CONFERENCE PROCEEDINGS

5th AHLA
INTERNATIONAL HEALTH LITERACY
CONFERENCE

Kuala Lumpur
12th - 14th Nov 2017

PEOPLE • HEALTH • EMPOWERMENT

Partnership with:

The Organizers would like to extend their sincere thanks to the following organizations for the generous support received for the conference.

University of Malaya

Asian Health Literacy Association

Asia Pacific Academic Consortium for Public Health

Merck Sharp & Dohme (Malaysia) Sdn. Bhd.

Roche (Malaysia) Sdn. Bhd.

Health Promotion Administration, Ministry of Health and Welfare, Taiwan R.O.C

MJ Life Enterprise

5th AHLA International Health Literacy Conference

Kuala Lumpur, Malaysia

Health Literacy and Population Health

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Welcome Message from Deputy Vice-Chancellor, University of Malaya

I take great pleasure welcoming all of you to the 5th Asian Health Literacy Association Conference 2017 in Kuala Lumpur, Malaysia. This conference is organized by the University of Malaya through the Centre for Population Health, in collaboration and supported by the Department of Social and Preventive Medicine, Faculty of Medicine and the Asian Health Literacy Association.

The theme, "Health Literacy and Population Health" is aimed at educating and empowering the general population on basic health information and services needed to make appropriate decisions. Health literacy is essential for access to proper care and use of health services, self-care of chronic conditions, and maintenance of health and wellness. From a public health perspective, it places greater emphasis on the knowledge and skills required to prevent diseases and promote health in our daily lives. Unfortunately, studies have shown that the Public Health and Health Promotion seldom meet the needs of those with low literacy. As a consequence, it can lead to various health issues such as having poor health events, increased hospitalisation and poor access and utilisation of health services.

Population health is "the health outcome of a group of individuals, including the distribution of such outcomes within the group." To improve the health knowledge, skills and behaviours so as to generate better community health outcomes, the exposure on health literacy should be expounded at the population level. Current practice assessment, however, primarily focus on the literacy and communication skills at the individual level.

In an effort to reach out to the broader population, collaborations with multiple stakeholders must be established. As outlined in the Healthy People 2020 National Action Plan to Improve Health Literacy, the action plan seeks to engage organizations, professionals, policymakers, communities, individuals, and families in a linked, multi-sector effort to improve health literacy.

In embracing the true spirit of unity within Asia, we have a series of engaging topics revolving around our theme for this conference. Apart from sharing a wealth of knowledge and experience amongst subject matter experts, this conference should encourage more discussions on the role of health literacy. By the end of the day, I am confident that we will be closer to our objective of educating the public on the importance of health literacy.

Thank you for attending and imparting your expertise on this matter. To the organizing and academic committee members, my sincerest appreciation and gratitude for their efforts in ensuring the success of this conference.

Datuk Professor Dr Awang Bulgiba Awang Mahmud
Deputy Vice-Chancellor (Academic & International), University of Malaya

Welcome Message from the President of Asian Health Literacy Association (AHLA)

I am honored and delighted to greet you all at the beginning of spring 2017. We are currently organizing our 5th AHLA Conference in a vibrant hosting country of Malaysia. The conference which brings together experts and academics from around the world, focuses more on networking and disseminating health literacy in terms of field practice as well as research endeavor.

I am happy to see our old partners with whom we have had a good relationship for years and I hope that our collaboration with new partners will be as fruitful. I would like to thank the University of Malaya whose strong support has built up this network around most Asian countries.

I am sure that you will find the conference and your stay in Kuala Lumpur both valuable and enjoyable.

Terence, Ming-Che Tsai MD, MPH, PhD
President, AHLA
Professor, Chairman, School of Medicine Chung Shan Medical University
402 Taichung, Taiwan

Welcome Message from the General Secretary of Asian Health Literacy Association (AHLA)

The AHLA is pleased to welcome you to attend the 5th Asian Health Literacy Conference in Kuala Lumpur. AHLA has organized annual conference since 2013 in several countries and with more participation and more professional presentations in the last few years. This AHLA Conference actually attracts many more participants from Asia and those in the Europe and North America. We are also pleased to join the local organization committee, the University of Malaya, and several AHLA country office teams to prepare the program, to provide the best quality progresses and achievements of health literacy related scientific and professional activities, in the region. In the new era of health literacy in all health programs in each country, the conference will be productive and wish you a fruitful and successful occasions here.

Professor Dr. Peter WS CHANG, MD, MPH, ScD (Harvard), FRCP (London)
Secretary General, Asian Health Literacy Association
Professor, Taipei Medical University

Welcome Message from the National Organising Committee Chair of the 5ᵗʰ AHLA Conference

It is with great pleasure to greet you with a warm "Selamat Datang" which means "Welcome" in Bahasa Malaysia, to all distinguished guests, invited speakers and participants to the 5th AHLA conference. It is indeed a pleasure and an honour for the University of Malaya to host and organize such an event.

The 5th AHLA conference will be held from 12th to 14th November 2017. This year's conference theme is "Health Literacy and Population Health". This conference aims to bring together public health practitioners, policy makers, researchers, academics and students who are interested in the field of health literacy and population health to discuss and explore the national and global trends in health literacy today. This will allow us to meet new public health challenges together and enable us to strategies towards better health for all.

We thank you for your participation in this conference and are very pleased to have you here in Malaysia. We wish all of you an enjoyable and fruitful conference.

Associate Professor Dr Tin Tin Su
Chair of National Organizing Committee
Head, Centre for Population Health (CePH)
Department of Social & Preventive Medicine
Faculty of Medicine, University of Malaya

Welcome Message from the National Organising Committee Co-Chair of the 5ᵗʰ AHLA Conference

It is my pleasure to welcome you to the 5th Asian Health Literacy Association conference in Kuala Lumpur. I am delighted to witness the active regional development of Health Literacy by AHLA. The Department of Social and Preventive Medicine, Faculty of Medicine strongly supports the Centre of Population Health (CePH) University of Malaya role as a regional leader in spearheading the Health Literacy agenda.
The 5th AHLA conference theme of "Health Literacy and Population Health" highlights the importance of health literacy in maintaining healthy nations. This conference provides a platform for thought leaders, policy makers, academicians, and innovators to network, exchange ideas and collaborate. This conference is also an important platform for early career professionals to build their capacity in health literacy.
I am delighted with the encouraging response and feedback received for this conference. The conference takes place in a truly global spirit; accommodating contributions from all parts of the world. It will take stock of the situation and map strategies for new innovations and health literacy initiatives toward improving population health.

As Co-Chair of the organizing committee, I extend my sincere appreciation to all the hardworking and diligent committee members for making this conference a success. I wish you a productive conference.

Prof Dr Sanjay Rampal
Head, Department of Social and Preventive Medicine,
Faculty of Medicine, University of Malaya

Welcome Message from Academic Committee Chair of the 5th AHLA Conference

On behalf of the Academic Committee, I warmly welcome all of you distinguished academics, researchers, young scientists, and health professionals from across the globe who have come to attend The 5th AHLA conference at University of Malaya in Kuala Lumpur, Malaysia.

The organizing and academic committees have put together an outstanding conference programme. Prominent health literacy experts and public health advocates are presenting new ideas, critical perspectives, and original research in health literacy and population health at the keynote address, plenary, symposia, as well as pre-conference workshops. Amongst the highlights is the Roundtable forum on health literacy in global and national agenda with contributions of distinguished representatives from 11 countries. The scientific value of this international conference is further enhanced by about 200 accepted abstracts from 24 countries.

My warm wishes to all participants for many stimulating exchanges and may the 5th AHLA inspire all to focus on People. Health. Empowerment. in health literacy and population health.

Salam Mesra and enjoy the warm hospitality of Malaysia, Truly Asia!

Associate Professor Dr Yut-Lin Wong
Chair of Academic Committee
The 5th AHLA
Department of Social & Preventive Medicine, Faculty of Medicine
University of Malaya
Kuala Lumpur.

COMMITTEES

ADVISORY COMMITTEE
Prof Awang Bulgiba Awang Mahmud (University of Malaya)
Prof Adeeba Kamarulzaman (Faculty of Medicine, University of Malaya)
Prof Maznah Dahlui (APACPH)
Prof Yvonne Lim Ai Lian (Faculty of Medicine, University of Malaya)
Prof Ming-Che Tsai (President, AHLA)
Prof Peter WS Chang (Secretary General, AHLA)
Dr. Wongsa Laohasiriwong (Vice president, AHLA)
Dr. Minh Khuê Pham (Vice President, AHLA)

NATIONAL ORGANIZING COMMITTEE
CHAIR
Assoc Prof Dr Tin Tin Su (University of Malaya)

CO-CHAIRMAN
Prof Dr Sanjay Rampal Lekhraj Rampal (University of Malaya)

SECRETARY
Ms Nithiah Thangiah (University of Malaya)
Dr Tuyen V. Duong (Taipei Medical University)

SECRETARIAT
Dr Maslinor Ismail (University of Malaya)

EXCURSION/TOUR
Assoc Prof Dr Loh Siew Yim (University of Malaya)

PROTOCOL & OPENING
Dr Nik Daliana Nik Farid (University of Malaya)

LOGISTICS
Assoc Prof Dr Mas Ayu Said (University of Malaya)

TRANSPORT
Dr Marzuki Isahak (University of Malaya)

PUBLICATION & PROGRAMME BOOK
Dr Abqariyah Yahya (University of Malaya)

SPONSORSHIP
Assoc Prof Dr Si Lay Khaing (University of Malaya)
Assoc Prof Dr Nirmala Boopathy (University of Malaya)

AUDIO VISUAL
Prof Maznah Dahlui (University of Malaya)

PUBLICITY/WEBSITE/MEDIA
Dr Howie Lim Sin How (University of Malaya)

PRE-CONFERENCE WORSHOP
Dr Rafdzah Ahmad Zaki (University of Malaya)

FINANCE
Assoc Prof Dr Farizah Mohd Hairi (University of Malaya)

FOOD & BEVERAGES
Prof Dr Wong Li Ping (University of Malaya)

ACADEMIC COMMITTEE

ACADEMIC CHAIR
Assoc Prof Dr Wong Yut Lin, University of Malaya, Malaysia

- Prof Stephan Van Den Broucke, Catholic University Louvain, Belgium
- Prof Jürgen M. Pelikan, Ludwig Boltzman Institute for Health Promotion Research, Austria
- Prof Peter WS Chang, Taipei Medical University, Taipei, Taiwan
- Assistant Prof. Sabrina Krutz, Tufts University School of Medicine
- Dr. Kristine Sorensen, University of Maastricht, Netherlands
- Prof Dr Maznah Dahlui, University of Malaya, Malaysia
- Assoc Prof Dr Tin Tin Su, University of Malaya, Malaysia
- Assoc Prof Dr Sanjay Rampal, University of Malaya, Malaysia
- Assoc Prof Dr Mas Ayu Said, University of Malaya, Malaysia
- Assoc Prof Dr Si Lay Khaing, University of Malaya, Malaysia
- Assoc Prof Dr Loh Siew Yim (University of Malaya)
- Prof Dr Victor Hoe (University of Malaya)
- Assoc Prof Dr Claire Choo Wan Yuen (University of Malaya)
- Dr Nik Daliana Nik Farid, University of Malaya, Malaysia
- Dr Rafdzah Ahmad Zaki, University of Malaya, Malaysia
- Dr Abqariyah Yahya, University of Malaya, Malaysia
- Dr Nasrin Aghamohammadi, University of Malaya, Malaysia
- Dr Tania Islam, University of Malaya, Malaysia

Executive Officer
Dr Meram Mohammed Ali Azzani

GENERAL INFORMATION

Accommodation
Pullman Kuala Lumpur Bangsar
No 1, Jalan Pantai Jaya, Bangsar, 59200 Kuala Lumpur

Cititel Mid Valley
Mid Valley City, Lingkaran Syed Putra, Mid Valley,
59200 Kuala Lumpur

The Boulevard-St Giles Premier Hotel
Mid Valley City, Lingkaran Syed Putra, Mid Valley,
59200 Kuala Lumpur

Hilton Kuala Lumpur
3, Jalan Stesen Sentral, 50470 Kuala Lumpur

Hotel Sentral
No 30 Jalan Thambypillai, Brickfields, KL Sentral,
50470 Kuala Lumpur, Malaysia

Le Meridien Kuala Lumpur
2 Jalan Stesen Sentral, Kuala Lumpur Sentral, 50470
Kuala Lumpur

Certificate of Attendance
Certificates of Attendance will be distributed to
registered participants on Tuesday, 14th November
2017 at the Registration Desk.

Language
English will be the official language of the Conference.

Lunch
Lunch and tea will be provided at the Conference.
Dinner is on 13th November 2017.
Please refer to the programme schedule for meal
times.

Media
All delegates should be aware that there may be
members of the media attending the Conference.
Only those specifically delegated can speak on behalf
of AHLA or UM. All access to the Conference by
members of the media must be agreed in advance
with the Press Officer. All journalists will be issued
media badges which must be worn.

Venue
Please refer to hotel floor plan and programme book.

Internet Access
While on campus, you will be able to access the
University's wireless network. It is accessible on
laptops and mobile devices, this network provides
fast, secure wireless network connectivity across
UM's campuses.
Please request for username and password at the
Registration Desk
For participants with a laptop, you can also access the
Wireless Broadband Internet for free at many coffee
shops and large shopping malls in Kuala Lumpur.

Dress
Smart casual attire is suggested for all Conference
sessions.

Messages
Please watch for announcements posted on the
message boards near the Registration Desk.

Mobile Phones
Delegates are requested to use mobile phones with
consideration for others. Please be sure to switch off
during all sessions.

Mobile Service Provider
Among the common mobile service providers for
prepaid/postpaid plans in Malaysia are Digi, Maxis
and Celcom.

Name Badges
The wearing of identification badges is mandatory
and will be required for admission to all sessions, the
exhibition and meals included in the registration fee.

Registration Desk
The Registration and Information Desk is located at
the Lobby after the Main Entrance of the IPPP
Building.
The Registration Desk will operate according to the
following schedule:
Sunday, 12 November 2017, 0800-1800
Monday, 13 November 2017, 0800-1700
Tuesday, 14 November 2017, 0800-1700

Oral presenters are requested to upload their
PowerPoint presentations at Registration (Oral
Presentation Upload) Desk from 0800-1030 for each
day.

Posters to be mounted at 0800-1030 and removed at
1700-1800 for each day. Judging will start at 11:00am
each day. Velcro for poster mounting can be collected
at Registration/Exhibition Hall (Poster Presentation
Mounting)

APPRECIATION MEDALS AND AWARD

Appreciation Medals

Prof Yaw-Tang Shih, Honorary President

Prof Noorsaadah Abd Rahman, Deputy Vice Chancellor, University of Malaya

Dato' Prof Adeeba Kamarulzaman, Dean, Faculty of Medicine, University of Malaya

Dr Wachira, Pengjuntr, Director–General Department of Health, Thailand

Dr Ying-Wei Wang, Director General Health Promotion Administration, Taiwan

MJ Life Enterprise, Malaysia

Dr Chia-Lung Lin, Mayor of Taichung City

Prof Maznah Dahlui, APACPH

Yufong International Health Literacy Awards (YIHLA)

Dr Duong Van Tuyen

Ms Nurjanah

Assoc Prof Tin Tin Su

Assoc Prof Altyn Aringazina

Assoc Prof Win Myint Oo

AHLA country offices

AHLA Office in Dhaka, Bangladesh

AHLA Office in the Hong Kong Polytechnic University, Hong Kong

AHLA Office in Dian Nuswantoro University, Semarang, Indonesia

AHLA Office in University of Malaya, Kuala Lumpur, Malaysia

AHLA Office in University of Philippines, Manila, Philippines

AHLA Office in Chung-Shan Medical University, Taichung, Taiwan

AHLA Office in Khon Khan University, Khon Khan, Thailand

AHLA Office in Mahidol University, Bangkok, Thailand

AHLA Office in Haiphong University of Medicine and Pharmacology, Haiphong, Vietnam
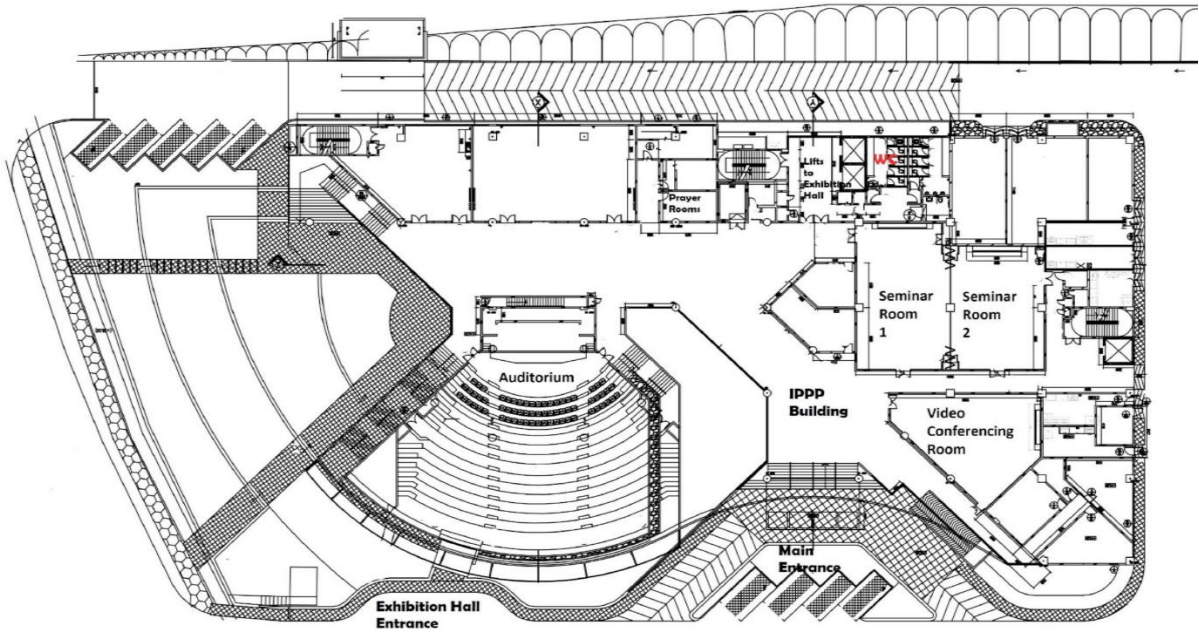
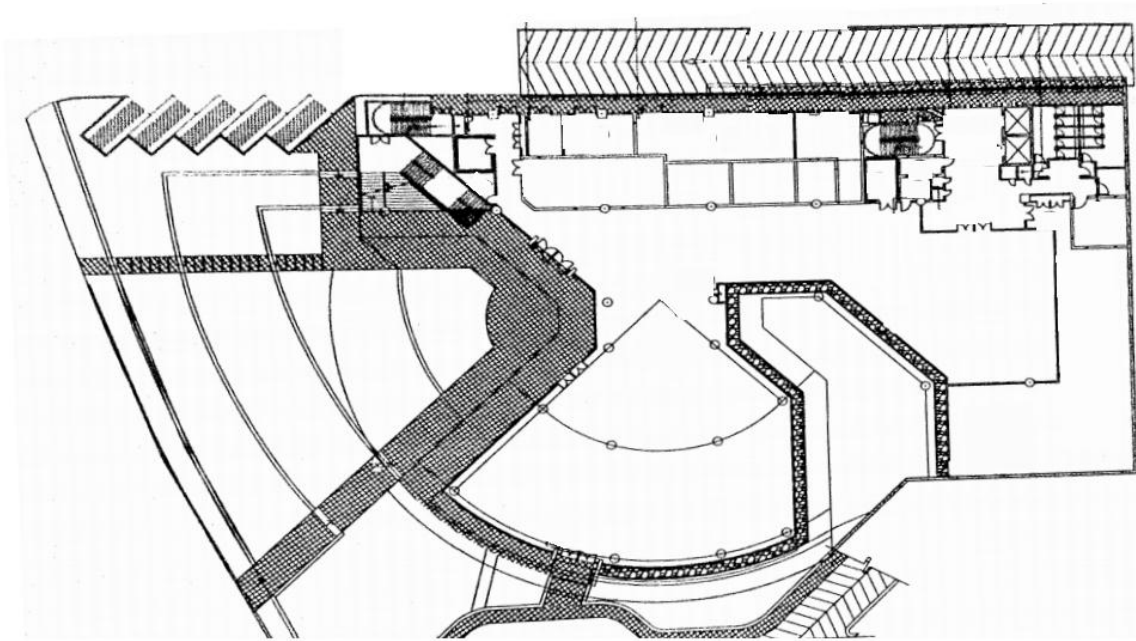AHLA Office in Thu Duc Hospital, Ho Chi Minh City, Vietnam

CAMPUS MAP

CONFERENCE FLOOR PLAN

Main Lobby, 1st Floor

Exhibition Hall, Ground Floor

CONFERENCE PROGRAMME

PRE-CONFERENCE DAY PROGRAMME (12th NOVEMBER 2017)

0800-0900	Registration & Light Breakfast		
0900-1100	Workshop 1: Health Literacy 101: What is Health Literacy? What are we doing about it? Dr Kristine Sorensen & Assist Prof Sabrina Kurtz-Rossi	Workshop 2: Evaluation of Health Promotion Programme Prof Stephan Van den Broucke	Workshop 3: Statistical Evidence in Public Health Research & Practice Assoc Prof Dr Karuthan Chinna
1100-1200	Brunch (Breakfast and Lunch)		
1200-1400	Workshop 1: Health Literacy 101: What is Health Literacy? What are we doing about it? Dr Kristine Sorensen & Assist Prof Sabrina Kurtz-Rossi	Workshop 2: Evaluation of Health Promotion Programme Prof Stephan Van den Broucke	Workshop 3: Statistical Evidence in Public Health Research & Practice Assoc Prof Dr Karuthan Chinna
1400- 1500	Break		
1500- 1530	UM Shuttle Bus to depart from: i) VE Hotel - Bangsar ii) Pullman Hotel - Bangsar **Shuttle bus is provided only for AHLA EB members & invited speakers. All other guests staying in other hotels are requested to gather at either one of the hotels above (VE/Pullman) UM Shuttle Bus to proceed to the Museum of Asian Art (https://museum.um.edu.my/contact-us)		
1530- 1630	Visit Museum of Asian Art i) View China artifacts and cancer survivors art pieces ii) Video : **GaleriNasionalMandarin- 20161101.mov**		
1630- 1700	UM Shuttle Bus to proceed to KeepAble, Cancer Community Centre (https://www.facebook.com/keepableCancerCommunity/)		
1700-1800	Visit KeepAble Cancer Community Centre i) Welcoming with Drumming-for-health session ii) Sharing from survivors iii) Tour around reflexology path, passion fruit trellis and counselling gazebo		
1800-1830	UM Shuttle Bus to proceed to Halia, Sime Darby Convention Centre, Jalan Bukit Kiara		
1830-2100	APACPH-AHLA Networking Dinner, Halia, Sime Darby Convention Centre, Jalan Bukit Kiara		
2100	UM Shuttle Bus to proceed back to VE Hotel, Pullman Hotel, LRT etc		

CONFERENCE SCIENTIFIC PROGRAMME

FIRST DAY OF CONFERENCE (13th NOVEMBER 2017)

