors of breastfeeding self-efficacy among expectant mothers were parity, maternal employment and breastfeeding knowledge ($p<0.05$). There are various modifiable and unmodifiable independent factors that can affect maternal breastfeeding self-efficacy. These findings aligned with Theory of Plan Behavior which advocated that attitude, subjective norm and perceived behavioral play important roles in predicting breastfeeding self-efficacy and later will influence prenatal breastfeeding intention and positive breastfeeding outcomes.

Keywords: Breastfeeding self-efficacy, breastfeeding intention, breastfeeding attitude, exclusive breastfeeding

[203]

**CONSUMER BEHAVIOR TOWARDS ORGANIC FOOD IN SELECT AREAS OF
DHAKA NORTH: A WILLINGNESS TO PAY APPROACH**J. T Barsha¹, R. Bashar¹ and N. A Khan¹¹*Department of Environmental Science and Management (ESM), North South University***ABSTRACT**

Bangladesh has achieved the status of self-sustainability in terms of food production. Hence, it is high time to go for food quality rather than quantity. This study aims to find out consumer behavior and the factors that influence their willingness to pay towards organic food products. The negative impacts of inorganic fertilizers on health and the environment have opened a market for organic products as they are grown without the use of synthetic fertilizers and pesticides. As there is insufficient literature on consumer behavior and their willingness to pay towards organic food products in Bangladesh, therefore, this study will help to create awareness and increase knowledge level among the general people about the benefits of organic food. The study was conducted among 120 respondents through a structured survey questionnaire and interview sessions were done with managers of different departmental stores at Bashundhara, Baridhara, Gulsha-Banani and Uttara areas. The study has chosen the elite areas of Dhaka North because consumers in these areas have higher awareness and can afford to pay the price premium for organic food products. Also, literature shows that consumers who have higher education and income level are more aware and willing to pay the price premium for organic food products than their poorer counterparts. The data has been analyzed through graphical and tabular representations. The results from the study show that consumers' demographic characteristics like education, income, expenditure and perceptions like health and environmental benefits, taste, visual appearance, packaging influences their willingness to pay the price premium towards organic food products. Additionally, the lack of knowledge, authentic certification, shortage of supply and price premium are the barriers which are responsible for the lower consumption of the organic food products in the market. Unfortunately a lot of the respondents (40%) were unable to explain what organic food means. Furthermore, only around 67% were willing to pay 5-10% price premium and nobody wants to pay more than 30%, whereas usually the price premium is 40-70%. Additionally, 81% respondents believed that a government certification is mandatory for trust building and 80% claimed a shortage of organic food products exists in the market. Thus, organic products should be certified by the governmental agencies, the government should think of providing subsidy to the farmers and consumers and design a suitable price to promote the consumption of organic food. Additionally, the supply of organic products in the market should be managed more efficiently if there is to be a transition towards the healthier organic food products.

Keywords: Consumer behavior, organic food, Dhaka North, willingness to pay

Web link to Virtual Presentations

<https://publichealthconference.co/virtual-presenters/>