0800-0900	Registration

0900-1000	❖ Cultural Performance
	
	❖ Welcome Remarks and Opening Address
	
	    1. Deputy Vice Chancellor (Academic and International), University of Malaya
	       Datuk Prof Awang Bulgiba
	
	    2. National Organizing Committee
	       Assoc Prof Tin Tin Su & Prof Sanjay Rampal
	
	    3. Asia Health Literacy Association (AHLA)
	       Prof Ming-Che Tsai; Prof. Yaw-Tang Shih; & Prof Peter Chang
	
	❖ Appreciation Medals & Awards Presentation
	
	   1. Appreciation Medals
	
	   2. Yufong International Health Literacy Award (YIHLA)
	
	   3. Certificate for AHLA country offices

1000-1030	**Keynote Speech 1** Chair: Assoc Prof Wong Yut Lin, University of Malaya, Malaysia Co-chair: Assist Prof Sabrina Kurtz-Rossi, Tufts University School of Medicine, USA **Population approach to HIV/AIDS prevention and control** Prof Dato' Adeeba Kamarulzaman , University of Malaya, Malaysia
1030-1100	Group Photo Session Tea Break & Poster Viewing
1100-1130	**Keynote Speech 2** Chair: Prof Ming-Che Tsai, School of Medicine, Chung Shan Medical University, Taiwan Co-chair: Dr Chong Chee Kheong, Acting Deputy Director General (Public Health), MOH, Malaysia **Health Literacy in the "Alternative Truth" era: On the importance of digital and media literacy for health literacy.** Prof Stephan Van den Broucke, Catholic University of Louvain, Belgium

1130-1200	**Keynote Speech 3** Chair: Prof Maznah Dahlui, Faculty of Medicine, University of Malaya, Malaysia Co-chair: Prof Jürgen M. Pelikan, University of Vienna, Austria **Policies and practical interventions to improve health literacy in populations** Prof Don Nutbeam, University of Sydney, Australia
1200-1300	**Roundtable: Health Literacy in Global and National Agenda** Moderators: Prof Peter Chang, Asian Health Literacy Association 　　　　　　　Dr Kristine Sørensen, Global Health Literacy Academy Speakers: Prof Don Nutbeam, University of Sydney, Australia Dr Natasha Khurshid, Somadder Welfare Foundation, Bangladesh Assoc Prof Angela Leung, Hong Kong Polytechnic University, Hong Kong Assoc Prof Sanjay Pattanshetty, Manipal University, India Dr Feisul Idzwan Mustapha, Ministry of Health, Malaysia Dr Wachira Pengjuntr, Director General, Department of Health, Thailand Assoc Prof Chanuantong Tanasugarn, Mahidol University, Thailand Prof Somsak Pitaksanurat, Khon Kaen University, Thailand Prof Ying-Wei Wang, Health Promotion Administration, Taiwan
1300-1400	Lunch Break & Poster Viewing
1400-1530	**Symposium 1: Health Literacy Initiatives in Selected Asian Countries** Chair: Prof Sanjay Rampal, University of Malaya, Malaysia Co-Chair: Ms Nurjanah, Dian Nuswantoro University, Indonesia Venue: Auditorium Hall **Health literacy among diabetes patients in Thailand**: **a community based study** *Assoc Prof Wongsa Laohasiriwong, Khon Kaen University, Thailand*	**Symposium 2: Innovative Technology & Population Health** Chair: Assoc Prof Sanjay Pattanshetty, Manipal University, India Co- Chair: Dr Rafdzah Ahmad Zaki, University of Malaya, Malaysia Venue: Seminar Room **Innovative applications in public education in WIFI era** *Prof Ming-Che Tsai, School of Medicine, Chung Shan Medical University, Taiwan*

	Health literacy: a potential for intergenerational public health intervention *Assoc Prof Tin Tin Su, University of Malaya, Malaysia* **Health Literacy critical for Universal Health Coverage and SDGs** *Prof Peter WuShou Chang, Taipei Medical University, Taiwan*	**Digital technology as a tool for public health: is there any need for this?** *Dato' Dr Patrick Tan, University of Malaya Medical Centre and University of Malaya Specialist Centre, Malaysia* **A complex intervention to enhance pre-pregnancy health** *Dr Ainul Nadziha Mohd Hanafiah, Ministry of Health, Malaysia*
1530-1600	Tea Break & Poster Viewing	
1600-1730	**Concurrent Sessions (Oral Presentations)**	
	Theme A: Non-Communicable and Communicable Diseases Chair: Assoc Prof Si Lay Khaing Venue: Auditorium Hall	
	Theme B: Lifestyle, Health Promotion and Health Literacy Chair: Dr Marzuki Bin Isahak Venue: Seminar Room (1)	
	THEME C: Health Literacy & Population Health Chair: Assoc Prof Loh Siew-Yim Venue: Seminar Room (2)	
1800	Shuttle to Dinner	
1830-2000	Conference Dinner	

SECOND DAY OF CONFERENCE (14th NOVEMBER 2017)

0800-0900	Registration
0900-1000	**Plenary: Health Literacy & Health Services Delivery** Chair: Prof Stephan Van den Broucke, Catholic University of Louvain, Belgium Co- Chair: Assoc Prof Tin Tin Su, University of Malaya, Malaysia **Health literacy promoting hospitals and health care services** Prof Jürgen M. Pelikan, University of Vienna, Austria **Involving patient and others to advance health literacy in a pharmaceutical company** Ms Laurie Myers, Global Health Literacy Director, Merck, Sharp, and Dohme, Inc. **Health Literacy in Taiwan Health Care Services** Prof Ying-Wei Wang, Ministry of Health and Welfare, Taiwan
1000-1030	Tea Break & Poster Viewing

1030-1200	**Symposium 3: APACPH Symposium on Global Health** Chair: Prof Victor Hoe, University of Malaya, Malaysia Co-Chair: Ms Julie McKinney, McKinney Health Literacy Services, USA Venue: Auditorium Hall **Global environmental health** Dr Wiwat Rojanapithayakorn, Mahidol University, Thailand **Migration, refugee and global health** Assoc Prof Don Eliseo Lucero-Prisno III, University of Philippines, Philippines **Global health diplomacy** Assoc Prof Feng-jen Tsai, Taipei Medical University, Taiwan	**Symposium 4: Health Literacy: Research, Practices & Capacity Building** Chair: Prof Altyn Muafikovna Aringazina, Kaz School of Public Health, Kazakhstan Co-Chair: Assoc Prof Mas Ayu Said, University of Malaya, Malaysia Venue: Seminar Room **Health literacy: knowledge brokering and its role for timely, accurate and transparent research dissemination** Dr Kristine Sørensen, Global Health Literacy Academy, Netherlands **Improving care with relational agents** Prof Michael Paasche-Orlow, Boston University School of Medicine, USA **Building the health literacy capacity of organizations and systems** Assist Prof Sabrina Kurtz, Tufts University School of Medicine, USA
1200-1330	**Concurrent Sessions (Oral Presentations)**	
	Theme D: Global Health Literacy Chair: Dr Nasrin Aghamohammadi Venue: Auditorium Hall	

	Theme E: Health System and Policy Chair: Dr Meram Azzani Venue: Seminar Room (1)
	Theme F: Digital Health Literacy Chair: Dr Tania Islam Venue: Seminar Room (2)
1330-1430	Lunch Break & Poster Viewing (AHLA Assembly Meeting by invitation)
1430-1600	**Symposium 5: Community Health Development** Chair: Dr Wan Mansor bin Hamzah, Ministry of Health, Malaysia Co-Chair: Assoc Prof Claire Choo Wan Yuen, University of Malaya, Malaysia Venue: Auditorium Hall **Urban health literacy – thriving in the city** *Dr Uta Dietrich, United Nation University, Malaysia* **Known unknown s and unknown unknowns in chronic disease management: implications for health literacy** *Prof Daniel Reidpath, Monash University, Malaysia* **Improving health literacy for caregivers of older persons through our customised community-based education program** *Assoc Prof Farizah Hairi, University of Malaya, Malaysia*	**Symposium 6: Non-Communicable Diseases** Chair: Dr Nik Daliana Nik Farid, University of Malaya, Malaysia Venue: Seminar Room **Community-based type 2 diabetes lifestyle education** *Prof Kathy Hosig, Virginia-Tech University, USA* **Health literacy and NCD prevention** *Prof Sanjay Rampal Lekhraj Rampal, University of Malaya, Malaysia* **Competencies of medical officers and nurses in managing diabetes patients at the primary care level** *Dr Feisul Idzwan Mustapha, Ministry of Health, Malaysia*
1600-1630	Tea Break

1630-1730	❖ Presentation of the 6th AHLA Conference 2018 (School of Medicine, Chung Shan Medical University, Taiwan)
	❖ Awards Ceremony (3 Best Poster and 3 Best Oral Presentations)
	❖ Closing

SPEAKERS BIODATA & ABSTARCTS

1. Dato' Professor Adeeba Kamarulzaman

Biodata

Professor Adeeba Kamarulzaman is a Professor of Medicine & Infectious Diseases and has been the Dean of the Faculty of Medicine, University of Malaya since 2011. During this period, she has overseen the strengthening and growth of the Faculty of Medicine at UM in terms of its clinical and academic programs and research capacity. She has received numerous local and international awards for her contribution to medicine and infectious diseases including an Honorary Doctor of Laws from her alma mater Monash University.

Title: Population Approach to HIV/AIDS Prevention and Control

Abstract

More than three decades since the beginning of the HIV epidemic, major scientific advances have been made in HIV prevention, treatment and care. Despite that, the HIV epidemic remains one of the biggest global health challenges with an estimated 36.7 million people living with HIV and 2.1 million new HIV infections detected in 2015. Today, more tools than ever are available to prevent HIV. In addition to condoms, the provision of clean needles and syringes to people who use drugs and male circumcision, antiretroviral therapy as prevention and pre-exposure prophylaxis have been shown to be highly successful as HIV prevention strategies. The biggest challenge in implementing these biomedical approaches that have been proven to prevent HIV infection and therefore the quest to end AIDS globally however is the stigma and discrimination against individuals who are infected and are at risk, and laws and policies that criminalise them.

2. Professor Stephan van den Broucke

Biodata

Stephan Van den Broucke is Professor of Public Health Psychology at the Université Catholique de Louvain, Belgium. He formerly held positions at the Flemish Institute for Health Promotion, the Executive Agency for Health and Consumers of the European Commission in Luxembourg, and the Department of International Health at Maastricht UniversityProf. Van den Broucke is Vice-President for Capacity Building and Training of (IUHPE), associate editor for *Health Promotion International*, and president of the Well Done Health Literacy Awards.

Title: Health Literacy in the Alternative Truth Era: On the Importance of Digital and media Literacy for Health Literacy

Abstract

In an era when information on health issues is abundantly available, making decisions on health is less a question of *whether* information can be accessed, but rather of *where* the information is obtained from and if it is reliable. Information provided by the mass media and the internet, in particular, may not always be accurate. Therefore, the ability to judge the reliability of health information sources becomes increasingly important. In this presentation, we will address these points by highlighting the processes of accessing and judging health information. First, we will

look the information sources that are consulted by patients and citizens to obtain health information, relating health information source use to health literacy. Next, we will consider the role of two other "literacies" that impact on accessing and evaluating health information: *Digital literacy,* or a person's ability to find, understand, appraise and apply information from electronic sources, and *Media literacy,* or a person's understanding of the role of media in society. The presentation will give a state of the art of the emerging literature on both forms of literacy, and consider their role as moderators of health literacy.

3. Professor Don Nutbeam

Biodata

Professor Don Nutbeam is a Professor of Public Health at the University of Sydney, and a Senior Advisor at the Sax Institute. Professor Nutbeam's career has spanned positions in universities, government, health services and an independent health research institute. He was President of the University of Southampton, UK (2009-15), Provost at the University of Sydney (2006-9) and also Head of Public Health in the UK Department of Health.

Title: Policies and practical interventions to improve health literacy in populations

Abstract

Governments and national agencies in countries as diverse as the US, China, Australia and some European nations have developed national strategies and targets to improve health literacy in their populations. As these policies and other government responses have emerged there has been increasing attention given to interventions to address the challenges posed by low health literacy in populations, and to improve health literacy in clinical and community populations.

To date, the great majority of reported interventions have been in clinical settings, providing consistent evidence that low health literacy can be improved through modifications to communication and other mixed-strategy interventions, and that these improvements are associated with better health outcomes. To date there are fewer studies that have examined interventions to improve health literacy in community populations. This presentation will provide an overview of advances in practical and effective interventions to improve health literacy, and reduce the impact of low health literacy in disadvantaged populations.

4. Professor Jürgen M. Pelikan

Biodata

Jürgen M. Pelikan, Ph.D., is Professor emeritus at Institute of Sociology, University of Vienna (Austria) and Director, WHO Collaborating Centre for Health Promotion in Hospitals and Healthcare (www.hph-hc.cc/) at the Austrian Public Health Institute (www.goeg.at). He has worked and published extensively on health promotion in health care, on population health literacy and health literate health care organizations. He is a member of SAB of AHLA, of GWG HL of IUHPE and of GB of IHLA.

Title: Health Literacy Promoting Hospitals and Health Care Services

Abstract

Health literacy (HL) has become a prominent concept in health care, since there is empirical evidence that limited HL of patients has detrimental effects on their use of health services and outcomes in health care. Therefore, instruments have been developed to measure HL of patients to take their HL into account in communication in health care encounters. Furthermore, information materials have been designed to fit for patients with limited HL, and measures were taken to improve communication skills of health professionals. These fragmented approaches to deal with HL in health services have been widened to the IOM concept of the "Ten attributes of a health literate health care organization" and the Vienna model and standards for a "health literate hospital". The lecture will present results why HL matters in health care, what it means to better integrate HL into health services and how this can be done systematically and sustainable.

5. **Ms Laurie Myers**

Biodata

Laurie Myers has the honor of serving as the Global Health Literacy Director for Merck, Sharp & Dohme, Corp. She leads the company's health literacy efforts to create improved patient communications, including medication labeling, packaging, clinical trial materials, lay summaries, and patient education. She is a member of the NAS Health Literacy Roundtable and the EMA lay summaries task force. She received the IHA health literacy research award in 2016. She graduated from Yale then earned her MBA at Wharton.

Title: Involving Patients and Others to Advance Health Literacy in a Pharmaceutical Company

Abstract

Health literacy is vital to achieving the best possible results from medical care, medicines and vaccines. Those with limited health literacy are more likely to have chronic conditions and are less able to manage them effectively.[1] We must partner with patients to promote their understanding of their medical condition or disease, the reasons they are being treated, and the appropriate use of their medications and other treatments. Doing so will result in minimizing safety issues and maximizing the benefit of medicines.

Pharmaceutical companies play an important role in helping patients manage their health. This talk will highlight these opportunities, including clinical trials, disease education, and packaging. A case study about the development of patient medication labelling will highlight the benefit of collaboration with academia and the importance of involving patients across a range of health literacy levels. The conclusion will focus on "lessons learned," actionable insights to drive the inclusion of diverse patient perspectives.

6. Professor Ying-Wei Wang

Biodata

Profeesor Ying-Wei Wang is a Director-Gerneral of Health and Promotion Administration in Ministry of Health, Taiwan. He holds a Dr. P.H from School of Public Health & Tropical Medicine from Tulane University, USA. Professor Wang worked as Deputy Director of Department of medicine, Director of Heart Lotus Care Ward, Secretary-general of Taiwan Society of Health Promotion Hospitals and a Council member of Asia Pacific Hospice Palliative Care Network. His research interests involve: Family Medicine, palliative care, Community Health, health promotion and medical education.

Title: Health Literacy in Taiwan Health Care Services

Abstract

Health literacy is a major factor influencing health behavior and health outcome. Health promoting hospitals in Taiwan have commenced the health literacy program and the adoption of SDM. The program includes the continuous intervention and performance evaluation of public health and diet related lifestyle international media literacy, comprehensive Shared Decision Making support tools for cancer care, public heat injury, and any other health literacy assessment tools. Furthermore, we plan to develop evidence based primary training courses, standardized curriculum, teaching based on topical presentations, group discussions and actual practice for the development of sports and healthcare professional in the promotion of elderly exercise and health literacy in health promotion. The program will be promoted to the communities to create a healthy lifestyle environment for elderlies. In the future, we will continue to share Taiwan's experience and achievements in the promotion of health literacy.

7. Assoc Prof Wongsa Laohasiriwong

Biodata

Associate Professor. Dr. Wongsa Laohasiriwong is currently Vince Dean for International Affairs Faculty of Public Health, Khon Kaen University, Thailand. Dr Wongsa is a Chairperson of the Board Committee of the Doctor of Public Health Program (International program); (2009 - present). She is a tropED coordinator Thailand under Erasmus Mundus (2006-present), AHLA Vice Chairman and Chairperson of the GMS Public Health Academic Network. She has authored or co-authored of 45 publications in English and Thai.

Title: Health Literacy among Diabetes Patients in Thailand: A Community Based Study

Abstract

Diabetes Mellitus (DM) is one of top the leading causes of mortality in Thailand. DM patients need to have competency to access, understand, appraise and apply information to make health decisions in everyday life throughout their life course which is called health literacy. We conducted a nationwide community based cross sectional study to explain the level of health literacy and its influence on health among DM patients in all 4 regions of Thailand. The total of 1600 adults DM patients was multi stage random sampling from 8 provinces to response to a structured questionnaire interview. We found that the highest proportion of the DM patients had only average level of health literacy. They had problems in understanding, appraising and applying information to make appropriate health decisions. They were mostly had average level of quality of life. Health literacy has influence on quality of life of the DM patients in Thailand.

8.   Assoc Prof Tin Tin Su

Biodata
Associate Professor Tin Tin Su is a founding member of the Centre for Population Health (CePH) and appointed as Head of the research centre since March 2011. Tin Tin Su is one of the pioneers of health literacy studies in Malaysia. She is an executive board member for Asia Helath Literacy Association (AHLA) since 2014 and elected as a vice president from 2014-2016. She is also an executive board member for International Health Literacy Association (IHLA). She will lead the AHLA-Kuala Lumpur office as a country director.

Title: Health Literacy: A potential for intergenerational public health intervention

Abstract
There were several evidence that general health literacy is a predictor and associated factor for individual health behaviours, health status, health care accessibility and utilization. By using data from an adolescent cohort study and a cross-sectional survey among parents of Malaysian adolescent, association between parental and child health literacy were explored. The mediating effect of parental health literacy between parental educational attainment and body composition (proxy measure of health outcome) of their adolescent children were also investigated.
Altogether 60% of parents and 72% of adolescents has limited health literacy. Although weak, there is a significant positive correlation between child and parental health literacy. Path analysis revealed a partial mediation of parental health literacy on the relationship between parental education attainment and body compositions of adolescents. Interventions addressing low health literacy among parents have a promising potential to improve both adolescents' health literacy and health status.

9.   Professor Peter WuShou Chang

Biodata
Professor Dr. Peter CHANG, MD, MPH, ScD (Harvard), FRCP (London) is the Secretary General of the Asian Health Literacy Association, a Geneva based international nongovernmental organization, also the Vice President of the International Health Literacy Association, IHLA, as well as the Senior Global Health Literacy Adviser, International Center for Migration Health and Development, Switzerland, also serves in the editorial board of the Journal "Health Literacy Research and Practice. He is now the adjunct Professor of the Tufts University School of Medicine, and a Visiting Professor of the Kazakh National Medical University, Dian Nouswantoro University in Semarang.

Title: Health Literacy critical for Universal Health Coverage and SDGs

Abstract
In 2030, the global goals for sustainable development will be anticipated, targeting goal 3 to ensure healthy lives and promote health for all at all ages. Health literacy is to empower the individuals, patients, their families, communities, on all health issues. It is modified and enriched through formal and informal life-long learning, continuous contacts of the individuals with health information, professionals, and the healthcare organizations. Adequate health

literacy empowers the health professionals in effective delivering of health services, able to minimize the gaps with the patients and families, provide strong support and insurance from miscommunication, and distrust by the individuals on the health services. It reduces unnecessary burden on the over demanded health services, provides immunity for the public from adverse impacts of unqualified information and advertisements. Investment on health literacy can provide quality planning on health expenditure. In emerging economies, enhancing the health literacy will be particularly useful to fill in the gap in health services.

10. Professor Terence, Ming Che Tsai

Biodata
Professor *Ming-Che Tsai is currently the Dean* of *College of Medicine, Chung Shan Medical University*, Prof Tsai is ctively involved in establishment of EMS/Disaster system in Taiwan. he was a Director of National Disaster Medical Assistant Team for 10 years, Team leader of first Taiwanese international medical relief team mission in Banda Ache, Indonesia, Project leader, disaster management education in Kisumu, Kenya, Director, International Medical Center, CSMUH and Director, Department of Medical Education, CSMUH.

Title: Innovative applications in public education in WIFI era

Abstract
Both quantity and quality of health education are fundamentals in dissemination of health literacy to the general public. How to better measure the pretest, posttest results follow up as well as to improve the interactions between educators and audiences serve as cornerstones of educational impacts. Marshall, 1992; Liao, et al 2007 both agree that Interactive Response System, IRS will take up learning progress in a timely fashion. We thus advocate a comprehensive innovation app, Zuvio IRS app, to all health educators to facilitate their teaching. It requires simple operation, two-way communication, meanwhile emphasizing individual differences, and most of all, relatively low cost. Audience can stay focused and actively involved/feedback through immediately visualized images and figures. How "Zuvio IRS app" effectively enhances the interaction in real setting will be illustrated during this presentation.

11. Dato' Dr Patrick Tan Seow Koon

Biodata
Dr Patrick Tan has held senior leadership positions in Academic Medicine. He practices anesthesia at University of Malaya Specialist Centre, conducts intensive care research and teaching, teaches Public Health safety and risk management at University of Malaya, contributes to Ministry of Health committees on Organ Transplantation and Human Tissue Laws, is honorary consultant for health systems development in Strateq Group, is honorary consultant to IMT Medical Technology Switzerland for respiratory research, and is honorary Board Director at Mount Miriam Cancer Hospital.

Title: Digital Technology as a Tool for Public Health: is there any need for this?

Abstract
A healthy life, or good health, is our most precious commodity. For any human being with access to healthcare, there are three most desired medical services: The diagnosis of illness, disease management with prediction of outcome, and professional care. Once, these three practices worldwide were in the exclusive domain of Doctors. Technology is reshaping the civilizational landscape of human wellness and illness – "technology disrupts healthcare", is trending.
It is my hypothesis that human civilizational society will continue to flourish so long as there is a human arbiter of moral right and wrong. For this to occur both public health and individual medical professionals should invest in the public awareness and education of their roles and responsibilities for personal health governance and moral governance. The trustworthiness of the medical profession, however imperfect, stands out positively in society. Medical professionals can continue to steward the collection of new honest epidemiologic data, interpret and use it to predict and encourage populations to co-manage their good health for all time.

12. Dr Ainul Nadziha Mohd Hanafiah

Biodata
Ainul Nadziha Mohd Hanafiah is a senior medical officer at the Institute for Health SystemsResearch, Ministry of Health Malaysia. She is part of the Health Policy Studies and Analysis Division, the team that advocates knowledge translation to move research into the hands of those who can turn them into policy and practice. With experiences gained from her past involvement in several health systems research projects, she has been given the task to lead a community trial of a complex behavioural intervention, a public-private partnership project known as the Jom Mama project.

Title: A complex intervention to enhance pre-pregnancy health

Abstract
The prevalence of diabetes in Malaysia shows the steepest increase amongst the younger age group (18-35 years), demonstrating a three-fold increase over the last two decades. Gestational diabetes mellitus (GDM) affects pregnancy and its outcomes, and globally its growing prevalence is changing the diabetes landscape. The Jom Mama project is a randomised controlled trial (RCT) to evaluate the effect of a complex intervention to enhance women's pre-pregnancy health.
The intervention package consists of a novel combination of behaviour change counselling (BCC) through contact with community health promoters (CHP) and usage of personalised mobile application. CHPs assess participants' health behaviour and risks, and guide and support participants towards achieving and maintaining a healthier lifestyle. The e-health platform reinforces behaviour change that supports the participants in making healthier choices in their daily life through its functions as a risk assessment tool, a platform for social interaction, and a means for real-time monitoring.

13. Dr Wiwat Rojanapithayakorn

Biodata
Dr. Wiwat Rojanapithayakorn is currently the Director of the Center for Health Policy and Management, Faculty of Medicine Ramathibodi Hospital, Mahidol University of Thailand. He is also the Executive Director of AUN-Health Promotion Network and the Director of Mahidol University Global Health Program. He was also the Representative of the World Health Organization in Mongolia (2009-2012). He has authored or co-authored more than 110 publications in English and Thai; and was editor or chief editor of 15 public health journals.

Title: Global Environmental Health

Abstract
The World Health Organization (WHO) estimates that each year 12.6 million deaths are attributable to unhealthy environments - nearly one in four of total global deaths. Such unhealthy environmental conditions are very complex and vary from country to country depending on various factors, either natural or man-made. Although the term "environmental health" is not explicitly specified in the list of the 17 Sustainable Development Goals (SDGs), many environmental factors affecting health are included both directly and indirectly in the SDGs, such as food security and sustainable agriculture (SDG 2), hazardous chemicals and air, water and soil pollution (SDG 3, target 9), water and sanitation (SDG 6), sustainable energy (SDG 7), climate change (SDG 13), and a few others. Inclusion of such issues in this global development targets is a strong evidence of commitment of global communities to address the threats of global environmental health.

14. Assoc Prof Don Eliseo Lucero-Prisno III

Biodata
Don Eliseo Lucero-Prisno III BSc (cum laude) MD PgD MPH MSc PhD FRSPH is an Associate Professor of Global Health at Xi'an Jiaotong-Liverpool University (China). He also holds appointments with the LSHTM, University of Liverpool, LMU Munich, Cardiff University and the University of the Philippines. Don has published in the fields of global health and public health. He is the Founder of Global Health Focus (GHF) which develops critical thinkers and leaders in global health. He holds a PhD from Cardiff University.

Title: Migration, refugee and global health

Abstract
Global migration has never seen the unprecedented increased number of transitional bodies strongly affected by various 'push' factors from armed conflicts to humanitarian crises. In the context of global migration, the limitations of global health laws are brought to the fore as developed countries are often disinclined in funding initiatives in low and middle income countries, in addition to the reluctance of some countries in implementing international agreements. I will argue that the movement of migrants and refugees is a global health phenomenon. Implications of migration transcend a globalized setting thus requiring the coordinated efforts of international players. A challenge to the efficiency of global health laws is evident in the context of global migration. While policies and international agreements are in place, a continuing process of rethinking is warranted as to how the health of migrants and refugees can be made more holistic and inclusive.

15. Assoc Prof Feng-Jen Tsai

Biodata

Professor Feng-jen (Jean) Tsai is an Associate Professor of Master program in Global Health and Development at the Taipei Medical University. She holds a PhD in Public Health and Master Degree in Law from the National Taiwan University. With working experiences as a lawyer and a researcher in Geneva University, Switzerland, she now focused on research in Global Health, Trade and Health, medical and public health law and ethics, and health system and policy.

Title: Global Health education in Asia

Abstract

As an emerging field, there are increasing interests in establishing global health program to provide global health education around the world. As a new academic field, there are already several discussions regarding essential core competencies in global health. However, those discussions are mainly touched in Western countries. As a region with different cultural and social background, there is a need to discuss the global health education in Asia. The speaker will talk about this issue during the speech.

16. Assistant Prof Sabrina Kurtz-Rossi

Biodata

Sabrina Kurtz-Rossi, MEd is director for the Health Literacy Leadership Institute at Tufts University School of Medicine. She is also principle of Kurtz-Rossi & Associates a woman-owned consulting group offering worldwide health literacy education and evaluation services. Her area of study and practice applies adult learning theory to public health and medicine. She is especially dedicated to teaching health literacy to health professionals in training and practice.

Title: Building the Health Literacy Capacity of Organizations and Systems

Abstract

Health literacy is dependent on the complexity of the system and the capacity of those that use and serve that system. This presentation will introduce the concept of a health literate organization and identify key areas for building capacity to improve quality, access, equity, and health. Attributes of a Health Literate Organisation (2012) include engaging leadership, preparing the workforce, involving populations served, creating a shame free environment, using oral clear communication strategies, and ensure access and user friendly design. The presenter will review available tools and approaches to conducting an organizational assessment, training and workforce development in clear health communication, providing culturally and linguistically appropriate services, and achieving organizational change.

17. Professor Michael Paasche-Orlow

Biodata
Professor of Medicine, Boston University School of Medicine. Dr. Paasche-Orlow is a general internist and an internationally recognized expert in the field of health literacy. He is currently the PI or co-investigator of eight funded grants that examine health literacy including three intervention studies evaluating simplified information technologies for behavior change among minority patients with a range of health literacy levels. Dr. Paasche-Orlow is the director of HARC, and is the founding editor of the new journal *Health Literacy Research and Practice*.

Title: Improving Care with Relational Agents

Abstract
Working with colleagues over the past decade we have developed an interactive computer relational agent platform to mitigate health literacy barrier, empower patients, and improve the experience of medical care. I will show examples and describe interventions that we have done, that we are currently doing.

18. Dr Kristine Sørensen

Biodata
Kristine Sørensen PhD MScPH is director for the Global Health Literacy Academy and committed to advance the global scope and scale of health literacy. She is the president of the International Health Literacy Association. Her educational background is in medicine, public health and global health diplomacy. She has acted as global advisor on health literacy for McKinsey, EU, WHO, the European Parliament and Council of Europe.

Title: Health literacy: Knowledge brokering and its role for timely, accurate and transparent research dissemination

Abstract
Health literacy has moved from the margins to the mainstream, especially supported by the growing evidence on the impact of health literacy in various aspects of healthcare, disease prevention and health promotion. With the increased awareness of health literacy a new challenge emerge on how we can disseminate the rapid growing research in a timely, accurate and transparent manner to facilitate further development in the field. This presentation presents
knowledge brokering as an essential health literacy skill that can qualify the dissemination and essential the communication between the research field and end-users of the research. By strengthening the knowledge brokering skills we can accelerate the impact of the research and decrease the time between basic research and actual field implementation to the benefit of more people more sustainable health systems.

19. Dr Uta Dietrich

Biodata

Uta Dietrich is a Visiting Research Fellow with UNU-IIGH and a Senior Manager – Urban Solutions with Think City in Malaysia, recognised for her expertise in Health Promotion and Global Health. Over the past 25 years, her career has spanned education, policy, practice and research from her German roots to the USA, Hong Kong, Australia and Malaysia. Her health literacy work included Aboriginal health literacy and is now focussing on urban health and planetary change.

Title: Urban Health Literacy – Thriving in the city

Abstract

The majority of the world's population already lives in cities that continue to grow, particularly in South-East Asia and Africa. The way people live in cities affects their health. Poor quality of air or water, lack of physical activity, social isolation, noise and others lead to poorer health outcomes while better access to education, health services or employment can enhance it. Selected determinants will be described in the context of the eco-social framework which positions human health within a system of ecological, economic and social dimensions. This framework sits within the concept of planetary health, the health of human civilisation and the state of the natural systems on which it depends. What this means is that human behaviour today influences the health of people and planet now and into the future. Increasing heath literacy around these concepts has the potential to not just improve the quality of life of the current generations but also those to come.

20. Professor Daniel Reidpath

Biodata

Professor Daniel Reidpath has been a Public Health academic since 1997, although his disciplinary background was originally in Computer Science and Psychology. He is currently Professor of Population Health and Head of Public Health at Jeffrey Cheah School of Medicine and Health Sciences, Monash University Malaysia. He is also the Director of the South East Asia Community Observatory (SEACO), a Monash University Research Infrastructure Platform in Segamat, Johor, which tracks the health and wellbeing of 40,000 people.

Title: Known unknowns and unknown unknowns in chronic disease management: implications for health literacy

Abstract

The Chronic Diseases such as diabetes and hypertension require long term management. Increasing age-adjusted rates and the global aging of the population is putting pressure on health systems. A reliance on traditional models of care with the health professionals at the apex of care are unsustainable. Improved health literacy creates opportunities for better patient care and more sustainable patient care. One of the great challenges is that people may not know they have a chronic health condition (unknown unknowns) and even if they know they have one, they may not know if it is controlled (known unknowns). The challenge is most acute in low- and middle-income country settings. Using Malaysian data, and focusing on diabetes and hypertension, the extent to which the known

unknowns and the unknown unknowns of chronic diseases are a problem and the implications for health literacy strategies are explored.

21. Assoc Prof Farizah Mohd Hairi

Biodata

Dr Farizah started her medical profession in the Ministry of Health Malaysia in mid-90's and joined the academia in 2000.

She is currently appointed as an Associate Professor and a Public Health Consultant in the Health Policy and Management discipline at the Department of Social and Preventive Medicine, Faculty of Medicine, University of Malaya, Kuala Lumpur.

Her current research themes are Care of the Older Persons, Tobacco Control Advocacy, and Doctor2U Outreach Programme for the community and Health Services Management.

Title: Improving Health Literacy for Caregivers of Older Persons through Our Customised Community-Based Education Program

Abstract

Caregiver strain is a major risk factor to elder abuse and neglect. Evidence have shown that improving health literacy, improves health care quality. Literacy influences a person's ability to access information. Therefore, Julius Centre University of Malaya, together with the State Health Department of Negeri Sembilan, and District Health Office of Seremban started a collaborative effort, aimed at improving the health literacy for caregivers of older persons by developing a customised community-based education program comprising of practical knowledge and information to decrease caregiver's inappropriate or abusive behaviours towards older persons. Through this program, the caregivers are empowered in dealing with diseases and physical problems of the older persons, coping with stress and conflict, creating positive interaction with the older persons, and are also informed and made aware of the available local community resources. It is recommended that all caregivers, including the institutional caregivers to undergo this program.

22. Professor Kathy Hosig

Biodata

Professor Kathy Hosig, PhD, MPH, RD serves as Director for the Virginia Tech Center for Public Health Practice and Research (CPHPR) and core faculty member in the Master of Public Health program in the Department of Population Health Sciences at Virginia Tech. The mission of CPHPR is to foster interdisciplinary, collaborative public health practice and research activities at Virginia Tech and among external public health agencies, organizations, practitioners and researchers. Dr. Hosig has experience with developing collaborative partnerships at the local and state levels for federally-funded community-based projects.

Title: Balanced Living with Diabetes: Community-based Type 2 Diabetes Lifestyle Education in Malaysia

Abstract
Halting the global rise in diabetes is one of nine current global targets for WHO. University of Malaya and Virginia Tech investigators collaborated to conduct four formative focus group discussions (FGD) with Malaysians with type 2 diabetes (26 participants total), translate and tailor Balanced Living with Diabetes (BLD) into Malay (MBLD), pilot MBLD in one low-income housing block, then conduct a four-group pilot randomized control trial (RCT) with MBLD (n=21 control; n=26 intervention) in low-income housing blocks followed by two FGD (nine total participants). Key themes from formative FGD were lack of clarity regarding recommended diet and physical activity for type 2 diabetes and endorsement of simple recommendations delivered in the community setting; post-MBLD FGD indicated overall positive response. Three-month RCT retention was 68% (control) and 20% (intervention). Lessons learned include relevance of CBPR to facilitate community participation in MBLD and barriers to scheduling MBLD classes and assessments.

23. Professor Sanjay Rampal Lekhraj Rampal

Biodata
Professor Dr Sanjay Rampal is a Public Health Physician and heads Public Health@University of Malaya. He is passionate about the role epidemiology plays in the prevention of Non-Communicable Diseases. He hopes to leverage this information to implement better prevention programs. His methodological interest includes research methodology, epidemiological designs, biostatistics, regression models, causal inference, multiple imputations, measurement error, and propensity scoring. He has published 70+ peer-reviewed research papers and has an h-index of 20.

Title: Health literacy and NCD prevention

24. Dr Feisul Idzwan Mustapha

Biodata
Feisul Idzwan Mustapha is a public health doctor, currently engaged in the prevention and control of non-communicable diseases (NCDs), with special focus on diabetes and cardiovascular diseases. He is currently a Member of the WHO Ad-hoc Working Group on Implementation, Monitoring and Accountability on the Commission on Ending Childhood Obesity. He is also a member of the Policy Advisory Group of the World Cancer Research Fund International (WCRF), 2014-2017, and member of the Scientific Advisory Group for the Monash University South East Asia Community Observatory (SEACO), 2013-2018.

Title: Competencies of Medical Officers and Nurses in Managing Diabetes Patients at the Primary Care Level

Abstract

The Steno REACH Certificate Course in Clinical Diabetes Care (SRCC) is a comprehensive, competency-based educational program implemented in Malaysia in collaboration between Steno Diabetes Centre and Ministry of Health (MOH) Malaysia. An evaluation study was conducted in 2016 and 2017 to assess the effectiveness of the SRCC intervention in improving diabetes-related knowledge, attitudes, skills and clinical practices among medical officers (MOs) and nurses.

Our data showed that basic medical and nursing training poorly prepares MOs and nurses in delivering quality diabetes care at the primary care level. Much of their current practical knowledge and skills were acquired through unstructured training from their more senior colleagues. Many of the MOs had positive role models from their Family Medicine Specialists (FMSs) and senior MOs. Unfortunately, many of the nurses did not have positive role models from amongst their senior colleagues.

As the burden of diabetes increases, this has contributed to a treatment gap that requires MOH healthcare professionals to be better equipped to provide patient-centered diabetes services at the primary care level.

ORAL PRESENTATIONS

CONCURRENT ORAL PRESENTATIONS: DAY 1

THEME A: Non-Communicable and Communicable Diseases

Chair: Associate Professor Si Lay Khaing
Time: 1600-1730
Venue: Auditorium Hall

OPA_01

Low income, fear of treatment and poor breast health literacy are main factors affecting late stage diagnosis in breast cancer patients

Zuraihan Dahari[1], Siamala Sinnadurai[2], Nur Aishah Taib[2], Ke En Oh[3], Karuthan Chinna[1], Nor Azni Ramli[4], Gerard Lim[4], Nirmala Bhoo-Pathy[1]

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Abstract

Background: Late stage at breast cancer diagnosis poses a major challenge towards achieving cancer control in Malaysia. In this study, we determined the factors which are associated with late stage at diagnosis among breast cancer patients in a Malaysian setting.

Methodology: A cross-sectional study was conducted in the National Cancer Institute from 1st August 2015 to 1st August 2016, recruiting 511 breast cancer patients. Face-to-face interviews were conducted using a validated questionnaire to collect information on demographic factors, and psychosocial characteristics. Multivariable logistic regression analysis was used to identify factors independently associated with late stage at breast cancer diagnosis (AJCC stage IIB onwards).

Results: A vast majority (70%) of breast cancer patients presented with late stage at diagnosis. Less than 10% of patients were screen-detected. Median age at diagnosis was 51 years old comprising 63% Malays, 25% Chinese, and 12% Indians. 36% of patients were referred from private hospitals. Late stage at diagnosis was more likely in patients with income <RM 2500 (OR 0.94, 95% CI 0.57-1.56), referred from public hospitals (OR 1.21, 95% CI 0.80-1.82), using complementary and alternative medicine (CAM) (OR 0.72, 95% CI 0.48-1.08), having low cancer worry-score (OR 1.80, 95% CI 1.20-2.71), and scoring high on domains of religious-belief (OR 0.77, 95% CI 0.51-1.15), and fear towards treatment (OR 1.15, 95% CI 0.74-1.77). In a multivariable backward logistic regression model, factors that were independently associated with late stage presentation include low-income (OR 0.89, 95% CI 0.54-1.47) and low cancer

worry-score (OR 1.82, 95% CI 1.23-2.69). Use of CAM continued to be marginally associated with late stage diagnosis (OR 0.68, 95% CI 0.46-1.01).

Conclusion: A vast majority of patients in this study were diagnosed at late stages. Current breast cancer awareness and screening programs in the country should adopt a more targeted approach in order to be successful. A multi-sectorial approach to providing education of breast cancer symptoms and side effects of cancer treatments with a strong message of survivability of cancer are needed to downstage breast cancer in Malaysia. Furthermore, innovative approaches in allaying the population's concerns and misconception about breast cancer should be considered in Malaysia, including engaging and empowering patient advocates, religious leaders, and private industries.

Keywords: *Psychosocial, Late stage diagnosis, Breast cancer*

OPA_02
Estimating the Impact of Strategies for Cervical Cancer Prevention and Control in Indonesia Using Markov Model

Dwi Endarti[1], Arthorn Riewpaiboon[2], Naiyana Praditsitthikorn[3], Raymond Hutubessy[4]

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[2]Division of Social and Administrative Pharmacy, Department of Pharmacy, Faculty of Pharmacy, Mahidol University, Bangkok, Thailand;
[3]Health Intervention and Technology Assessment Program (HITAP), Ministry of Public Health, Bangkok, Thailand;
[4]Initiative for Vaccine Research, World Health Organization, Geneva, Switzerland

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Abstract

Background: The global burden of cervical cancer is high including morbidity, mortality, and economic burden. The facts that cervical cancer causes serious health problems in Indonesia need such strategies for cervical cancer prevention and control to be implemented. Currently, there are two general strategies to prevent and control cervical cancer disease which are HPV vaccination and screenings.

Objectives: To estimate the impact of strategies for cervical cancer prevention and control in Indonesia including HPV vaccination, screening with VIA and Pap smear.

Methods: An excel-based Markov model was used to simulate the effectiveness of strategies for cervical cancer prevention and control in term of epidemiologic output which were incidence and mortality of cervical cancer diseases. The strategies included 17 scenarios which varied in combinations of intervention and interval for screenings. Model structure and probabilities were adopted from previous studies conducted in many other settings. Model was validated by comparing the model output versus observed data of cervical cancer in Indonesia including HPV prevalence, cervical cancer incidence and mortality, and distribution of cancer by state of cancer. Validation process employed qualitative approach using visual technique and

quantitative approach using deviation value. Model calibration was conducted using "trial and error" to get model probabilities that resulted valid output.

Results: Based on valid model output, strategies of vaccination resulted highest reduction of cervical cancer incidence and mortality, and followed by strategy of screening with Pap smear and VIA. Combination of strategies, shorter screening interval, and larger vaccination coverage rate would increase effectiveness of strategy. Single strategy of HPV vaccination, screening with Pap smear, and screening with VIA yielded reduction of cervical cancer incidence by 36%, 12 – 17%, and 9 – 13%, respectively. Moreover they yielded reduction of mortality by 31%, 6 – 13%, and 2 – 7%, respectively. Strategy of HPV vaccination combined with VIA every 3 years on woman aged 30 – 45 years old and followed by Pap smear every 3 years on woman aged 48 – 63 years old was the most effective strategy.

Conclusions: This model could then be used to estimate the lifetime costs and outcomes for cost effectiveness analysis of strategies for cervical cancer prevention and control in Indonesia.

Keywords: *Cervical cancer, HPV vaccination, Screening*

OPA_03

Perception regarding disease, oral risk habits, and delayed presentation among oral cancer patients in Malaysia: A qualitative study.

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Abstract

Background: The practice of high-risk habits is a contributing factor to oral cancer among patients in Malaysia. However, among oral cancer patients practicing risk habits, very little is known about their viewpoint and beliefs that have contributed to their delayed presentation at primary healthcare.

Objective: The aim of this study was to explore oral cancer patients' perception regarding their disease and oral risk habits, and how these lead to their delayed presentation.

Method: Semi-structured in-depth interviews were conducted with 28 oral cancer patients having disease stages ranging from TNM stage III to IV, who were treated at six tertiary regional centres managing oral cancer throughout Peninsula Malaysia, Sabah and Sarawak. Interviews were audio-recorded, transcribed verbatim, coded using NVivo (version 10.0) qualitative software and analysed using the principle of grounded theory.

Results: This study showed that high-risk habits such as smoking (n=12) and betel quid chewing (n=10) did not influence participants' perception of their illness, the decision to seek help and thus, was not a barrier for participants in the present study to delay help-seeking. Poor healthcare awareness and cultural issues were other main themes that emerged from this study.

Participants' social background such as occupation and ethnicity influenced their illness perceptions and knowledge about their risk habit practice.Participants stopped their oral risk habits due to pain, no teeth, post-surgery, advised by their doctor, and financial problems.

Conclusion: The present research indicated that high-risk habits such as smoking and betel quid chewing had minimal impact on participants' health care awareness and were not main reasons for a delay in help seeking. An alarming lack of knowledge and awareness about oral cancer and its risk habits is evident among the Malaysian population and needs to be addressed urgently by oral health planners and health authorities in order to improve health care awareness and early detection of oral cancer in the country.

Keywords: *Awareness; Delayed diagnosis; Oral cancer*

OPA_04
Exploring HBM factors that predict HIV Counselling and Testing Utilisation in Nigeria – PLS-SEM Approach

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Abstract
Introduction: HIV/AIDS poses serious health problem in Sub-Saharan African countries. Nigeria is second in the world in terms of people living with HIV/AIDS (3.5 million) after South Africa. Several programmes have been introduced to curtail the virulent impact of this pandemic. Amongst these programmes, HIV Counselling and Testing (HCT) service plays an important role as an entry point to other key HIV/AIDS prevention and intervention programmes. However, its utilisation is abysmally low in Nigeria.

Aim: To assess the HBM latent factors that predict HCT service utilisation in Nigeria.

Methods: We assessed four latent constructs of Health Belief Model (HBM) framework: perceived susceptibility to HIV/AIDS, perceived severity of HIV/AIDS, perceived benefits of HCT service, and perceived barriers to HCT service that predict HCT service utilisation using 768 sample from cross-sectional survey data in Lagos State, Nigeria. We employed Partial Least Square Structural Equation Modelling (PLS-SEM) to analyse the hypothesized HBM model.

Results: Three out of four of the hypotheses were supported in the study. The perceived susceptibility to HIV/AIDS ($\beta = 0.281$, $p<0.001$, $f2 = 0.109$) and perceived benefits of HCT service ($\beta=0.465$, $p<0.001$, $f2=0.291$) were both positive and significantly predict HCT and respectively. On the other hand, perceived barriers to HCT service utilisation was negative and significantly predict HCT service utilisation ($\beta = -0.358$, $p < 0.001$, $f2 = 0.175$).The Stone-Geisser predictive relevance is large (Stone-Geisser $Q2 = 0.608$) which indicated the study model is good for predictive purposes while the model fit indices passed the statistical parameters.

Conclusion: Perceived susceptibility to HV/AIDS, perceived benefits, and perceived barriers to HCT were identified as important factors that could enhance the uptake of HCT in Nigeria. Therefore, Government, policy-makers and all stakeholders in the fight against HIV/AIDS should not overlook these basic elements when designing policy or programme to enhance uptake of HCT in Nigeria

Keywords: *HBM, HCT, PLS-SEM*

OPA_05

Literacy of Tuberculosis among Male Indigenous People in Kalibening, Indonesia

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Abstract

Background: Although TB rates have been declining worldwide, the disease remains a leading cause of death and has actually been rising in certain areas. TB literacy is related to improved case-identification and treatment adherence. Males are typically lower in health literacy than females. The aim of this study was to assess the TB literacy among indigenous men in rural Indonesia,

Method: Trained Health Advocates within the community chose households based on perceived need and ability to respond to recommendations for another study on parasitic disease. The HAs interviewed the men in these households. Measures were questionnaire, a specific measure of literacy of tuberculosis, and a demographic form.

Result: Final sample was 166 participants. Their mean age was 40 (sd =11,33), income was IDR 930000 (sd=516470,3) Most men had primary school education (74.4%). Eighty-three percent per cent are smoking now. TB literacy measure resulted in 39% within middle range, 38% were low and only 23% had high TB literacy. Among smokers only 20% had high TB literacy and 45 per cent had low TB literacy. Education was lower among smokers as well. More than half of the respondents (66%) had difficulties in finding information on symptoms, treatment and therapy for TB. Forty per cent showed difficulties in understanding health provider's explanation on TB treatment. Thirty-seven per cent did know how to utilize information from the health provider to make decisions on their health. In addition, there was a significant correlation between smoking status and TB literacy (pvalue:0,014).

Conclusion: TB Literacy is an important first step in reducing rates of tuberculosis. The finding that nearly half of the respondents scored low on TB literacy suggests that increasing educational efforts could have a modest but important and low cost impact on reducing TB. Efforts should be directed towards smokers.

Keywords: *Literacy, Tuberculosis, Indigenous people*

OPA_06
A spatial statistical analysis to explain seasonality in HFMD infections for children along the Vietnamese south central coast

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Abstract

Various neglected tropical diseases show spatially changing seasonality. Such spatial-temporal seasonality has received little attention so far. This research contributes to advancing the understanding of its causes by focusing on one particular disease, namely hand-food-mouth disease (HFMD) infections of children under five years old in Da Nang city, Viet Nam. We study monthly HFMD infection rates in seven districts between 2012 and 2016. HFMD is mainly transmitted by means of physical contacts between susceptible and diseased children. Previous research has shown that such contacts are most intense within this age group. Hence, a main risk factor considered is the pre-schooling time, between August and May. A major impetus for the disease spread is weather condition, given by a dry season from January to July and a wet season from August to December. The year is stratified into the dry pre-schooling season (T1), the dry holiday season (T2) and the rainy pre-schooling season (T3). To study spatial impacts on HFMD infections, we stratified the districts by density of the pre-schoolers and the positions of pre-schools into: S1 located in an urban area with the highest density of pre-schools and pre-schoolers, S3 in a rural area with the lowest density of pre-schoolers and pre-schools and S2 located in between. In densely populated districts, HFMD can be transmitted in pre-schools, households or public playgrounds. The temporal patterns over the monthly five-year period within each stratum are decomposed using a Fourier decomposition for nonstationary time series. A regression model is developed that relates the seasonality of the HFMD infection rates to the weather conditions and the cumulative duration of pre-schooling for each of the 3 x 3 space-time strata, with five yearly replicates. To avoid multicollinearity, monthly temperature is the only explanatory weather variable included in the model. The results show that spatial-temporal clustering of HFMD infections is caused both by the weather conditions and by the cumulative duration of the yearly pre-schooling. The duration of yearly pre-schooling exacerbates the impact of temperature on HFMD spread. In T1, all three spatial strata show the clusters of infection rates around April-May, corresponding to the highest temperature. In T3, when the temperature steadily decreases, the infection rates at S3 is highest around August when children go to school after summer holidays (T2). From this study, we conclude that the pre-schooling duration causes the spatial variation of the seasonality of children HFMD infections in the study area.

Keywords: *Seasonality; HFMD*

OPA_07

Impact of public health intervention program on prevalence of Escherichia coli O157:H7 and non-O157:H7 on cattle carcasses slaughtered at some abattoirs in Malaysia

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Abstract

Mishandling of cattle carcass by workers during processing on several occasions lead to foodborne outbreaks. An increase in the prevalence of pathogenic bacteria like Escherichia coli O157:H7 may result in increased hospitalization rate and even deaths. The objective of this research is to determine the impact of an intervention program on occurrences of E.coli on cattle carcasses. An intervention program was designed in form of worker education which focused on personal and environmental hygiene. Two hundred and sixty fecal and carcasses samples were collected before and after the intervention for comparative analysis. All samples were subjected to microbiological analysis for isolation identification. Based on the findings carcass contamination have decreased in all abattoirs (p=0.033) after the intervention. Only two abattoirs were found to have E.coli O157:H7 on carcasses which ranged between 20-12% and also 0% occurrence rate was recorded in 83% of all the abattoirs visited during the post intervention. Based on the study no E.coli O157:H7 was isolated in the remaining Abattoirs. For Non-O157:H7, high level of prevalence was observed in Banting, Jasin and Dungun (60% each) while Senawang had the lowest (20%). Non-O157:H7 E.coli was not isolated from samples collected in Tampin and Ipoh. Carcass contamination with pathogenic E.coli by workers in some halal abattoirs was reduced significantly through an intervention program. Public Health intervention program was found to be a significant factor that may be used to decrease prevalence of E.coli on cattle carcasses.

Keywords: *Intervention, Escherichia coli, Food, Prevalence*

OPA_08
Health Literacy and Depression on First Year Public Health Student Dian Nuswantoro University

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Abstract

Background: Living in the new situation, facing study target and complexity of adolescent lifestyles can lead the students into depressed situations. This study aims to investigate the association between health literacy and the mental health status, particularly depression, among first year students of Public Health Program, Faculty of Health Sciences Dian Nuswantoro University.

Methods: All the first year student of Public Health Program Dian Nuswantoro University were invited to fill the questionnaire. The number of population was 149 students, 141 filled the questionaire, however there were 4 questionnaires were not filled completely, so only 137 students completed the survey. The questionnaire was Health Literacy Sort Form-12 Questions (HL-SF12) that consists of demographics variables, health literacy, health outcomes and CES-D10 for measuring mental health status. Data was analyzed by spearman rank.

Results: The CES-D10 assessment found that 51.1% of students were considered depressed, 4.8% of them felt depressed all of the time, while 51.6 felt it sometime and occasionally. It needs to be concerned since depression can influence many things in their life, indeed quality of life. On the other hand, 66.4% students experienced low health literacy (insuffucient and problematic). Even though they were still on the first year, it needs intervention in the following years. There was significant correlation depression and health literacy (p-value 0.043, rho -1.73). Although it is weak correlation, it tends the higher health literacy the lower depression on student.

Conclusion: The health literacy was correlated to mental health, and it needs adequate interventions and evaluation in the next years.

Keywords: *Health literacy, Depression*

THEME B: Lifestyle, Health Promotion and Health Literacy

Chair: Dr Marzuki Bin Isahak

Time: 1600-1730

Venue: Seminar Room (1)

OPB_01

Knowledge and Practice on prevention of Surgical Site Infections among Undergraduate Nursing Students in University of Peradeniya

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Abstract

Introduction: Infections that occur in the wound created by an invasive surgical procedure are referred to as surgical site infections (SSIs). Surgical Site Infection (SSI) has an enormous impact on patient safety, health care costs and Quality of Life. Student nurses have crucial role in preventing SSIs, since they take part in providing care at the patient's bedside. The purpose of this study was to determine knowledge and practice on surgical site infections among undergraduate nursing students in a government university in Sri Lanka.

Methods: A cross sectional descriptive study was conducted. A convenience sample of 127 undergraduate nursing students was selected. A self-administered questionnaire was used for data collection. Descriptive statistics were used to describe the study variables.

Results: The Response rate for the study was 84.3%. The majority of the participants were female (69.2%). Fourteen percent of the participants had high level of knowledge on the prevention of SSIs, 43.9% had low level of knowledge and 21.5% had very poor knowledge on it. Regarding practice on prevention of SSIs, only 37.4% had good level of practice. Among the participants, 51.4% of them did not attend any in-service education or training programme on Infection control, 39.3% attended only one programme. A statistically significant association was found between knowledge and practice towards prevention of SSIs ($r =0.496$, $P=0.000$)

Conclusion: Knowledge and practice of the undergraduate nursing students regarding prevention of surgical site infections were found to be inadequate. Training of undergraduate nursing students with current SSIs and prevention methods is recommended.

Keywords: *Surgical site infections, Undergraduate nursing students, University of Peradeniya*

OPB_02

E-cigarette smoking behaviors and saliva cotinine concentration among healthy e-cigarette smokers in Malaysia

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Abstract

Objective: The study aims to understand the association between electronic cigarette (e-cigarette) smoking behaviours and salivary cotinine (the metabolite of nicotine) concentration in order to inform the development of future e-cigarette control policies.

Design, setting and participants: A convenient sample of saliva from 144 e-cigarette users was obtained between November and December 2015 and was associated with self-reported e-cigarette smoking behaviours.

Results: The study participants used refill liquid containing between zero to 12mg/ml of nicotine. The overall median cotinine concentration of the study participants was 81.1 ng/ml [interquartile range (IQR) 8.5 to 195.8]. Among the zero nicotine and single e-cigarette users, the median cotinine level was 51.1 (IQR 8.20 to 125.35) ng/ml. Factors significantly associated with higher salivary cotinine concentration were dual use of e-cigarettes and tobacco cigarettes, regular and daily e-cigarette use, a longer duration of e-cigarette use, using a higher amount of e-liquid and a shorter duration to finish a refill. Multivariate analysis revealed that the duration of e-cigarette use was the strongest predictor of increased salivary cotinine concentration.

Conclusions: The findings imply the importance of stringent regulatory governance for the content of e-cigarette liquid in the market to ensure consumer safety. E-cigarette users should be conveyed information of increase risks of adverse health effects caused by nicotine build-up stemming from long duration use of e-cigarettes.

Keywords: *Cotinine, Saliva, Electronic cigarette*

OPB_03

Microfluidic paper-based analytical devices for potential use in quantitative and direct detection of disease biomarkers in clinical analysis

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Abstract

Clinicians, working in the health-care diagnostics system of developing countries, currently face the challenges of rising costs, increased number of patient visit, and limited resources. A significant trend is using low-cost paper substrates to develop microfluidic devices for diagnostics purposes. Various fabrication techniques, materials, and detection methods have been explored to develop these devices. Microfluidic paper-based analytical devices (μPADs) have gained attention for sensing multiplex analytes, confirming diagnostic test result, rapid sample analysis, and reducing the volume of samples and analytical reagents. The objective of this presentation is to discuss the strategies currently used for developing paper-based sensors with enhanced analytical performances. Besides the challenges, limitation, advantages disadvantages and future prospects of paper-based microfluidic platforms in clinical diagnostics will also be discussed. To overcome the issues of lack of basic infrastructure and trained personnel in developing countries, (bio) analytical technique have been employed in μPADs for health diagnostic applications by converting the conventional laboratory test into μPADs for point–of-care diagnostics such as urinalysis, DNA analysis, virus analysis, blood analysis and cancer analysis. Due to the unique properties of porous, paper offer a high surface-to-volume ratio and it is a good medium that allows antigen and/or antibody to attach onto the paper surface and provides an excellent background for colorimetric, fluorescence or chemiluminescence assay. Besides, μPAD can reduce patient medical burden and yield rapid test results, aiding physicians in choosing appropriate treatment by providing an accurate and reliable direct measurement without sample pre-treatment. To conclude μPADs with validated and justified analytical performance can potentially improve the quality of life by providing inexpensive, rapid, portable, biodegradable and reliable diagnostics.

Keywords: *Microfluidic paper-based analytical devices, Clinical diagnostics, Biomedical applications*

OPB_04

Effects of Health Education Program by Application the Protection Motivation Theory and Social Support for Adolescent Pregnancy Prevention among Grade 11 in a School, Khon Kaen Province, Thailand

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Abstract

The main purpose of this quasi-experimental study was to test the effects of health education program by protection motivation theory and social support application for adolescent pregnancy prevention among Grade 11 in a school, Khon Kaen Province. There were 40 subjects in each group an experimental and a comparison groups. The experimental group received the health education program that composed of training by using group activities, walk rally, role play, role model, group discussion, video media and Buddhist sermon for beverage solving main outcomes were measured on variables to take measurement on knowledge, perceived severity, perceived susceptibility, self-efficacy, response-efficacy, practice behavior, social support for adolescent pregnancy prevention. Data was analyzed using descriptive statistics, Paired Samples t-test, Independent Samples t-test and ANCOVA analysis at 95% confident interval. The data were analyzed within and between groups at 0.05 level of significance.

The main results found that after implementation the mean scores of knowledge , perceived severity, perceived susceptibility , self-efficacy, response-efficacy and practice behavior in experimental group had higher than before implementation and higher than the comparison group (p-value < 0.05) . Expecting social support after implementation in the experimental group had no significant higher than before implementation and higher than comparison group (p-value > 0.05)

Keywords: *Adolescent pregnancy, Protection Motivation Theory, Health education*

OPB_05

Assessing community awareness and preparedness on health hazards from natural disasters in Thirty-one Townships, Myanmar

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Abstract

Background: Globally, adverse effect on human health due to climate change is one of the biggest challenges of the 21st century. Myanmar is not an exception. Thus, disaster management becomes a crucial role, in which disaster preparedness aims to minimize the adverse effects of a hazard through effective precautionary actions. Community awareness and preparedness on health hazards of natural disaster is also essential and should be carefully planned.

Objective: To assess the community awareness and preparedness on health hazards from Natural disasters

Methods: Cross-sectional Descriptive Study was done among the age of 18 year and above population in both urban and rural area of 31 selected Townships, in four Regions of Myanmar. Total (1718) respondents were selected by multi stage sampling method and interviewed by trained Final Part I MBBS students from University of Medicine (1), Yangon.

Results: Around three-quarter of the respondents (72.29%), mostly from Ayeyarwaddy region (Coastal area), knew that their living area is at risk to flooding and the rest (27.71%) did not know. Types of natural disasters which usually occurred were floods (47.67%) and earthquakes (46.51%). Regarding preparation before a future disaster, most of the respondents determined whether they live in evacuation zone (31.55%) or assembled a disaster supply kit (31.61%). But they had lesser consideration to develop an emergency plan (19.73%) or prepare an evacuation plan (19.73%). They wanted drinking water (87.95%) and food (88.59%) to include in disaster supply kit. Only 18.16% of the respondents said that there was risk reduction measure before flood in their villages. The common type of risk reduction measures was mobilizing resources and technical support from government organization, NGOs & donor.

Conclusion: Most of the respondents who live in coastal area knew that their living area is at risk to flooding. But they were weak in preparedness before a future disaster like risk reduction measure. So, people from developing countries should be properly trained to be well prepared for a future disaster.

Keywords: *Disaster, Awareness, Preparedness*

OPB_06

Nutritional status and associated factors among hospitalized elderly patients in Lien Chieu District Medical Center, Danang, Vietnam

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Abstract

Background: The percentage of the elderly is growing rapidly worldwide. In Vietnam, the number of the elderly is projected to rise from an estimated 10.3 million in 2015 to nearly 27.9 million in 2050. A high prevalence of malnutrition (15 – 60%) in older people who are hospitalized or living in nursing homes, or who are in home care programmes, has been reported worldwide. Nevertheless, data on nutritional status in the elderly population is limited for Vietnam.

Objectives: To assess nutritional status among hospitalized elderly patients in Lien Chieu District Medical Center, Danang, Vietnam.
To identify associated factors with nutrtional status of elderly patients.

Methods: A cross-sectional survey was conducted in Lien Chieu District Medical Center from March 2017 till May 2017. A total of 320 hospitalized elderly patients were chosen by random sample and assessed nutritional status by using the Mini Nutritional Assessment (MNA) tool.

Results: A total of 320 hospitalized patients were included (70.6 ± 7.6 years; 66.6 % female). The mean weight, height and arm circumference were 52.51kg $\pm$ 9.9kg, 1.57m $\pm$ 0.21m and 31.3 $\pm$ 7.1cm. According to the MNA among the studied patients, 6.3% were classified as malnourished (score<17), 49.7% were at risk of malnutrition (score 17 – 23.5) and 44.0% were as well nourished (score 24 – 30). By the Multivariate analysis, their nutritional status was significantly associated with educational level, legal marital status, net income per month, digestive system diseases, mobility, living independently
($p<0.05$) and health self- statement, body mass index, taking more than 3 prescription drugs per day, neuropsychological problems, mode of feeding ($p<0.001$).

Conclusion

It is concluded that malnutrition is a common problem among older people and there are various factors influence this status. The MNA is a valuable instrument for assessing nutritional status of elderly patient and identifying older people at risk of malnutrition, thus allowing for early intervention. It may be possible to provide adequate and immediate nutritional support to prevent further deterioration. MNA test should be performed for elderly upon admission to hospitals to evaluate the risk of malnutrition and more attention need to be paid to this vulnerable group of people.

Keywords: *Elderly patient, Nutrition status, Vietnam*

OPB_07

The effect of dietary practice modification and peer-support home blood pressure monitoring on the control of hypertension: A community-based intervention in a low-income population

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Abstract

Objective: To measure the effectiveness of dietary practice modification and a peer-support home blood pressure monitoring programme on the blood pressure, nutritional intake (macro and micronutrients) and lipid profiles of hypertension patients in a community setting.

Design: A community-based intervention with pre and post measurements consisting of anthropometric measurements, blood pressure and blood samples as well as undergoing a dietary assessment. They then received three interventions: guidance on the self-measurement of blood pressure, coaching on how to have a healthy lifestyle and physical activity for a period of 6 months. A further assessment was conducted at the end of the 6-month interventional period..

Setting: Low-income community housing projects in urban areas within Kuala Lumpur, Malaysia.

Subjects: Residents of the selected community housing projects aged 18 years and above, diagnosed with hypertension.

Results: Blood pressure was not significantly reduced (mean difference -2.96 mmHg [-6.80 to 0.88] for systolic and 0.55 mmHg [-1.38 to 2.48] for diastolic blood pressure) after 6 months of intervention. However, macro and micronutrients showed a significant reduction after the 6-month dietary intervention. Fasting blood glucose [0.68 mmol/L (95% CI 0.11 to 1.25)] and renal sodium [3.53 mmol/L (95% CI 1.29 to 5.77)] showed a significant reduction, after controlling for age and reported physical activity.

Conclusions: Dietary modification with lifestyle intervention, together with peer-supported home blood pressure self-monitoring can help to control hypertension in a low-income community setting.

Keywords: *Hypertension, Lifestyle modification, Dietary practices*

OPB_08

Factors associated with exclusive breastfeeding practices in western Bhutan

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Abstract

Breastfeeding is widely accepted in Bhutan but the practices are not in accordance to the recommendation of WHO. Although the National Nutrition Survey of Bhutan 2015 reported that the national rate of exclusive breastfeeding was 51.4% the prevalence in western region was only 33.8%. The Food and Nutrition Security Policy of Bhutan 2014 states that there are a lot of cultural and traditional barriers to be addressed to promote optimal breastfeeding. Understanding the factors that influence breastfeeding is very important for effective planning and promoting breastfeeding. This study aimed to identify the factors associated with exclusive breastfeeding practices.

A cross-sectional study was conducted involving 220 mothers with children 6 to 12 months of age at three hospitals in Western Bhutan. Data collection was done by personal interview from 4th to 28th April 2017. Chi-square test was used to assess the association and p-value less than 0.05 was considered significant. All the significant variables were included in the multivariate model adjusting for potential confounders.

The prevalence of exclusive breastfeeding at six months was 35.9%. Multiple logistic regression showed that exclusive breastfeeding was significantly associated with parity (adjusted OR 2.80; 95% CI 1.36-5.78), knowledge (adjusted OR 2.09; 95% CI 1.09-4.00), family income (adjusted OR 2.26; 96% CI 1.10-4.65), initiation of breastfeeding (adjusted OR 6.28; 95% CI 1.90-20.70), and care giver (adjusted OR 3.56; 95% CI 1.19-10.59). Mothers' perception that the child feels thirsty was the most important reason to stop exclusive breastfeeding. Mothers' perception that the child feels thirsty was the most important reason to stop exclusive breastfeeding.

The study identified breastfeeding education as a definite measure to improve the rates of exclusive breastfeeding. The study recommends to strengthen lactation management clinic to teach primiparous mothers on breastfeeding. The study also recommends to educate mothers that water is not required for the baby until six months of age and to include fathers in breastfeeding education sessions.

Keywords: *Exclusive breastfeeding, Children 6-12 months, Western Bhutan*

THEME C: HEALTH LITERACY & POPULATION HEALTH

Chair: Associate Professor Loh Siew-Yim

Time: 1600-1730

Venue: Seminar Room (2)

OPC_01

Cancer Health Literacy & Patient Preference for Shared Care: An Exploratory Pilot Study

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Abstract

Limited health literacy is associated with poorer health outcomes, and poses a barrier to patient engagement in their own care. Our objective was: 1) to assess the association between cancer health literacy and patient preference for shared care, and, 2) to identify characteristics associated with limited cancer health literacy among patients with cancer. We conducted an exploratory pilot study between April to June 2016 among N = 62 adult cancer patients attending a large, university-affiliated outpatient oncology clinic. Consecutive sampling was used, with questionnaires administered using face-to-face interviews. Instruments used included the 6-item Cancer Health Literacy Test (CHLT-6) and the Patient-Practitioner Orientation Scale (PPOS) to determine patient preference for shared care. The relationship between cancer health literacy and patient preference for shared care was examined using bivariate analysis. Mean patient age was 60.0±11.6 years. A greater female preponderance was observed (69.4%), with over half of patients indicating secondary school completion (51.6%). Up to 79.3% of patients reported a monthly household income of less than RM4,000 (USD931), placing them in the bottom 40% of household incomes in Malaysia. Overall, the mean CHLT score was 3.9±1.2 out of a full score of 6. A total of 66.1% of patients in this sample were found to have limited cancer health literacy. Level of education (r= 0.318, p<0.001) was moderately associated with cancer health literacy levels. There was a positive association between limited cancer health literacy and a lesser preference for shared care in the current study. This finding is significant as it implies that patients with limited cancer literacy are less likely to want to participate actively in their care. Of note, preliminary findings indicate that more than half of patients with cancer have limited health literacy. The development of a larger prospective study in future would generate greater understanding of the extant and outcomes associated with limited cancer health literacy in this population. Further research is required to determine if

increasing cancer literacy will correspondingly improve adherence and treatment outcomes. Increasing health literacy among patients with cancer and empowering patients to participate in their care may improve cancer outcomes and mitigate the impact of traditionally poorer outcomes associated with disparities such as lower educational and socioeconomic levels. Findings from this study carries implication for the development and implementation of a much needed context-relevant intervention aimed at identifying and overcoming health communication barriers to improve cancer care.

Keywords: *Health literacy, Cancer, Shared care*

OPC_02
Adaptation of Nine Dimensions of Health Literacy Questionnaire in Indonesian Culture using Confirmatory Factor Analysis

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Abstract

As one of important determinant to assure health equity, Health literacy questionnaire should be adapted in Indonesian culture with rigorous measurement. This study is to measure the reliability of the Health Literacy Questionnaire after several steps in translating the questionnaire to bahasa. Methods: First steps was a semi qualitative study in three universities; in West Sumatera, Central Java and West Java. Around 30-36 students were involves in each university. The students were given the questionnaire in both English and Indonesia, they were asked to read it and made comment to the translation give suggestion for improving the questionnaire. This is a cultural adaptation by having feedback from the local students. All of the recommendation was discussed with change the meaning of items. In the second steps, a cross sectional study of 208 students at Universitas Indonesia from both health and non health science was conducted in 2015. Almost half (52%) was first year students and 48% in third years students, with total sample 227. Self administered data collection was conducted after translation and cultural adaptation. Confirmatory Factor Analysis was chosen to analysis the appropriateness items for the nine dimensions of HQL in Indonesian setting. The sampling was adequate enough for CFA for both part 1 and 2 since the KMO is 0.793 and .880. Results: Items in the dimension of feeling understood and supported by health care provider, Having sufficient information to manage my health, Actively managing my health and Social support has proven to be fit, however in the dimension for Appraisal of health information there were two items recommended to be taken out. In part two, the dimension for Ability to actively engage with health care provider was fit, however the other dimensions was not fit. In navigating the

healthcare system three items recommended to be taken out and Ability to find good health information there were two items that were not fit. Another one item was not fit in the dimension of Ability to find good health information. The Cronbach's alpha was conducted to measure the reliability of the questionnaire, in part one the reliability was 0.837 and in the part 2 the reliability was 0.90. Recommendation: Part one of HQL if fit in Indonesian culture however part two of HQL has to be revised.

Keywords: *Measurement, Validation, Reliability*

OPC_03
Association Between Low Health Literacy And Obesity Among Adolescents

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Abstract

Background: Low health literacy has often been associated with the problem of overweight and obese among adolescents. Objective: To investigate the association between low health literacy and overweight and obese among adolescents aged 17 years old in Malaysia. Method: A cross-sectional survey based on a two-stage stratified cluster sampling design was conducted to measure the health status and level of health literacy among 17-year-old adolescents in Malaysia. The level of health literacy was measured using the 12-item version of the HLS-EU-Q through a self-administered questionnaire with informed consent. A total of 1034 students completed the questionnaire. Overweight and obese were analyzed based on the body mass index classification methods recommended by the World Health Organization. Data was analyzed using the logistic regression modelling. Results: The descriptive analysis revealed that 747 (72.4%) of the adolescents had low level of health literacy and 285 (27.6%) had high levels of health literacy. 218 (21.1%) adolescents were found to be overweight and obese. 815 (78.9) of them were within the normal range. After adjusting for potential confounders, low health literacy was associated with overweight and obesity (OR = 1.084, 95% CI = 1.021-1.510). Conclusion: The results suggest that low health literacy may be a factor in determining the overweight and obese adolescents. Improving the health literacy of adolescents is deemed vital to overcome the increasing overweight and obese problems among adolescents.

Keywords: *adolescent health literacy, overweight, obese*

OPC_04

Health literacy research in Malaysia: a systematic review

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Abstract

Introduction: Health literacy has emerged as an important determinant of health and a key component of self-care and patient centered medicine. In Malaysia, the recent National Health Morbidity Survey found that the adult l health literacy level was worryingly low. Local research in health literacy is urgently needed. The aim of this systematic review is to identify and synthesize research publications on health literacy carried out in Malaysia.

Methods: The search was conducted up to February 2017 using the MEDLINE, Scopus and Malaysian Medical Repository databases. The free text search terms used were "health literacy" (all fields) and Malaysia (all fields). Inclusion criteria were that the study population was Malaysian and the study reported on health literacy. There was no restriction on study designs in order to maximize the scope of the review. Two reviewers independently selected the articles based on the titles and abstracts, followed by full-text screening. Study quality was not assessed. The following data were extracted from the full-text articles independently by two reviewers: year of publication, name of authors, geographical location, research focus, and key findings. Any disagreement was resolved by consensus.

Results: In total, 10 articles were eligible for inclusion in the review with the earliest article published in 1985. Six were on general health literacy, two on medication literacy and two on mental health. Most were quantitative studies (n=9) with only one qualitative study eligible for inclusion. The number of studies increased over time with most studies being published in 2016 (n=3). Validated health literacy tools, such as the Newest Vital Signs (NVS) and HLS-EU-Q47 were used in studies published after 2015. Three studies used NVS to measure health literacy levels and the prevalence of limited health literacy levels ranged from 79.4 to 94.2%. HLS-EU-Q47 was used in two studies: a validation study of its' Malay version and as an outcome measure in a study protocol. The majority of the studies (n=7) were conducted in central urban regions namely Kuala Lumpur, Selangor and Negeri Sembilan. The qualitative study explored the mental illness literacy among caregivers and found care givers have some understanding on mental illness and consider doctors as the primary source of health information.

Conclusions: Even though the first paper was published nearly 32 years ago, much work remains to be done for health literacy research in Malaysia. The use of locally validated tools for the assessment of health literacy is recommended for future research.

Keywords: *Health literacy, Malaysia, Systematic review*

OPC_05

Health literacy in Kazakhstan – a population based survey

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Abstract

Introduction: Health literacy is one of the most important health determinants. Quantifying health literacy studies is an important issue in recognizing the activity done throughout European and Asian countries. Kazakhstan School of Public Health in the framework of the international project Health Literacy Survey Asia (HLS-Asia) has conducted research using the European Health Literacy Questionnaire (HLS-EU-Q) in order to study indicators of health literacy of the population of the Republic of Kazakhstan. The purpose of the study was to measure health literacy and to create an overview of its status in Kazakhstan. The objectives are to present the results of a health literacy survey in different regions of the country in order to explore core issues and their implications for healthcare in the future.

Methods: A cross sectional population-based survey was administered face to face in a sample of n=1000 persons aged 15 years and over speaking Kazakh and Russian. Multistage stratified random sampling was used in five regions in Kazakhstan; participants were invited in each city and county to take part in the survey at universities, communities, and workplaces. All statistical analyses were performed using the IBM SPSS version 19.0 and MS Excel.

Results: Multiple regression analyses showed association between personal, social demographics and health literacy. The mean general health literacy (GHL) index of the population in Kazakhstan was 30.24 on a scale of 50. It should be noted that levels of medical literacy differ significantly in various regions. Health Literacy significantly associated with age negatively ($p<.001$). Higher education attainment positively significantly correlated with health literacy ($p<.05$). Ability to pay for medication and health status showed positive association with health literacy ($p<.01$). There is no correlation with gender and marital status. Smoking status significantly negatively associated with HL ($p<.01$). Frequency of doing exercise also negatively associated with HL ($p<.05$). It was clarified that health literacy mostly depends on social status, education level, and average level of disposable income per month.

Conclusion: The level of health literacy is preconditioned by many factors connected with development of social component of the society that requires strengthening of intersectoral approach in public healthcare. Examining the results of the study in the context of existing Kazakh data on indicators of health literacy, health behaviors and health outcomes establishes a foundation for further research in this area, and it will contribute further development of public health and education policies.

Keywords: *health literacy, determinants of health, inequality*

OPC_06

Low Health Literacy and TB Patient Drop-out in Slum Area in Semarang

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Abstract

Background: Tuberculosis (TB) is one of the top ten causes of death worldwide, and Indonesia is the second biggest TB prevalence after India that lay Indonesia in an emergency situation. Semarang never achieve national target of TB program on coverage, case detection rate, and cure rate. Moreover the multiple drug resistance increase every year and the extensively drug resistance also found. Bandarharjo area that has many slum housing has highest TB prevalence in Semarang. Patient health literacy is very important to be explored since it is related to patient capacity to adhere the treatment. This study aims to describe health literacy of TB patents in Bandarharjo

Methodology: This is qualitative research with case study design. Population was the TB patients in Bandarharjo Village. The subjects were five TB patients, three of dropt-out patients and two of patients that still active on treatment. Data collected by indepth interview that held in the subject home. For validating data, triangulation indepth interview conducted with patient's DOT observers and TB officer in public health center. Transcripts were analyse by the process of reduction, coding, categorization by themes.

Results: All the drop out patients were male and their occupation were labors with the low income (less than 80 USD per months). Whereas the two patients who active in treatment were housewife. All subjects have limited access to TB information. They knew the cause, transmission, and time of treatment, but the drop-out patients said that they did not need to continue the treatment when they already feel healthy. One of the patient felt the itchiness when consume TB medicine, so he decided to stop the treatment. The The subjects felt difficult to take medicines and get information from health center because the TB service in health center only open in Wednesday, 7-11 pm, while they had to work on that time. The two subjects still smoking even though the DOT observer remind to not smoking. They got information about basic treatment, but they had no opportunity to get more information about treatment and behaviors that they should do and the reason.

Conclusion: TB patients health literacy should be increased to unsure the effective treatment. Public health center has to be more TB-literate by improving access, responsiveness to patient problems and education.

Keywords: *Health literacy, Tuberculosis, Drop-out*

OPC_07

Health literacy factors associated with alcohol use disorder among working age males in the industrial areas, Khon Kaen province

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Abstract

Alcohol use disorder is a serious common, costly, yet control disease. It is one of the health problem leading causes of illness in Thailand. The study aimed to identify the influence of Health literacy factors on alcohol use disorder in khon Kaen Province, Thailand. The population was 10,185 of this study was working age males in the industrial areas, Khon Kaen province and 395 samples were selected by systematic random sampling. The also 395 questionnaires were collected by researcher in July 2016. The data was analyzed by STATA programs to acquire percentage, mean, standard deviation, and multiple logistic regression models (with 95% CI) were administered to determine possible health literacy factors associated to alcohol use disorder with working age males in the industrial areas.

The finding revealed that almost half of the samples were harmful use (42.03%; 95 % CI: 32.20 to 52.20), followed by hazardous use (22.61%; 95 % CI: 18.30 to 27.39) and 31.88 % had addictive symptoms (95 % CI: 26.99 to 37.09). Most of them drank fermented beverage (69.28%), the median of expense for alcohol was 350 bath /month (min: max; 20:10,000 bath), 11.88% used to have accident after drinking alcohol (10.43%). Factors that were associated with alcohol use disorder (addictive drinking) were drank in the work place (Adj. OR=4.80; 95 % CI: 1.72 to 13.42; p-value = 0.004), drank distilled beverage (Adj. OR=3.15; 95 % CI: 1.74 to 5.72; and drank mixed distilled beverage (Adj. OR= 3.42; 95%CI: 1.35-8.67; p-value < 0.001), reasoning their drinking as socialization (Adj. OR=3.41; 95 % CI: 1.62 to 7.22; p-value =0.004) had high level of knowledge on adverse impact of alcohol consumption (Adj. OR=2.88; 95 % CI: 1.58 to 5.22; p-value = 0.001), had low to average level of skill to say no on persuasion to drink alcohol t(Adj. OR=2.47; 95 % CI: 1.30 to 4.70; p-value = 0.006) Therefore, the working age males with alcohol use disorder should receive counseling, empowerment and environmental management to facilitate them to reduce and or stop alcohol use.

Keywords: *Health literacy, alcohol use disorder, working age males, industrial Areas*

OPC_08
Health Literacy on Injury Patterns and Risk Factors for Physical Violence among Males in the Gambia

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Abstract

Background: Physical violence is a major public health challenge in low and middle-income countries. Males as victims of physical violence has not been well studied in Africa. We conducted a case-control study to determine injury characteristics and risk factors for physical violence among males in The Gambia to enhance health literacy toward the risks.

Methods: Study participants were recruited from eight emergency rooms and outpatient departments in two urban health administrative regions. Male patients aged ≥15 years who were violently injured and sought treatment at a health facility, between October 31, 2016, and May 31, 2017. References were those injured from traffic crashes, falls, and other non-violence causes, matched to cases on health facility, date of injury and age. 447 case-control pairs were analysed with conditional logistic regression to identify the risk factors for physical violence.

Results: Cases were more likely than the references to be perpetrated by a family member (14.8% vs 2.9%, p < 0.001), a friend (33.6% vs 5.4%, p < 0.001), during night time (21.2% vs 13.7%, p = 0.003), in the home environment (25.1% vs 12.4%, p < 0.001) or public space (11.7% vs 1.6%, p < 0.001). Monthly household income of ≥US\$311 (OR 4.03; 95% CI 1.69–9.60); alcohol use (OR 2.53; 95% CI 1.09–5.92); verbal threats (OR 2.51; 95% CI 1.55–4.08), physical threats (OR 2.98; 95% CI 1.16–7.66) and physical abuse (OR 2.62; 95% CI 1.41–4.85) were independently associated with physical violence. Having more than five male siblings was rare predictor of physical violence (OR 0.40; 95% CI 0.20–0.79). Injury severity was associated with violence that took place in public spaces (OR 2.56; 95% CI 1.10–5.96); struck by an object (OR 4.17; 95% CI 1.82–9.58); assaulted with fists/kicking/head booting (OR 3.02; 95% CI 1.29–7.04) and stabbed/cut/pierced wounds (OR 8.33; 95% CI 3.27–21.27).

Conclusions: Males dominated a significant proportion of violently injured patients and most were previously victimized for violence, or high monthly income, or use alcohol. The results suggest effective education and enforcement to prevent repeat offenders.

Keywords: *Emergency room, Male, Violence victimization*

CONCURRENT ORAL PRESENTATIONS: DAY 2

THEME D: Global Health Literacy

Chair: Dr Nasrin Aghamohammadi
Time: 1200pm-1330pm
Venue: Auditorium Hall

OPD_01

Randomized controlled trial using education material to improve hepatitis c treatment adherence among hepatitis c patients in Tripoli Medical Center

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Abstract

Chronic hepatitis C (CHC) is a communicable disease caused by infection with hepatitis C virus. Over 20 million people in Arab countries were infected with the virus. Good treatment adherence to Ribavirin (RBV) and Pegylated interferon (PegIFN) may play important role in decreasing morbidity, and complications due to CHC. The objective of this randomized controlled trial study to improve treatment adherence, knowledge, self-efficacy, virological response and HRQL among CHC patients in Tripoli Medical Center, Libya. 103 participant patients under therapy with PegIFN and RBV were randomly allocated 51 patients to intervention and 52 patients to control groups. The education material was given to intervention group comprised from a one-day session of power point presentation, discussion, and booklet. The control group received same education material at the end of the study. The data was collected at baseline, 3-months and 6-months post intervention. Descriptive, bivariate and multivariate statistics as Generalized Estimating Equation (GEE) were used for analyzing the data using SPSS version 21. The mean of age was 43.8 years (SD = 14.36), and the male was 58.3% and the female was 41.7%. A majority of patients were genotype 4 consists of 39.8%, followed by genotype 1 consist of 35.9%. The GEE demonstrated significant higher change in RBV treatment adherence post educational intervention (adjusted odds ratio (OR) = 2.220, p = 0.012) for intervention group compared to control, as well significant result found for PegIFN (OR = 1.973, p = 0.037) and total treatment adherence (OR = 2.512, p = 0.002) for intervention compared to control group. In addition, good virologic response was significant higher in

intervention compared to control (OR = 2.155, p = 0.038). The result of hepatitis C knowledge and GSE were significantly higher in intervention compared to control, (OR = 5.720, p <0.001) and (OR = 4.169, p = 0.009) respectively. For physical components score (PCS) and mental components score (MCS) of HRQL were found (OR =15.364, p < 0.001) and (OR = 25.699, p< 0.001) respectively, significantly higher in intervention group compared to control. The result of PCS within both groups was not significant while for MCS was significant only within intervention group at 3-months. The result provides evidence of the effectiveness of the educational intervention to changing and sustaining RBV and PegIFN treatment adherence within intervention group over time. As well, the educational intervention was changing hepatitis C knowledge, GSE, virologic response, and HRQL.

Keywords: *Hepatitis C, Treatment adherence, Educational intervention*

OPD_02
Health Literacy of Psychology Students of Soegijapranata Catholic University in Semarang, Indonesia

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Abstract
The main academic interest of undergraduate program of Psychology Faculty of Soegijapranata Catholic University, Semarang, Indonesia is Health Psychology. Since 1993, we have been teaching our students about health behaviour and promoting healthy life style. But, we never studied health literacy of our students. It is a primary study about health literacy in our university. The purpose of the research was to study the health literacy of the students related with sex, age, and batch. There were 664 students joined the research. They consisted of 156 male and 508 female students. They were the students of batch 2012-2016; the age ranged from 17 to 23 years. Health literacy measurement was adapted from Health Literacy Measure for Adolescents (HELMA). The results showed that based on factor analyses the items included three factors: understanding information about healthy life, awareness about access to health information and effort to be healthy. There was no significant difference between male and female students on understanding information about healthy life (t=-0.302, p=0.763, Meanm =63.31, SDm = 10.19; Meanf =63.57; SDf=8.986) neither on effort to be healthy (t=-1.268, p=0.205; Meanm = 39.65, SDm =8.079; Meanf =40.51; SDf=7.188). But there was significant difference between male and female students on awareness about access to health information (t=-4.108, p= 0.000; Meanm =40.17, SDm = 6.377; Meanf = 42.30; SDf=5.443), which male score was lower than female score. Based on the batches, there was no significant difference among students on understanding information about healthy life (F=1.307, p=0.266). There was significant difference among the students on effort to be healthy (F=3.273, p= 0.011), as well as awareness about access to health information (F=4.638, p=0.001). There was no significant

correlation between age and each of the factors. There were significant differences between score of understanding information about healthy life and that of awareness about access to health information (t=-14.214; p=0.000) and that of effort to be healthy (t=8.329,, p= 0.000). There was significant difference between score of awareness about access to health information and that of effort to be healthy (t= -20.158, p= 0.000). The research results showed that the top rank of the student score was the awareness about access to health information (mean=3.80, SD= 0.522). The second was the understanding information about healthy life (mean = 3.53; SD=0,515), and the last one was the effort to be healthy (mean =3.36; SD= 6.18;).

Keywords: *University Students, Health literacy*

OPD_03

Measles Vaccination from Parents' Perspective: Findings from a Qualitative Study

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Abstract

Introduction: Since 2009, Malaysia has maintained 95% national measles immunization coverage as recommended by the World Health Organization, and ready for measles elimination. However, in 2011, Malaysia suffered a nationwide outbreak of measles. 28% of measles sufferers were not vaccinated, denoting gaps in vaccine provision and outreach.
Aims: This study aimed to explore parents' perception and views on measles vaccination.
Methods: Qualitative in-depth interviews were conducted in urban public clinics in Sarawak to explore parents' decision-making and barriers in accessing measles vaccination service. Parents of children aged between 1 and 7 years, who defaulted measles vaccine for minimum 3 months were purposively sampled. Interviews were transcribed and coded using TAMSAnalyzer software. Thematic analysis was done to construct a coherent scheme. Ethical approval (NMRR-13-938-16913) and permission was obtained from the Ministry of Health.
Results: 12 defaulter parents were interviewed. Majority of parents were uninformed about measles and its consequences in unimmunized children. Decision to vaccinate was the end product of interaction between a parent's personality, demographic characteristics, and previous medical encounters. Access to vaccination was hampered by socio-politico-economic barriers. Vaccine refusal and hesitancy was observed among well-educated parents, who expressed diminished trust in health authorities and increased desire to be respected for their autonomy.
Discussion & Conclusion: Early engagement of hesitant parents in vaccine-related dialogue and addressing concerns about vaccine safety may be beneficial in improving parents' health literacy, public trust and vaccine uptake. For vulnerable populations, strong political and financial commitment is vital in improving parents' resilience to socio-economic adversities.

Keywords: *Measles, vaccination, decision-making*

OPD_04
SRH Literacy in School Adolescents Aged 15-19 Years in Rural And Urban Community of Laos

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Abstract

Rationale: Sexual and reproductive health literacy (SRHL) is very important for adolescentes' health and future. Lack of SRHL could lead adolescents to schooling failure and early-age parenthood. In Laos, 94/1000 livebirths occured in adolescente mothers aged 15-19 years, 19% of women become mothers before age 18. Moreover, 15.1% of MMR is attributed to girls aged 15-18 years old. Scientific evidence on SRHL in Lao adolescents is therefore needed.

Objective: To measure the SRHL among schooling adolescent aged 15-19 years in upper secondary schools in the rural and urban community of Laos and to determine the factors associated with adolescent SRHL.

Method: An analytical cross-sectional study was employed, with a timeline for data collection from April to June 2017 in a north, a middle and a south province of laos (Huphan, Vientiane and Attapeu). 1,841 upper secondary school students, both male and female aged 15-19 years, were recruited in samling list and then 461 cases were selected by computerized random based unknown-pop sample size calculation. A self-administered questionnaire was used as the tool, which comprised of 5 parts, as (1) Socio-demographic information, (2) Personal health status, (3) SRH perception & behavior, (4) SRH literacy and (5) Functional literacy on condoms. The tool was based on the standard HL questionnaire and adapted for Lao context. The formula of HL index score was used to categorize the SRHL score and dichotomize the SRHL into higher level (as above inadequate SRHL) and lower level (as inadequate SRHL). SPSS v.24 was used to analyze the data, by using descriptive statistic, Chi-X^2 and multiple logistic regression.

Result: The study found that the mean score of SRHL in adolescents was 19.2, as 65.5% of adolescents had inadequate SRHL. Factors associated with the score of SRHL were school location (AOR: 1.7; 95%CI: 1.1-2.7; p<0.026), affordability to access health care (AOR: 1.8; 95%CI: 1.04-2.9; p<0.035), regular physical exercise (AOR: 1.8; 95%CI: 1.1-2.9; p<0.017), right perception on sex and body growth (AOR: 1.9; 95%CI: 1.1-3.4; p<0.030), right perception on menstruation periods and pregnancy risk (AOR: 1.8; 95%CI: 1.03-3.3; p<0.039) and level of functional literacy on condoms (AOR: 2.5; 95%CI: 1.5-3.9; p<0.001); while sexual experience, gender, ethnic language use, etc. were not associated with the SRHL.

Conclusion: Most of adolescent age 15-19 years had inadequate SRHL due to various factors, such as rurality, affordability for health access, physical exercise, SRH perception and functional literacy. Health and education sectors need to work together on improving SRHL in adolescents through diverse approaches, especially building friendly conditions not only to give them knowledge, but also to keep them alert on access information, understand their problem, appraise and apply their knowledge in real life. Also convincing participation from community

and families is important. More studies on SRHL are essentially required and the policy makers should consider on adopting SRHL to be an indicator of adolescent health in the future.

Keywords: *Reproductive health, Health literacy, Adolescent, SRH, Laos*

OPD_05
Validation of Sinhala version of HLS-EU-Q16 questionnaire and assessing the association between health literacy and glycemic control among patients with diabetes

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Abstract
Introduction: HLS-EU-Q16 developed by the HLS-EU Consortium is a shorter version of HLS-EU-Q47 covering 11 out of the 12 HLS-EU matrix and it is widely used to measure heath literacy. We validated Sinhala version of the HLS-EU-Q16 and applied the same to a group of adult diabetics to assess the association between health literacy and the degree of glycemic control.

Methods: The HLS-EU-Q16 was translated to Sinhala using the accepted methods of linguistic translation by two medical offices fluent in both English and Sinhala languages. The translated version was checked for clarity and unambiguity and piloted among 30 people selected from general public. The final version was administered to 140 adults selected from medical clinics, health care personals and general public. Results were checked for internal consistency and Item-Total correlation. The validated HLS-EU-Q16 Sinhala version was administered to 200 adults (aged 30-65ys, men 110) with diabetes attending medical clinics in a tertiary care center for more than 3ys. The degree of glycemic control was defined as Poor (when the current HbA1c >8% or all fasting glucose values of the last 3mo were >120mg/dL), Intermediate (when the current HbA1c is between 7.6 and 8% or at least one fasting glucose value of the last 3mo was >120mg/dL), or Good (when the current HbA1c ≤7.5% or all fasting glucose values of the last 3mo were ≤120mg/dL). The mean total scores of the HLS-EU-Q16 in the three categories were compared.

Results: In the validation study, the total HLS-EU-Q16 score ranged from 19 to 67 and the overall Cronbach's alpha was 0.842. No co-linearity was observed in the inter-item correlation matrix. The corrected Item-Total correlations varied from 0.30 to 0.60. The mean (SD) total HLS-EU-Q16 scores of diabetics with Good control (n=36), Intermediate control (n=82) and Poor control (n=82) were 52(9.7), 52(7.1) and 49(8.2), respectively (p=0.041).

Conclusions: The Sinhala version of the HLS-EU-Q16 used in this study is suitable to measure health literacy among Sinhala speaking adults aged 30-65ys. Compared to patients with Good or Intermediate glycemic control, those with Poor glycemic control had low health literacy.

Keywords: *Health literacy, HLS-EU-Q16, Sinhala translation*

OPD_06
Seniors' Health Literacy, Their Health Behaviors and Health Service Use in Four Asian Countries

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Abstract

A cross-sectional study was conducted to investigate the health literacy (HL) of seniors in Kazakhstan, Myanmar, Taiwan, and Vietnam during 2013-2014 and to explore associated factors related to their health literacy by the AHLS consortium using HLS-EU-Q47. A total of 962 residents aged > 60 years-old were included, and multivariate of variance with Bonferroni adjustment was used.

The seniors with self-reported long-term illnesses and health limitations were shown with significant lower general HL in Taiwan (F=2.60, p=0.006), and lower disease prevention HL as well as health promotion HL in Kazakhstan (F=5.96, p=0.003). Health problems that had limited physical activities in the last six months were associated with lower general HL in Kazakhstan (F=4.0, p=0.001) and health promotion HL in Vietnam (F=5.66, p=0.004).

Seniors who used emergency services in the last 2 years were significantly associated with lower general HL in Vietnam (F=3.66, p<0.001). Raising a question during doctors' visits was also associated with lower general HL in Kazakhstan (F=2.07, p=0.017), Taiwan (F=2.07, p=0.016) and Vietnam (F=2.46, p=0.004). Those with higher concern on the time they spent at a

doctor's appointment was associated with their general HL in Vietnam (F=1.81, p=0.03). Those anticipated more time was needed during a doctor's visit and consultation at a Western medical clinic were associated negatively with HL in Kazakhstan (F1.92, p=0.02) and Vietnam (F=1.81, p=0.03). With family members or friends accompanying their visit to a physician and the need for an allotted time appointment were both associated with higher HL in Taiwan (F=1.92, p=0.04)

On the other hand, smoking was negatively related to disease prevention HL in Kazakhstan (F=2.43, p=0.008), and health promotion HL both in Taiwan (F=2.37, p=0.012) and Kazakhstan (F=2.43, p=0.008). Regular exercise for 30 minutes or longer was positively associated with general HL in Vietnam (F=2.96, p<0.001); disease prevention HL (F=3.78, p=0.006) and health promotion HL (F=3.99, F=0.004) in Myanmar.

The growing aging population is a new development for global public health, and better health literacy in the seniors may provide effective protective measures for healthy aging populations. The results provide better understanding on the factors related to seniors in their health literacy in Asia.

Keywords: *Seniors, Health Behaviors, Health Service*

OPD_07
Health Determinants of Midlife Citizens and Health Literacy in Six Asian Countries

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Abstract
This was a further study to examine the health literacy (HL) of those midlife citizens in six Asian countries and to explore important associated factors on their health literacy status via the cross-sectional survey by the HLS-EU-Q47 in Kazakhstan, Malaysia, Indonesia, Myanmar,

Taiwan, and Vietnam during 2013-2014. A total of 2,265 subjects aged 45–59 years-old were included, multivariate of variance, and the Bonferroni adjustment to reduce the chance of a type I error on the between-subjects based on the dependent variables (HL- health care, disease prevention and health promotion) and the probability value (Sig.) less than 0.017 in relation to the HL variables.

Analysis demonstrated that several socio-demographics and marital status were associated with their HL in Malaysia (F=2.08, p=0.016), Indonesia (F=2.54, p=0.02) and Taiwan (F=2.02, p=0.01), while religions were related in Kazakhstan (F=5.31, p=0.002) and Indonesia (F=2.92, p=0.035). Furthermore, the level of mother's education was significantly associated in Kazakhstan (F=1.60, p=0.05), Malaysia (F=2.65, p<0.001), Indonesia (F=2.65, p<0.001), and Vietnam (F=1.20, p=0.02). The level of father's education was significant in Vietnam (F=2.88, p=0.001) and Indonesia (F=12.94, p<0.001). It was also noted that individuals' self-perceived social status were significant in Taiwan (F=1.58, p=0.03), Indonesia (F=1.52, p=0.041) and Vietnam (F=2.16, p=0.001), while self-perceived health status were related in Kazakhstan (F=2.63, p<0.001), Taiwan (1.84, p=0.025) and Vietnam (F=2.22, p=0.009).

Concerning social-economic indicators, types of transportation were with a hazardous effect on their general HL in Myanmar (F=5.64, p=0.001) and Indonesia (F=11.09, p<0.001), on disease prevention HL in Kazakhstan (F=3.41, p=0.017), Vietnam (F=6.83, p<0.001) and Indonesia (F=9.16, p<0.001), and on health promotion HL in Indonesia (F=8.03, p<0.001). The ability to pay for a doctor and the difficulties to pay for bills the end of month also have major impact on their health care, disease prevention and health promotion HL in Vietnam, Kazakhstan, Myanmar and Indonesia.

The observation provided important comparisons between these Asian countries regarding key social-economic and behaviors which were strongly associated with health literacy in the middle-aged populations. These served the purpose of further long-term follow-ups to understand the health development and barriers of universal health coverage for healthcare providers and policy makers.

Keywords: *Asian Countries, Socio-economics, Socio-demographics*

OPD_08
Health literacy regarding liver fluke prevention among secondary school students in the high risk areas of northeastern Thailand

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Abstract
Background: Liver fluke, Opisthorchis viverrini is a caused of cholangiocarcinoma (CCA) that remain a serious public health problem among populations in northeast Thailand. A nationwide survey in Thailand was reported that the prevalent was 5.1%. The highest of prevalent was found in the northeast (9.2%) In addition, CCA has been reported that Thailand is the highest

incident of the world. However, uncertainties still exist as to the link of health literacy and liver fluke prevention among secondary school students.

Objective: To investigate the association between Health literacy and liver fluke prevention

Methods: A cross-sectional descriptive study was performed during May to June 2016. which survey in 5 schools where the high risk areas of north-eastern Thailand, 292 students were selected by cluster random sampling. A questionnaire was administered to obtain demographic characteristics, risk history, health literacy behavior regarding liver fluke prevention. Analytical statistics were unanalyzed using ordinal logistic regression by adjusted Odds Ratio (ORadj) and 95% confidence intervals (95%CI).

Results: A total of 292 eligible subjects (225 females, 67 males) were recruited. Students who live near the water source were associated with good liver fluke prevention (ORadj = 0.95; 95%CI 0.90-1.01, p-value 0.082). Health literacy, included access skill (ORadj = 2.16; 95%CI 1.00-4.69, p-value 0.051) and media literacy skill (ORadj = 3.02; 95%CI 1.51-6.09, p-value 0.002) were significantly associated with good liver fluke prevention.

Conclusions: Access skill and media literacy skill may be a desirable strategy for informing lower liver fluke prevention among secondary school students in the high risk areas of north-eastern Thailand.

Keywords: *Health literacy, Liver fluke, Prevention behaviour*

THEME E: Health System and Policy

Chair: Dr Meram Azzani
Time: 1200pm-1330pm
Venue: Seminar Room (1)

OPE_01

Poverty among households living in slum area of Hlaing Tharyar Township, Yangon City, Myanmar

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Abstract

Background: Slums can be regarded as physical manifestations of urban poverty. Although the world has made dramatic improvement in reducing poverty since 1990, poverty still persists at an unacceptable level. Despite current situations highlights the importance of slum areas to be given priority in poverty alleviation, there are limited data on poverty level among people living in urban slums of Myanmar.

Objectives: To determine the extent and determinants of poverty among people living in urban slums of Myanmar

Methods: A cross-sectional study was conducted among households living in slum areas of Hlaing Tharyar Township, Yangon City during 2016. Multi-staged systematic random sampling and face-to-face interview were applied in selecting the samples and collecting the data, respectively. The new global poverty line (1.9 USD per person per day) was used as a threshold in determining the poverty. Chi-squared test and multivariate logistic regression analysis were utilized in data analysis.

Results: Altogether 254 participants were recruited after getting informed consent. The occurrence of poverty among households was 54.3% (95% CI: 48.2%, 60.5%). Head counts of poverty among study population was 58.8%. The education status of household's head, size of household and the presence of less than 15 years old children in the household were detected as significant determinants of being poor household.

Conclusions: Poverty among households living in slum area of Hlaing Tharyar Township, Yangon City was high. Measures to alleviate poverty in urban slums should be intensified. Education level of household's heads should be improved. Provision of social support to the households that have children of less than 15 years old should be considered by the Government or local authorities. Family planning or birth spacing programme should also be

strengthened, especially in urban slums. Similar study with increased sample size and wider geographic coverage should be implemented.

OPE_02

Policies and programs relating to adolescent reproductive health in Thua Thien Hue province

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Abstract

Background: Adolescents are a tremendous social force, the owner of the nation today and tomorrow, investment in adolescents today will contribute to improving the quality of human resource due to the goal of industrialization and modernization of the country. Adolescent reproductive health is considered an important factor contributing to improving the quality of life of the whole society. The issue of health care generally, reproductive health for adolescents have been reflected in many policies of the Party and legal documents of the State

Method: mixed methods research

Stage 1: quantitative research

A cross-sectional survey on 1434 high school students in Thua Thien Hue province. A structured interview included questions about knowledge, attitudes and behaviours (KAB) of adolescents in relation to reproductive health care. A linear regression model was used for exploring the potential factors and controlling confounding. Part of knowledge is evaluated according to scores in each of the questions based on the weight of each idea. Evaluation results for each question based on the total number of points reached for each question. Evaluation results for good general knowledge section reaching from 2/3 of the total points (39 points); the rest are not good. Part of attitudes is evaluated based on Likert scale of 5 levels. Evaluation results for good general attitude section reaching from than 2/3 of the total points (55 points); the rest are not good. Part of behaviour is evaluated according to scores in each sentence. Evaluation results for good behaviour section reaching from 2/3 of the total points (6 points).

Stage 2: qualitative research

Interview with key informants

- Local authorities: Director of Commune Health Center

- Departments: Population and Family Planning Branch; Center for Health Communication and Education.

- Group discussion: between staff and teachers group; student group.

Result: 13.0% have good overall knowledge, 67.0% have good overall attitudes and 73.2% have good overall behaviours. There were significant relationships between knowledge and region,

ethnic, religion, mother's education level; attitudes and gender; behaviours and region, gender, attitudes. As a result, we hypothesize that the communication skills or professional competence of teachers can largely affect the knowledge of these students. Furthermore, funding for the implementation of communication activities on reproductive health for adolescents is limited

Conclusion:

Most of the students interviewed did not have an intimate knowledge about health productive (87.0%). Therefore, there is an urgent need to strengthen the program, policy and media to help them be fully aware. Mobilize funds from various resources to build a budget to meet the needs of implementing the project activities while at the same time increasing the allocation of funds appropriately, improving resource efficiency from state budget and international organizations to ensure the effective implementation of target programs related to reproductive health and sexual health for adolescents.

Keywords: *KAB, Policies and programs, Reproductive health*

OPE_03

Is Thailand ready for an aging society? Analysis of strategic plan in local administration level

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Abstract

Background: Thailand's population has continually been aging. The aging population is expected to account for 25 percent of the population. The local administration has the authority to handle the situation through strategic planning. The local government allows local people to participate in local affairs under different laws and regulations that are of significant concerns. This study is aimed to analyze how strategic planning will approach the aging society issue at the local administrative level.

Methodology: It is documentary research designed as a cross-sectional descriptive study. Two strategic plans of local administration (Banbueng municipality,Chonburi province,TH) using field tests to receive data and component analysis. The component analysis divided into two main parts. First, "what is the strategy for elderly people 60 and over?" Second, "what is the plan for people between the ages 40-55". Both components focus on four elements which were health, economics, society, and residence.

Result: The result revealed that local government set up a subsidiary strategy as the primary strategy for senior citizens focusing primarily on health. The plan created was to consider the current problems of older adults. There isn't another primary strategy for preparing this aging society problem. The local government set up activities and spread them in each main strategic

point. The target group and purpose of each activity was not clear enough to claim that the strategy is preparing for an aging society problem.

Conclusion: The Main strategy is a subsidiary plan which was projected by the current challenges. Meanwhile, several activities were set up for the general population which was not clear enough to claim that the strategy is prepared for address the aging society problem. Therefore, to prepare to handle the aging community, a plan projections should be based on future scenarios. Further studies should set up research that is designed to focus more on the target group and its purpose in each activity which would identify the strategy in a more concise way.

Keywords: *Aging society, Strategic plan, Local administration*

OPE_04
Survey on Job Satisfaction among staff at Public Hospitals and Commune Health Centers in Khanh Hoa Province, Vietnam 2017

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Abstract

Background: Job satisfaction has been considered an important component not only in employee health status but also in service quality. There has been existed evidence of the association between hospital staff job satisfaction and patient satisfaction, as well as hospital quality itself. Investigation of health care staff job satisfaction and its related factors therefore plays an important role in improving health care service quality.

Objectives: The survey objectives were three folds: (1) to examine job satisfaction among staff who are working in Public hospitals and Commune Health Centers in Khanh Hoa Province, (2) to investigate factors associated with their job satisfaction status, and (3) to examine a possible model in order to predict job their satisfaction.

Methodology: The links of Google Forms were sent to all staff who are working at 14 Public Hospitals and 137 Commune Health Centers to perform the survey online. Job Satisfaction Survey (JSS) Scale by Spector was used to examine job satisfaction. Means of the nine dimensions and the whole scale was calculated and analyzed using R software. Student t test, ANOVA, and linear regression were used to examine satisfaction status and possible associations with related factors.

Results: There were 1,981 hospital staff and 558 commune health center staff completed the online survey, accounting for response rates at 60.7% and 49.6%, respectively. JSS mean scores were 2.90 among hospital staff and 3.97 among commune health center staff. The mean scores of nine dimensions of JSS scale among commune health center staff were significantly higher than among hospital staff. The linear regression model of overall satisfaction against nine dimensions of JSS scale explained for 54.1% and 50% the variation of job satisfaction among

hospital staff and commune health center staff, respectively. Promotion, Work itself, and Pay are the dimensions mostly effecting hospital staff job satisfaction, whereas Work itself, Co-workers and Supervision are the related dimensions among commune health center staff.

Conclusions: The job satisfaction level among commune health center staff was significantly higher than among hospital staff. The linear regression model using nine dimensions of JSS scale explains for over 50% the variation of job satisfaction of health care staff job satisfaction in Khanh Hoa Province.

Keywords: *Job Satisfaction Survey Scale (JSS), Public hospital, Commune Health Center*

OPE_05
Challenges to the development of human resources for improving health literacy among ethnic minority elders living in Japan

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Abstract

Due to the increase in the number of ethnic minority elders living in Japan, we are facing challenges in the delivery of quality long-term care for this population. Several barriers, including limited Japanese language skills, lack of information, and unfamiliarity with the complex Japanese long-term care system may lead to lower access to care among ethnic minority seniors. To solve this problem, one local government in Japan started offering communication supporter (CS) assistance services for the use of long-term care by ethnic minorities. The present study aimed to examine the challenges faced by CSs in improving health literacy among ethnic minority elders. A qualitative study was conducted in Kobe city, in which 6 CSs were interviewed individually. Among the CSs, 2 were Vietnamese, 2 were Korean, and 2 were Mandarin Chinese interpreters, and all of them were not originally from Japan. The in-depth interviews pertained to 1) difficulties in communicating with elderly people, their families, and health care providers, 2) ways to promote the role of CSs, and 3) key strategies to improve minority seniors' autonomy in accessing long-term care. Transcribed data were analysed using the qualitative content analysis method. All the CSs described that the difficulties in communicating with ethnic seniors and their family members occurred owing to their inability to actively express their care needs. Cultural differences such as high dependence on family care giving may also explain lower utilization of long-term care. In addition, the CSs explained that there were no terms in their original language with exactly the same meaning as the care terms used in Japan. Lack of continuing training for CSs was also considered to prevent the improvement of quality of CSs services. Lack of information regarding long-term care is one of the most significant barriers to making decisions to use long-term care among ethnic minority seniors. The role of CSs is not only to improve functional health literacy, but also interactive health literacy and autonomy in lingual minority groups. In Japan, there is no specific health policy for delivering services for ethnic minority groups. To reduce health disparities

between Japanese elderly and ethnic minority groups, it is necessary to develop effective strategies to enhance CSs activities.

Keywords: *Communication supporter, Ethnic minority seniors, Japan*

OPE_06

Thailand Health Literacy: NRC Political Support Model

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Abstract

Since May 2014 Thailand has been ruled by a military group, the National Council for Peace and Order who had formed the National Reform Council (NRC) as an important step in the government's roadmap to restore democracy in Thailand
 The NRC consists of one person selected from each of the 77 provinces, and 173 others chosen because of their knowledge and experience in one or more of 11 fields including public health and environment. The NRC Public health and environment committee was urged for the setting up of an efficient public health service system with the people come first and come at the center of all improvements.
To align with the 20 years National Strategic plan, the NRC has proposed to reform health promotion and disease prevention practice through Health Literacy and Health Communication Reform based on the Health in All Polices strategy.
Implementation strategies include the PIRAB strategy of Bangkok Charter, and the national key message development and health literacy national measurement have been established. Health literate organization policy has been announced targeting to create innovation and transform more than 10, 000 offices of Ministry of Public Health by the end of 2018. HLO experiential learning is expected to enhance public health professionals' health literacy and ability to facilitate health literate community as well as health literate society in Thailand. Thailand health expenditure, healthy lifestyle and health outcomes of Thai people will be used to reflect the Health Literacy and Health Communication reform achievement.

Keywords: *Health Literacy, Political Choice, Health in All Policy*

OPE_07

Health Literacy and Active Ageing Preparedness Among The Non-Professional Group Of Employees In Johor: A Preliminary Result

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Abstract

Background: Population in Malaysia is ageing and Malaysia is expected to be an aged nation in 2030. Ageing population is a world known phenomenon due to the link of ageing and the increasing health care demand and long term care, the feminisation ageing scenario, the risk of poverty and elder abuse. The Malaysian government is aware of this situation and has included the ageing issues into the national agenda. However, less is known about the active ageing preparedness at the population level.

Objective: The objectives of the study are to assess the active ageing preparedness (AAP) level, determine the contribution of health literacy in AAP and to identify factors associated with AAP among the pre-elders.

Methods: This is a cross-sectional study done in Johor which involved the non-professional group of employees from both public and private sectors, who aged between 40 and 60 years old. The proportionate sampling method was employed to get a representative sampling of targeted participants from public and private sectors. Self-administered survey was conducted. A descriptive analysis was done to measure AAP level and contribution of health literacy in AAP. Univariable and multivariable analysis using the multiple linear regression model were done to evaluate the association between AAP level and the independent variables.

Result: The required sample size is 1200. Data collection started on April 2017 and expected to finish on March 2018. The preliminary result on 167 respondents showed that the AAP level is moderate with mean of 0.49 ± 0.08. Only 14.1% and 42.3% of the respondents had excellent and sufficient health literacy respectively. Health literacy is significantly associated with gender, employment status and job category. Those with high active ageing awareness level showed sufficient and excellent health literacy but the p-value is > 0.05. The regression was significant, $F (5, 106) = 16.204$, $p < 0.001$ with adjusted R^2 of 0.41 indicating that 41% of the variance of the AAP is explained by 5 predictors which are age, active ageing awareness, employment status, job category and the owner of current house.

Conclusion: This study will provide an overview of the active ageing preparedness at the population level, particularly among the non-professional group of employees, based on the active ageing framework proposed by the World Health Organisation.

Keywords: Active Ageing, Preparedness, Older adult, Health literacy

OPE_08

Ensuring Access to Health Insurance in ASEAN through Health Literacy: The Need for a Framework

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Abstract

Ensuring unimpeded access to health care services, especially in cases that usually end up in catastrophic health expenditure, requires the knowledge of available health insurance schemes, entitlements, benefits, and claims processing. Since health insurance is usually accessed by most individuals before they are diagnosed of a certain disease, ensuring one's health coverage can be considered an indicator of health seeking behavior, especially in countries without a social health insurance system. In light of the current push for universal health care in the Association of Southeast Asian Nations (ASEAN), member states have been adopting social health insurance schemes, with some bestowing entitlements on account of employment status, while failing to include the informal sector systematically. Consequently, these schemes rely on individual participation in that sector, thus underlining the importance of health seeking behavior. However, given that socioeconomic and cultural barriers influence health seeking behavior, health literacy interventions are needed to target these barriers, in order to sustainably achieve universal health care. Despite this, a proper framework for analyzing these concerns within the ASEAN context has not been developed. This study is a rapid review of frameworks and emerging themes applicable to the ASEAN context, which, due to the paucity of available literature from ASEAN, we gathered from mostly Western countries with established social health insurance schemes. We then attempted to contextualize these emerging themes with socioeconomic and cultural barriers to health seeking behavior which have been documented thoroughly in ASEAN.

Keywords: *Health literacy, ASEAN, Health seeking behaviour*

THEME F: DIGITAL HEALTH LITERACY

Chair: Dr Tania Islam
Time: 1200pm-1330pm
Venue: Seminar Room (2)

OPF_01
Health literacy and Internet Health Information Seeking Behavior in High School Students

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Abstract

Driven by advances in information and communication technology, public health organizations are setting steps to help close the gap in access to health information. Most people use health applications to regulate their behavior in maintaining and improving their health. This study aimed to determine the relationship between levels of health literacy and internet health seeking behavior in high school students.

This quantitative analytic study targeted high school students using online questionnaire of HLS-EU-Q-16 added with internet health seeking behavior questions that has been translated and validated. The questionnaire was distributed online from July 6th with total response of 515 students.

More than half of the respondents showed sufficient level of high literacy. Their health literacy level has significant relationship with age, high school location, and their internet health seeking behaviors. Respondents' daily internet profiles are: smartphone users, having at least one way of internet connection, using at least one health-related application, and roughly using internet for 7-12 hours. Majority of them installed health information applications. Monthly data usage affects the type and/or amount of health applications used.

Ability to access health information positively affects high school students in finding and understanding quality health information, which leads to higher level of health literacy.

Keywords: *Health literacy, Health application, High school students*

OPF_02

The role of modern media in improving the health literacy of students

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Abstract

Introduction: One of the most important factors influencing on health literacy is the modern media. Therefore, the present study aimed to investigate the effect of the new media on improving the health literacy of students from the viewpoint of teachers.

Methods: This study was a cross-sectional study. Samples were selected among teachers of Kerman in 2015 by Stratified random sampling. the sample size was estimated to be 270 persons. Data were collected by using a researcher-made questionnaire and based on Likert scale (5 choice). The face and content validity were evaluated by using a panel of experts and its reliability was calculated to be 0.87% by Cronbach's alpha. Data were entered into SPSS software and analyzed by descriptive and inferential statistical tests.

Results: Based on the findings, average score of the new media factor in improving the health literacy of students is $21/35\pm5/32$ and is in the upper level ($p < 0.05$).the highest average of the answers to the questions related to access to educational facilities and the least of them was related to the quality of physical space .

Conclusion: the results showed that the new media can play an important role in determining the health literacy level of students. Therefore, the use of these technologies to promote health literacy by decision makers should be addressed.

Keywords: *Health literacy, Modern media, Students*

OPF_03
Exceptional Lives: Unique Digital Resources for Families of Children with Disabilities

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Abstract

As health literate resources grow in number and quality, there is still a large gap in filling the information needs of parents of children with disabilities. These families are faced with complex medical and educational choices and must navigate extremely complex processes to get the services, benefits, and education that their children need. Online information is complicated and overwhelming, and doctors are rarely able to lead families to the information that they need and can understand.

Exceptional Lives has created a series of free online Guides that walk parents through the processes of getting services like educational support, special therapies, government benefits, and others. The Guides use a unique decision-tree software that allows them to be interactive and to limit the information to just what the family needs. Parents answer questions about their child and family, and then see just the information and action steps that relate to their situation. The software also includes data collection features that allow us to assess information needs.

The online design uses health literate principles, and includes built-in supports to help people with challenges in digital literacy as well as health literacy. It also goes beyond information and allows people to take action right away. For example, they can fill out forms, call support organizations or apply for benefits.

Although the Guides have been developed to help parents with services and systems in the U.S., the concept, software and principles of health literate design can be used to create an information platform for any system in any region where people have widespread access to the internet.

In this session, we will demonstrate the Guides and highlight the features that help to make the information easy to use and understand without being overwhelming.

These resources fill an important need in the healthcare and education worlds. They can connect families to critical services in time to give their children a better chance at an exceptional life. We hope to present the capabilities of this carefully developed digital approach so that it can be replicated in other regions.

Keywords: *Disabilities, Digital, Children*

OPF_04

Assessing the e-nutrition literacy, nutritional knowledge, and associated factors among general population in Taiwan

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Abstract

Background: Internet has been recognized as the important source for health and nutritional information and counselling in medical care. However, accessing the reliable, accurate information on the internet is challenging and time consuming for individuals. The tool to assess the ability to access, understand, judge and apply internet-based nutritional information is required. We aimed to develop an e-Nutrition Literacy Questionnaire in order to evaluate population's nutrition literacy and its associated factors.

Methods: A nation-wide cross-sectional survey was conducted on sample of 3670 people aged 10 years or above, in 19 cities and counties around Taiwan Island. The validated questionnaire includes socio-demographics, nutritional knowledge "known nutritional recommendation about oil and salt intake", and e-Nutritional Literacy (e-NLQ) with 15 items (5-point Likert Scale) was administered via online survey. Content of questionnaire was validated by expert panel (one Nutritionist, five Communication experts, one e-Health expert, and one Public health expert). The Principle Component Analysis was performed to confirm the construct of e-NLQ. In addition, logistic and linear regression models were used to examine the associations, the variables in models were gender, age, education, time spent on the internet, most searched topics, nutritional knowledge and e-NL.

Results: In total, 44.8% were male, 69.8% aged 10-17, 20.8% aged 18-39, 7.6% aged 40-59, and 1.8% aged 60 and above, 34.6% primary school, 29.8% Junior high, 17.8% Senior high, and 17.8% University and above. Of all, 47.5% population spent 1-5 hours/day to access internet. The PCA was performed with Promax rotation method confirmed the construct of e-NLQ with 9 items loading on 5 components, with KMO=0.6, communalities ranged from 0.61 to 0.92, explained 75.15% total variance, the factor loadings ranged from 0.65 to 0.98, the mean score of e-NLQ was 2.8 ± 0.6. Age and education were positive associated nutritional knowledge (p< 0.05) after controlling for other factors. In addition, age and education significantly empowered the positive association between e-NL and nutritional knowledge from OR=1.27 to OR= 1.84~2.04, p< 0.05, and OR= 2.18, p< 0.001, respectively. Finally, age, education, most searched topics related to cooking method, weight control, healthy food places, food safety were positively associated with e-nutritional literacy.

Conclusions: The valid e-nutritional literacy was developed in order to examine the population literacy regarding their health and food skills and capabilities. More studies are suggested for further validation and interventions.

Keywords: *e-nutrition literacy, Healthy diet, Internet-based nutritional information*

OPF_05

Health Literate Organization Participatory Model

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Abstract

Department of Health, Ministry of Public Health has been assigned to be a focal point for health literacy reform project since February, 2017. Health literate organization policy has been announced targeting to create an innovation and transform more than 10, 000 offices under Ministry of Public Health supervision by the end of 2018. Participatory approach using human capital and social capital identification process has been chosen and applied to all divisions of the department. The electronic 10 attributes of organizational health literacy question had been developed and administered as a trigger for participation from all staff in each division.

Within three months, three interdependent learning and sharing meetings, three distinct models, human resource and quality improvement model, law enforcement digital model and change management model were evolved. Human resources health literacy assessment indicators have been proposed and piloted. Short term and long-term goals have been set and the division mechanism for information and communication have been added. Regarding the law enforcement digital model, the computerized law enforcement check list was developed and introduced to a few local governments. Three months later, the model was spread out through the local governments' network. This diffusion of the model indicates the success of Legal Division HLO characteristics. For the Change Management HLO model was extended from the John Pual Kotter change strategies in the Health Promotion Service Center. Full function of HLO characteristics has been piloted to dental clinic with satisfactory outcomes from the patients.

As the HLO project outcome, an HLO development guideline has been drafted for other departments.

Keywords: *Health Literacy, Health Literate Organization, Health Promotion*

OPF_06

Health Clinic App as Facilitator in Clinical Consultations

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Abstract

Researchers and practitioners have long been interested in what facilitates the use of health services, and what influences people to behave differently in relation to their health. Thus there is a large literature on Health Seeking Behaviour and utilization of health services in both developed and developing countries. There are two dominant approaches: the development of 'pathways models' of Health Seeking Behaviour, which tend to describe a series of steps an individual takes; and studies of 'determinants' of behaviour, highlighting the factors influencing that journey. This study focuses specifically on the act of seeking 'health care' among University students at this Medical college teaching hospital. The students of the University are covered under medicare insurance scheme with free Outpatient consultations and hospitalisations. But, utilisation of hospital services by these medicare holders was abysmally low due to issues of Long Waiting time at Health clinic, both for medical record movement and getting an appointment with treating doctor. It was perceived that the introduction of Mobile application with appointment fixing facility would improve the service utilisation, as most of the students have smartphones. A questionnaire based survey was done amongst 100 students on to what features they would like to have. This app named as "Elixir" was introduced wherein student can log in using unique Hospital Identity number, so that information will be confidential. The executive at health check longue will confirm the appointment with the Doctor and keep the file ready at the appointment time. The student waiting time was reduced from 45 minutes to 5 minutes. SMS based notifications on to the mobile of Doctor and students brought down the appointment cancellations to '0'. The satisfaction survey conducted amongst sample of 100 students showed considerable improvement. A feature of information on common diseases was also introduced in the application. This made student identify the disease with their signs and symptoms and treatment with Over the counter drugs. The paper will deal about questionnaire survey and responses collected, brainstorming session on developing the mobile app, the end user interfaces that were built, the cloud based service features, the satisfaction surveys conducted after introducing the app. Thus, with the help of a mobile app the students satisfaction with the hospital services got improved and utilisation of services enhanced.

Keywords: *Student Health Clinic, Appointment System, Mobile App*

OPF_07

Measuring Digital Health Literacy of Primary Health Centres Workforces for supporting Universal Health Coverage Enactment in Indonesia

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Abstract

Introduction: Indonesia has committed to achieving universal health coverage (UHC) by 2019. Dealing with this challenge, the preparation health workforce should be central to the response including its stock, skill mix, distribution, productivity, and quality. In many low and middle-income countries, primary health care (PHC) has been chosen as the main strategy to achieve UHC. Indonesia has 9,754 PHC to serve more than 250 million of population. Since the enactment of UHC program in 2014, the number of PHC with information system has increased dramatically. In this regards, it is crucial to develop a tool for measuring digital health literacy of PHC's workforce in the digital health. Digital health literacy defined as the ability to access, understand, compare, evaluate, apply, share, reproduce, and enhance digital information on health to improve individual and community health. Its need various skills consist of computer skills, ethical skill, and health literacy skills to ensure optimal function of primary health care activities.This study develop PHIC4PHC, a tool for measuring digital health literacy in limited resources setting.

Method: First, this study did aliterature review about computer literacy, eHealth literacy, and competency measurement tools. Second, an initial questionnaire was challenged by experts used a modified Delphi technique.Two groups of experts consist of 12 academicians from a university and 13 representative's staff from primary health care centers joined in two rounds group discussions. Furthermore, thisPHIC4PHC (Public Health Informatics Competences for Primary Health Care) was tested twice to 75 primary health care workforces in Semarang Municipality, Central Java Province, Indonesia.

Result and Conclusion: PHIC4PHC consists of four main categories namely cognitive, technical, ethical and health information literacy. The initial draft questionnaire that consist of 85 items were selected to 43 measurement items with 11 indicators through the validation process. The constructions were valid and reliable to measure PHC workforces' competencies concerning the knowledge of health information system, skills required for health data management, ethical aspects of data sharing and health information literacy. Existing tools measure only one part of the skills needed in the digital health era such ICT skill or health literacy skills. This PHIC4PHC is the first comprehensive questionnaire to assess the skills required in the digital health era such as digital skills, ethical skill, and health literacy skills. Digital health literacy becomes important

in the digital era because health professionals need to harness the myriad information sources as a consequence the implementation digital health technology in health care facilities required by public health workforces.

Keywords: *Digital health literacy, Primary health care, Public health workforces*

POSTER PRESENTATIONS

POSTER PRESENTATIONS: DAY 1

Date: 13th November (Monday)
Venue: Exhibition Hall

THEME A: AGEING

PPA_01
Factors that motivate or hinder social participation among community dwelling older persons in an urban Malaysian community

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Abstract

The benefits of social participation for older persons are multifold, yet understanding of its inducers and barriers in the context of multi-ethnic, culturally diverse societies remain limited. Particularly, the dynamics of demographic variations, the living conditions and views of the older community dwellers are undermined by commonly adopted deductive approach. The aim of this paper is to understand factors which induce and hinder social participation among older community dwellers in an urban Malaysian community. Four focus groups were conducted within an urban community in Kuala Lumpur, capital of Malaysia. The focus groups were video recorded, transcribed, coded, categorized into subthemes and compressed into themes. The results reflected the significance of conducive environment, health, interpersonal relationships, economic factors, self-motivation, life transition and cultural values were determinants of social participation among older people. Nevertheless, the complexities of family dynamics and social changes, clouded by Malaysian historical experiences with war and colonialism as well as inadequate retirement savings had led to loss of autonomy among older population. Exerting autonomy among older adults who are financially dependent on their children is questioned. Sensitivity towards the social situations of older patients is essential for quality care. Bottom-up studies are foundational for policy making and implementation among diverse community older dwellers.

Keywords: *Urban Malaysia, Social participation, Community dwelling older persons*

PPA_02

A cultural sensitive health promotion program that collaborate community hospital and local temple to improve elderly's life style and health literacy

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Abstract

Background: To improve the health of the community-dwelling elderly, the hospital should actively engage in community health promotion and prevention of diseases and disability, rather than just passively receive patients and offer them with diagnosis and treatment, as it was conventionally perceived. But, what kind of strategy should hospital have to step into the community and play a role in the community- health-building is really a new challenge for community hospitals.

Purpose of the study: The aim of this study is to explore how hospitals can collaborate with community organizations and adopt local folk religious custom to develop cultural sensitive plans for healthy lifestyle and better health literacy. We wish to understand the factors that affect willingness of participation and how health promotion programs influence their lifestyle and health literacy.

Research methods: The study conduct participate observation in a so called "so-and-so community LOHAS center", and witness its organizing process with a community hospital in Taipei City. In addition, we also conduct the in-depth interview of three local community organizations and 12 participants in the community health program to analyse the effectiveness of this program.

Result: The study found using the local temple where the folk belief are located, as well as where social interaction take place for community elderly, and collaborate community organizations with community hospitals, to establish a care points can provide health promotion activities with traditional customs and festivals (such as Health literacy Seminar- "Chinese medicine meeting with Agriculture god", Eating Together, Blood Pressure Monitoring, Health Advisor, sports and other health promotion activities, can effectively attract elderly in the community to go out, and step into active aging lifestyle.

Keywords: *Ageing, lifestyle, Health literacy*

PPA_03

Physical Activity status of the elderly population in Sri Lanka: Literature Review

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Abstract

Introduction: Sri Lanka experience the fastest growing aging population in the South Asian region, leading to an increase of aging related disease burden, which has become a national issue of the country. Physical activity (PA) plays a pivotal role in managing a healthy lifestyle in any age and physical inactivity has been identified as the fourth leading risk factor for overall mortality and the eleventh risk factor for percentage of disability-adjusted life years. Regular PA is considered as a key to successful and healthy aging with documented benefits for physiological and mental functioning and quality of life in older adults. PA promotion activities targeting elderly population are an identified cost effective strategy to combat to this identified modifiable risk factor at population level. This paper will present a review of literatures on PA status of the elderly population in Sri Lanka as the basis for suggesting the necessity of developing PA promotion programmes for the elderly population of the country.

Methods: Scientific data bases and data bases platforms on PsycINFO, CINAHL, SPORTDiscus, EBSCO, ScienceDirect, Web of Science, SCOPUS, EMBASE and PubMed were searched to identify the available literature on PA status of the elderly population in Sri Lanka. No literatures specially relating to PA among elderly in Sri Lanka were found. Two papers generally discuss the PA status among adults (Including >60) using International Physical Activity Questionnaire (IPAQ) and Global Physical Activity Questionnaire (GPAQ) as the data collection tool. Metabolic equivalents of task (MET) and Mean time spent on PA have been measured.

Results: Literature shows aging as one determinant of being inactive. Elders who live in rural are significantly more active than the urban, due to socio economic differences. Transport, occupational and households are the prominent domains influencing PA of the rural elderly. Mean time spent on PA of the elderly female is lower than the men.

Conclusion: Supportive evidence was found to conclude that older age and urbanization as predictors of physical inactivity among elders in Sri Lanka and the necessity of developing health promotion targeting the urban elderly population as a priority. Tools that were used to measure PA status have not been further developed to investigate the PA status among elderly in Sri Lanka. It is suggested to do further research using a developed valid tool to measure PA status among elderly.

Keywords: *Elderly, Physical activity, Sri Lanka*

PPA_04
Treatments seeking behavior of the elderly in Galle, Sri Lanka for Non-Communicable Diseases (NCD)

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Abstract

Introduction: Sri Lanka's population is rapidly aging. It is observed that the prevalence of NCDs in the country is increasing. Elders can be considered as a vulnerable population group who are having a higher risk of developing NCDs. However, treatment seeking behavior of the elderly is generally poor. This study aimed at examining the treatment seeking behavior for NCDs of the elderly living in the district of Galle in Southern Sri Lanka

Method: A cross sectional survey was conducted using an interviewer administered questionnaire. Those who were on or above the age of 65years were considered as elders.

Results: A sample of 206 elders was surveyed. The mean age of the participants was 71.2 years (SD = 6.2). The majority of the elders in the sample were dependents (65%, 95% CI: 59%, 70%). Only 71% of the elders who reported having had heart disease (n= 28), 68% of the elders who reported having had diabetes (n= 38), 67% of the elders who reported having had hypertension, 37% of the elders who reported having had rheumatoid arthritis (n= 93) and 42% of the elders who reported having had asthma (n= 19) had been using treatments for their illnesses.

Conclusion: A significant proportion of elders do not use or seek treatments for their chronic diseases although the allopathic treatments are freely available for them. High level of dependency may be a contributing factor for this observation, but other structural and situational factors that bar them from seeking medical treatments need to be investigated.

Keywords: *Non-Communicable disease, Elderly, Sri Lanka*

PPA_05
Factor Associated with Medication Information Seeking Behaviors of Elderly in Thailand

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Abstract

The number of elderly people in Thailand has increased rapidly in the past few decades. Elderly people are prone to have medication problems that lead to adverse drug events, affecting health and cause economic losses.

We conducted a questionnaire survey elderly in 3 communities in Chiang Mai. A questionnaire was used to collect elderly's characteristics, social activity involvement, exercise behavior, and health conditions, access to communication devices/media, and frequencies of searching/receiving medication information. The community health volunteers distributed questionnaires to every elderly in each community. We also conducted focus group interview to understand their needs and obstacles to access to medication information.

Of 90 elderly returned the questionnaires, 64.4% were female, about 70% were 61-70 years old, 82.2% elementary school educated, and 76.7% earned lower than 10,000 Baht/month. Eighty-one percent of the elderly had at least one chronic disease, 55.4% with high blood pressure, while 77.8% had at least one health condition that might limit abilities to access to medication information. About half of the elderly accessed to medication information from radio and television each, and 31.1% accessed from smart phone/tablets. While 51.1% of the elderly searched for information how to use medication appropriately, about two-third searched for supply sources of western medicine and herbal medicine each. About two-third of the elderly (62.1%) searched for or received medication information less than once a week or did not receive any. The binary logistic regression analyses showed that the elderly who had accessed or exposed to at least 2 communication devices were 4.16 times more likely to search for or received medication information than those who had only one, 95%CI [1.39, 12.40]. Those who exercise at least once a week were 9.67 times more likely to search for or receive medication information than those who did not, 95% CI [2.63, 35.57]. From focus group interview, the elderly considered medication information from health professional, hospital, and education institutes reliable. The obstacles of getting medication information included the lack of reliable sources and access to certain types of information channel, and poor design of medication information media for the elderly.

The findings show that elderly in the communities had limited searched or accessed to medication information. Elderly who had accessed to more communication devices and healthy lifestyle seemed more likely to search for or receive medication information.

Keywords: *Medication information seeking behavior, Elderly, Factors*

THEME B: CANCER RISK FACTORS, EPIDEMIOLOGY, SURVIVORSHIP, PREVENTION & CONTROL

PPB_06

The Status and Factors Associated with Financial Difficulty Among Breast Cancer Survivors in Malaysia

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Abstract

Introduction: In Malaysia, 1 in 20 women are at risk of Breast Cancer (BC) as it is the most frequent-occurring cancer site. The incidence, survival duration and treatment-related expenses has escalated the economic burden of cancer. Yet there is still limited knowledge on the adverse outcomes of financial burden experienced by BC survivors, especially from LMIC nations such as Malaysia. There is also insufficient estimation of the total expenditure involved in BC management.

Objectives: To study the outcomes and factors associated with financial difficulty among BC survivors in UMMC.

Methods: This is a prospective cohort study whereby participants comprised of newly-diagnosed BC patients who seek treatment at UMMC from January 2012 until August 2016. Questionnaires were conducted upon recruitment and at six-month follow-up. Analytical methods include chi-square test and logistic regression. Statistical significance was described using OR, 95% CI and $p < 0.05$.

Results: 592 BC survivors were recruited and 370 participants continued follow-up at six months. More than two-thirds were aged above 50 years old and predominantly Chinese. The median income stated ranged at RM2500 per month. Approximately 20% of cases were diagnosed at advanced stages (Stage III and IV), whereby majority required surgery and nearly 60% underwent chemotherapy. More than 80% survivors reported spending for each of the treatment modality such as chemotherapy and nearly half of the study participants encountered OOP payments. Financial difficulty was experienced by at least 25% of the participants at baseline and the prevalence increased about 5% upon six months follow-up.

Preliminary analysis revealed that healthcare payment method; in particular Out-of-Pocket (OOP) and combination method, ethnicity as well the presence of comorbidities was significantly associated with economic hardship among the BC survivors. However only payment method and comorbidity remained significant predictors of financial distress at baseline. BC survivors with existing health issues and who are forced to pay either solely through OOP or combination of multiple sources such as through OOP and reimbursement method for example, has more than 55% probability of financial turmoil within three months of their diagnosis.

Conclusion: The findings in this study reinforced the current knowledge that cancer survivors experience great financial burden due to cancer. In particular, those living in households with no or limited savings will be more vulnerable to catastrophic events. Therefore, health policy makers need to transform the existing policies and healthcare system, particularly on the measures to promote financial risk protection among these survivors.

Keywords: *financial burden, breast cancer, cancer survivor*

PPB_07

Mouth self-examination (MSE) as a screening tool for oral potentially malignant diseases among a high risk Indigenous population

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Abstract

Survival rates of oral cancer patients remain at 50%, which is mainly attributed to presentation of disease at advanced stages. Screening of the oral cavity has been shown to reduce mortality, however it is only cost-effective if conducted among high risk populations. This study aimed to evaluate efficacy of mouth self-examination (MSE) as a screening tool for oral potentially malignant diseases (OPMDs). Method: Data on awareness on oral cancer and its risk habits were collected through questionnaires. Respondents were exposed to an intervention consisting of education on oral cancer. Aspects covered include risk habits and signs and symptoms of oral cancer, as well as MSE. Next, respondents were asked to perform MSE for detection of any abnormalities. Performance of MSE by respondents was evaluated using criteria developed by a previous study. Then, a comprehensive oral examination was carried by an oral medicine specialist whereby presence of lesions was recorded. Sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) were calculated to determine efficacy of MSE as a screening tool for OPMDs. Results: Prevalence of OPMDs was 7.5%. When performing MSE, two-third (64.5%) of respondents exhibited low level of performance in terms of mucosal visualization and retracting ability. A big proportion of respondents (64.5%) showed high level

of difficulty, whereas low level of attention while performing MSE was detected in half (50.3%) of respondents. The sensitivity rate of MSE in detecting OPMDs was 13.3%, while specificity was 97.8%. PPV and NPV were 33.3% and 93.2% respectively. Overall accuracy of MSE for detection of OPMDs was 91.4%. Conclusion: Although sensitivity of MSE in detection of OPMDs was low, specificity and accuracy rates were very high. MSE has the potential to be used as a screening tool for early detection of OPMDs and oral cancers.

Keywords: *Mouth self-examination; efficacy; oral cancer*

PPB_08
Measuring Oral Cancer Health Literacy: A New Endeavour

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Abstract

Oral health literacy is important in decision making process for screening, prevention and treatment of oral diseases. According to WHO, among the different oral diseases, oral cancer is the major public health challenge. There are many tools to assess oral health literacy, however there is no tool to assess oral cancer health literacy. This study was planned to focus on developing tool to assess oral cancer health literacy, as decisions can be made about prompting interventions at policy and practice level for individual and population to reduce oral cancer disease burden. The aim of the present study was to develop and validate Oral Cancer Health Literacy tool using mixed method approach.

The study was conducted in two phases- Tool development and Tool validation. Delphi method was adopted for content development of the tool. Twenty experts were selected based on ten criteria suggested by (Boulkedid et al., 2011) which includes expertise in the field, years of experience, number of specialties etc. In the first round, the experts' opinion about oral cancer health literacy was collected using an open-ended questionnaire.

The content analysis from the first round resulted in themes such as 'Risk factors in oral cancer', 'Early signs', 'Diagnosis' and 'Treatment'. The recommended categories in any Health literacy tools are 'Word recognition', 'Functional Health Literacy' and 'Information methods'. Based on these categories and themes emerged from first round tool was developed. The tool so developed was subjected to second round of Delphi. This resulted in a tool consisting of 30 items within 4 themes. Hence, the final tool will be distributed to sample of 200 which was statistically arrived at. The data so obtained will be assessed for reliability expressed in terms of Cronbach alpha (inter item consistency) and criterion validity. The final tool developed will help in assessing the oral cancer health literacy of the population which will play an important role in planning oral health programs and policies.

Keywords: *Oral cancer, Delphi method, Health literacy*

PPB_09

Deep Learning in Oncology- A Case Study on Brain Tumor

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Abstract

The brain tumor detection continues to be a challenge owing to the complexity of its symptoms. The research era indicates the tumor diagnosis and identification of tumor exact indicators are still uncertain. These tumors can appear anywhere in the brain and have any kind of shape, size, and contrast. The brain tumor exploration with deep learning is a solution for flexible, high capacity and extreme efficiency. The deep learning is an application of the artificial intelligence with multiple layers helping to predict the outcome of the disease early detection. This paper presents an approach to recognize the indicators and show that deep learning drops error rate for brain tumor diagnoses by 80%.

Keywords: *Brain tumor, Deep Learning, Matlab, Neural Networks, Pesticides*

THEME C: DIGITAL HEALTH LITERACY

PPC_10

Nutrition Tracking Mobile Applications and Its Usability: An Analysis of Informational and Visual Elements

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Abstract

Nutrition tracking mobile applications is commonly regarded as a useful tool to monitor a person's nutrition intake, and a viable platform to improve healthier diets among Malaysians. Despite Malaysia being a country with one of the highest rates of usage of mobile devices and applications, nutrition tracking mobile applications are not particularly popular among the majority of Malaysians. There is a lack of research discussing the usability of nutrition tracking mobile applications in Malaysia. To improve the usability of nutrition tracking mobile applications among Malaysians, this paper aims to identify various types of nutrition tracking mobile applications and its visual elements. In particular, layout structures, animations and graphical elements will be further analyzed. The findings in this study show majority of the nutrition tracking mobile application have almost the similar tabbed view layout structures and features, but each of it have different way of presenting the information in term of graphical element and animation used. Furthermore, different presentation design will provide different kind usability experiences to the users while they executing their desire task. It will be significant to identify how it affect effectiveness, efficiency and satisfaction of users in using the nutrition tracking mobile applications. While the nutrition mobile applications serve as a useful tool to assist Malaysians improving healthier diets, the arrays for its design application seems apparent. It is important to find out what are the preferred visual elements and informational contents for the Malaysian in the nutrition tracking mobile application, in order to have a strong engagement and improve the usability between Malaysian and nutrition tracking mobile applications.

Keywords: *Nutrition Mobile Application, Visual Elements, Usability*

THEME D: ECONOMIC EVALUTUTION

PPD_11

Cost Analysis of Cervical Cancer Patients in Selected Hospitals, Yangon (2016)

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Abstract

Cervical cancer is the second leading cause of morbidity and mortality of female cancer and first most cause of common morbidity and mortality of female cancer in women aged 15 to 44 years in Myanmar. Very few study on cost of cervical cancer patients are present in Myanmar. This study aimed to determine costs of the treatment of cervical cancer patients in selected hospitals, Yangon (2016). Longitudinal descriptive study was conducted in 106 cervical cancer patients who received the treatment at Yangon General Hospital and Central Woman Hospital-Yangon. Data were collected with pre-tested questionnaire and medical records of patients were studied for enquiring the detailed expenditures on diagnosis and treatment of cervical cancer. In this study, mean age was 50 years (ranged from 35 to 65 years). About 38.7 percent of patients were resided in urban area of Yangon Region, 17 percent were in rural area of Yangon region, 14.1 percent were in urban area of other region and another 30.2 percent were in rural area of the other region. Median monthly household non-food expenditure was 685,000 MMK (ranged from 240,000 MMK to 1,850,000 MMK). Median monthly household total expenditure was 842,000 MMK (ranged from 340,000 MMK to 2,170,000 MMK). Median total cost for diagnosis was 675,000 MMK and that of treatment was 2,190,000 MMK and also that of total healthcare expenditure of cervical cancer was 2,998,750 MMK. Mean healthcare cost by stage of cancer were 2,916,769 MMK, 3,917,143 MMK, 3,386,333 MMK, 3,886,296 MMK and 4,226,259 MMK for stage I B, II A, II B, III A and III B respectively. All of these expenditures were out of pocket expenditure. 95.3 percent, 74.5 percent, 38.7 percent and 32.1 percent of studied households were facing financial catastrophe at the thresholds of non-food expenditure 20 percent, 30 percent, 40 percent and 50 percent respectively. Nearly all of the cervical cancer patients were the household with catastrophic health care expenditure in term of WHO's threshold for total

household expenditure. Thus, it is necessary to establish cost effective nationwide cervical cancer screening and vaccination programme. Moreover, financial protection mechanism to minimize the out-of-pocket healthcare expenditures should be developed.

Keywords: *Cervical cancer, Healthcare expenditure*

THEME E: HEALTH LITERACY & POPULATION HEALTH

PPE_12

The Prevalence of Parasites in Fresh Vegetables at The Markets of Bac Lieu City – Vietnam

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Background: Fresh vegetables are a popular food and very good for health. It is easy to buy them from market to super market. However, it is difficult to identify in practice.
Objective: to Identify the prevalence of parasites in fresh vegetables at the markets of Bac Lieu city – South of Vietnam.
Subjects and methods: Identifying the prevalence of parasites in fresh vegetables at the markets of Bac Lieu city.
Results: The prevalence of parasites in fresh vegetables is 80%. The prevalence of parasites in fresh vegetables is 73%, larvae of *nematode* and *Ascaris lumbricoides* eggs are the most prevalent of parasites (44% and 43%). The prevalence of protozoa in fresh vegetables is 54%, mainly *Balantidium coli* cysts with 41%. Remarkably, fresh vegetables have a high parasite infection prevalence and they are nearly equal, contamination is highest in lettuce and basil (85%), followed by heartleaf (80%) and the least contaminated is mustard green (70%).
Conclusion: The prevalence of parasites in fresh vegetables is 80%. It is necessary to control parasites on fresh vegetables, it is suggested that the use of fertilizers of human source in agriculture should be avoided, must use the hygienic water for irrigation. Traders must use hygienic water to spray on vegetables. Consumers must wash their vegetables with saline under strong running water.

Keywords: *Contamination, parasites, fresh vegetables, Bac Lieu city*

PPE_13
Health Literacy reviews in Thailand

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Abstract

Health Literacy refers to the ability to find or reach, to understand, and to take advantage of health information. In Thailand, there are research related to health or health literacy or wellness. This article was aimed a comprehensive sense of health intelligence, it means that people have the ability to access health information from a variety of sources. Having an understanding of the content can evaluate the credibility and appropriateness of the content on their own. Use rational thought to focus on that knowledge and lead to the decision to try and evaluate the experiment until it can be used in everyday life. Trends in health-related research in Thailand are some amount of published.
Methods: Survey and classified, many studies have shown low levels of health. Tend to be sick and have the ability to prevent and take care of health less than individuals with higher health level. Also, tools for assessing the health quotient of individuals, communities, or larger populations should be developed to further measure health intelligence. As an alternative to tackling health issues and offering research and development of health intelligence tools for use in health services, prevention and health promotion programs and health policies.

Key words: *Health Literacy, Thailand*

PPE_14
Different Comparison on Leaders and Villagers' capability to Solving Sustainably Dengue Fever in the Risk Areas, Nakhon Si Thammarat Province

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ABSTRACT
This cross sectional study aimed to compare the Leaders and Villagers' capability to solving sustainably dengue fever in Klongnoi and Thaisampaw community, Nakhon Si Thammarat province. The study applied participatory method to collect data with 30 leaders and 100 villagers. The leaders' assessment form consisted of 14 components (61 items) and villagers consisted of 11 components (58 items). These instrument were improved content validity was 0.91 and 0.97 and found that the reliability of them were 0.98. Data analysis were done by descriptive and the different comparison of leaders and villagers' capabilities by T-test.
The results revealed that Klongnoi community had 19 villages, villagers' occupation was agriculture and they had low income. Regarding capability was found that high capability level. Whereas, Thaisampaw community had 13 villages and found that villagers' capability this community was moderate level. When compared the capability between two communities

found that Klongnoi community had leaders' capability score was higher than Thaisampaw with statistically significance at *p*-value <.05, but found that villagers' capability score was lower than Thaisampaw community with statistically significance at *P*-value - <.05). Thus, this study could illustrate that the process of Dengue fever problem solving should concern in encouraging and developing capability cover all of areas.

Keyword : *Community capability, solving sustainably dengue fever, risk*

PPE_15
Knowledge of and Willingness to Perform 'Hands-Only™' Cardiopulmonary Resuscitation among College Students in Malaysia

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Abstract
Background: Worldwide, millions of people die of sudden cardiac arrest every year. This is partly due to limited and sometimes ineffective bystander cardiopulmonary resuscitation (CPR). Studies have shown that both the layperson and health care providers are reluctant to perform out of hospital CPR due to the need for mouth-to-mouth contact. In view of this, the Basic Life Support (BLS) algorithm has been simplified and lay rescuers are encouraged to perform and Hands-Only™ CPR.

Objectives: The objective of this study was to assess knowledge on and willingness to perform Hands-Only™ CPR among Malaysian college students and to determine the relationship between the two.

Methodology: An online self-administered questionnaire was designed via Google Forms. The questions were adapted from previous studies and were content validated by an expert in the field of Emergency Medicine. Participants were asked closed ended questions on their demographics, exposure to CPR, knowledge of Hands-Only™ CPR, and their willingness to Perform Hands-Only™ CPR in 5 different scenarios (family members or relatives, stranger, trauma victim, child and elderly person). The independent sample t tests were used to determine the association between the knowledge score and the willingness to perform Hands-Only™ CPR. The association between the knowledge score and the frequency of CPR course attendance was tested using One-way ANOVA procedure. .

Results: Data for 393 participants were analysed. For knowledge, out of the maximum possible score of 14, the mean score was 8.6 ± 3.2 and the median score was 9. The distribution was fairly symmetrical. Majority of the respondents (67.7%) were willing to perform Hands-Only™ CPR on their family members or relatives, but not as many were as willing to perform it in the other four scenarios. Majority of those who were not willing to perform Hands-Only™ CPR cited lack of knowledge as the main reason. Generally, knowledge among those willing to perform Hands-Only™ CPR was higher compared to those who were not. Out of the 393, 27% did not

attend any CPR training before, three quarters of them citing that they were unsure where to attend the course.

Discussion and Conclusion: Based on this study, knowledge on Hands-Only™ CPR among local college students is not encouraging. Higher knowledge is associated with previous training. Not many know where to attend such courses. Those with better knowledge were found to be more willing to perform Hands-Only™ CPR.

Keywords: *Hands-Only™ CPR, Knowledge, Willingness*

PPE_16

Enhancing genetic literacy in community health education- a pilot study

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Abstract

Background: In the rapidly advancing genomic era, it is important to ensure the public access and understanding of genomic information. Genetic literacy has been defined as the ability of an individual to understand concepts important to the use of personal genetic information. Within health literacy, however, genetic literacy of health professionals and the general public is particularly lacking. Research on constructing and application of genetic literacy is also limited. The goal of our project aims to explore approaches for enhancing genetic literacy for general public at the level of community health education. In the first stage, we tried to construct tools for assessment of genetic literacy and effectiveness of health education. Limitation for using existing tools, such as the Rapid Estimate of Adult Literacy in Genetics (REAL-G), lies in linguistic and cultural barriers. In our study, a pilot assessment instrument was constructed based on genetic knowledge in textbooks for junior high schools and public genetic survey data conducted previously by the Academia Sinica in Taiwan. We used questionnaire consisted of 18-item multiple-choice tests that addresses concepts identified as central to genetics literacy. The internal consistency reliability coefficient (KR20) was 0.79. The expert validity tested for this measure showed the appropriateness of the content, suggesting that these factors had sufficient reliability and validity. Two kinds of participants were recruited for our genetic health education, one group of participants were elder residents in communities and another group were newly married couples expecting children. Our results showed that among 60 elder residents and 158 new parents, an overall rating of satisfaction was 94.5% of the participants agree that good and above. We also conducted comparison of pre- and post-test for the genetic knowledge content after educational intervention, the mean score increased and most significantly is the concept of recessive gene and the recurrent risk calculation. In summary, our study results showed that although most people are interested in genetics and its new application, there is a lack of confidence about genetic knowledge and risk assessment. There are immediate needs to support the development of linguistically and culturally appropriate genetic literacy-building programs for both the public and health professionals.

Keywords: *Genetic literacy, Genetic health education*

PPE_17

Reproductive Decision Making in Severe Thalassemia

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Abstract

In the context of an inherited disorder such as Beta-Thalassemia it is critical to understand how people with B-Thalassemia Intermediate or B-Thalassemia Major face the challenges of making informed reproductive health decisions. The purpose of this qualitative analysis was to examine the beliefs, attitudes, and perspective of people with severe Thalassemia related to making informed of reproductive health decisions in regards of current technologies for birth control and screening choices for Thalassemia. The research was conducted among severe Thalassemia with a total of 10 people who had either Beta-Thalassemia Major or Beta-Thalassemia Intermediate in Hospital Ampang. Four major themes have been identified for the health related issues in Thalassemia; partner choice and screening for Thalassemia; sharing Thalassemia status with partners; reproductive options; prenatal screening and termination. These findings enhance understanding of the reproductive experiences in people with severe Thalassemia, endowed with patient insight in addressing the problem and provide the groundwork for developing an educational intervention focusing on making informed decisions about becoming a parent, in addition to improve our National Thalassemia Prevention and Control Programme. Therefore practical measures could be taken more effectively to address the issue, such as giving counseling on parenthood, family planning, prenatal screening and prevention of pregnancy if required for future sustainable society. This study has been approved by University Malaya Research Ethics Community.

Keywords: *Thalassemia, reproductive health decision making, prenatal screening*

PPE_18
Treatment Seeking Behaviour on Diarrhoea Among Caregivers of Under Five Children In Rural Area of Thanbyuzayat Township

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Abstract

Background: Timely and appropriate treatment seeking behaviour of caregivers can have a significant impact on child survival. Although better sanitation, hygiene and access to care have successfully alleviated in developed countries, diarrhea remains as the leading causes of morbidity and mortality in children under five years of age in the world, representing nearly one in five child deaths - about 1.5 million each year.

Aim: The aim of the study was to study treatment seeking behaviour on diarrhoea among caregivers of under five children.

Objectives: (1)to describe the socio-demographic characteristics of caregivers of under five children in rural area of Thanbyuzayat Township (2)to determine the knowledge, prevention practices and treatment seeking behavior among caregivers of under five children in rural area of Thanbyuzayat Township (3)to find out the association between the socio-demographic characteristics of caregivers and treatment seeking behavior on diarrhea (4)to find out the association between the knowledge of caregivers on diarrhea and treatment seeking behavior (5)to explore the factors influencing treatment seeking behavior on diarrhea among caregivers of under five children in rural area of Thanbyuzayat Township

Methods: This community-based cross-sectional descriptive study was conducted in rural area of Thanbyuzayat Township, Mon State, Myanmar. Both quantitative and qualitative approaches will be conducted in this study. Data collection was done by face to face interview using semi-structured questionnaires in June,2017. The multi-stage sampling technique was used in sampling procedure.

Results: A total of 200 caregivers from ten villages compatible with inclusion criteria were interviewed. The mean age of the caregivers was 35.8 and 77% (154) of the caregivers were mothers of the children.15.5% of the children (31) were looked after by their grandparents. Caregivers who were graduated were only 8.5%(17) and 18% (36) were illiterated. The main water source was shallow well, 79% (158), in this study population. The mean knowledge score of the caregivers was 39.24. The mean knowledge score was lower in caregivers within age group of 40 years and above. Knowledge score was significantly higher in educated caregivers. About 39.5% and 38% of the caregivers had proper hand washing practices before meal and after using toilet. Only 37.5% of the caregivers had proper hand washing practice before preparing meal for their children. About 33% of the caregivers had ORS packets at their home. Only 17.5% of the caregivers had read the instructions before preparing ORS for their children. Regarding treatment seeking behaviour,12.5% of the caregivers had self-care practices,54% took treatment at rural health center/subcenter and 33.5% at private hospitals/clinics for the first time. About 53.5% of the caregivers had health facility which can be reached within 15 minutes. Caregivers who sought treatment by skillful persons for their children also had higher knowledge scores than the caregivers who took treatment by unskillful persons (p-

value=0.013). Caregivers who took treatment within 24 hours of onset of disease had significantly higher mean knowledge score than the other caregivers who took treatment after 24 hours. Caregivers who sought care for their children illness by unskillful persons were 55% among age group less than 40 years and 45% among age group 40 years and above. Among caregivers who sought treatment for their children by unskillful persons,65% of them had low education level (illiterate, read and write and primary school passed) and 35.3% of them had average monthly family income <200000 kyats.

Conclusion: Treatment seeking behaviour on diarrhoea are proper but health education is needed to improve caregivers' knowledge on diarrhoea. Proper hand washing practices should be improved by health promotion.ORS is the best solution for diarrhoea and proper practice of preparing ORS is important. Correct knowledge of preparing ORS should be improved.

Keywords: *Treatment seeking behaviour, Caregivers, Diarrhoea*

PPE_19

Situations and Association between Health Literacy with Overweight and Obesity among Health Personnel in Sub-District Health Promoting Hospitals, Sakonnakhon Province, Thailand

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Abstract

Overweight and obesity are a major risk factor for cardiovascular disease, type 2 diabetes, high blood pressure, sleep apnea, psychological issues, some musculoskeletal conditions and some cancers. This cross-sectional study aimed to describe the situations and association between health literacy with overweight and obesity among health personnel of sub-district health promoting hospital, Sakonnakhon province, Thailand. A total of 237 participants were included in the study. We analyzed factors association by multiple logistic regression, and represented as adjusted odds ratio (adj. OR) and 95% confidence interval (95%CI).

The finding revealed that the most of sample were female (63.29 %). They were average age 38.18 ± 9.95 years old. The overall overweight and obesity among health personnel was 43.04% (95%CI: 38.43–58.21%); consist of overweight (17.72 %) and obesity (25.32 %). The odds of having overweight and obesity were significantly among those who not access to health service information (adj. OR=1.89; 95%CI: 1.03 to 3.57; p-value = 0.041) and who were not media literacy (adj. OR=2.12; 95%CI: 1.17 to 3.86; p-value = 0.014). Therefore, the health personnel should aware in health service information and media literacy. They effected to individual health such as life style and behavior.

Keywords: *Overweight, Obesity, Health literacy, Personal health*

PPE_20

Leaflet as A Tool to Improve Patient Knowledge About Antibiotic Resistance in Depok Sleman

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Abstract

Antibiotic resistance has become a concerning threat to global health today. It leads to longer hospital stays, higher medical costs, and increased mortality. Antibiotic resistance occurs naturally, but inappropriate use of antibiotics in human is accelerating the process. In order to slow down the spreading of antibiotic resistance, campaigns using leaflet to provide information on how to reduce antibiotic resistance is one of the alternative to raise awareness and increase the public health literacy. The aims of this study is to determine the effect of leaflet on patient knowledge about antibiotic resistance in pharmacies. This was a quasi-experimental study that used pre-test and post-test control group design which include experimental and control group. The inclusion criteria in this study were over 17 years old, had visited the pharmacy before, and were willing to be the respondent. While the exclusion criteria were health professional. Accidental sampling techniques used in this study. Two hundred participants that involved in this study were patients who bought drugs at 8 pharmacies in sub-district Depok, Sleman. The questionnaire has been tested for its validity and reliability in another pharmacies. The result of this study showed a significant increase in level of knowledge from 38% to 60.5% after intervention using a leaflet. Analysis using Mann-Whitney test showed p value < 0.05 which means there is a significant difference between experiment and control group. Based on the result, leaflet can be used to increase the level of knowledge about antibiotic resistance.

Keywords: *Leaflet, antibiotic resistance*

PPE_21
Revisiting the knowledge of Chinese medical and non-medical students on HIV/AIDS

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Abstract

Background: Acquired Immune Deficiency Syndrome (AIDS) is a sexually transmitted disease caused by the infection with human immunodeficiency virus (HIV) and is a malignant disease with a high rate fatality. In China, HIV/AIDS remains an epidemic among university age population and other high risk groups thus remains a major concern.

Objective: The aim of this study is to understand the understanding of HIV/AIDS, particularly on the physiological and epidemiological knowledge, and the discrimination towards HIV/AIDS patients and to provide recommendation for further action particularly on sex education.

Method: As part of the initial part of a bigger study, we systematically collected current studies and surveys to give an overview of the current situation. We re-analyzed these studies for this specific paper.

Results: Knowledge of HIV/AIDS among students studied is between 76.3% to 83.2%, 6.8%-13.1% students had had sex, 35.6% -40.48% students are in favor of premarital sex, 81.0%-81.4% students believe that HIV/AIDS is not a widely spread disease. There is no difference between medical students and non-medical students. The knowledge about route transmission among medical and non-medical students are 83.2% and 84.0%, respectively. Understanding about the wrong route of transmission among medical students and non-medical students is 79.5% and 50.1%, which are significantly different. 56.4% medical students and 41.8% non-medical students are willing to talk and study with HIV/AIDS patients. 80.5% medical and 66.5% non-medical students would like to be a volunteer to promote HIV/AIDS knowledge or help HIV/AIDS patients.

Conclusion: Understanding among students on HIV/AIDS is high but few people know about the epidemic situation. There are no differences between medical and non-medical students about sexual behavior and attitude. The medical students know more about the epidemiology and show less discrimination towards HIV/AIDS patients. It is recommended that further studies should be done to understand this good understanding and the current situation so as to implement new approaches towards prevention.

Keywords: *HIV/AIDS University-Students China*

PPE_22

Health Literacy among Malaysian parents.

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Abstract

Background: Increasing trend of non-communicable disease among adolescents in Malaysia creates a huge question on how far is the health literacy of their parents as they are considered to be the primary gatekeepers of their children's health. The purpose of this study is to measure the level of health literacy among parents of Malaysian adolescents and to assess the demographic and socio-economic factors which contribute to the different level of health literacy status.

Method: This study is a cross-sectional health literacy survey utilizing universal sampling method. The sample consisted of parents of adolescence aged from 13-17 years old from 15 public secondary schools in central (Kuala Lumpur and Selangor) and northern (Perak) regions of Peninsular Malaysia. Urban and rural schools are included in the study. Health literacy was measured by European Health Literacy Survey Consortium Questionnaire (HLS-EU-47Q) which was translated and validated for parents for Malaysian adolescence. Data were analyzed using univariate and multivariate regression techniques.

Results: Based on 600valid respondents, it has been found that 19.7% of the respondent had inadequate HL, 37.5% has problematic HL, 31.8% has sufficient HL and 9.4% has excellent HL. Multivariate regression analysis showed higher health literacy for those participants whom have highest education level, often receiving heath information from internet, cellphone and computer, often companied by friend/family for a doctor visit, able to pay for medication, regularly exercises and low alcohol consumption.

Conclusions: Low health literacy among adolescence parents showed significant association with their health status, health behaviors and health care accessibility and usage, thus methods in improving parents' health literacy should be considered to ensure healthy and future economically productive population of the country.

Keywords: *Health literacy, health status, health behaviors*

PPE_23

The synthesis of health literacy research in Thailand

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Abstract

This research aimed to synthesis on health literacy (HL) research focus on methodology, and application. The samples of research synthesis were published during 2011-2016. The study 5 steps 1) scope of research 2) engine searching from databases, library, and the conference proceeding by using key word health literacy. 3) Grouping 4) data extraction and 5) summary. The results found that: There were altogether 23 researches, 13 survey researches, 8 health literacy development researches and 2 measuring tool development researches as following.

1) Health literacy survey research: 1) Health literacy of old people and Thai adults was in low level, 2). Risk group of hypertension was moderate HL level. 3). People living with HIV's knowledge and practice were in good level, but suffering from stigma. 4) GDP (Guideline Daily Amount) of nutrition label in secondary school students were in low level. 5) High health literacy professional able to communicate, media creation, and environment supporting for increasing accessibility of diverse groups. 6). Healthy old people perceived self efficacy and outcome of stroke prevention , health behavior, information seeking are better than illness group, and some belief that stroke is unable to cure and khumma or sin was caused.

2) Health literacy development research: 1). health literacy development of senior people for health behaviour modification, 6 steps by a) health access b) knowledge and understanding c) communication d) self management e) media health literacy and f) adjustment for practice. 2).The Buddhist in big city had focus mental health rather than physical health: mind strong, and positive thinking. 3). HL enhancing in old people should concern to participate, critical health literacy, and health literacy distribution, determine HL as a basic resource. 4) HL evaluation for improving health service system had to focus all policy, connect to national health policy board, personnel competency, environment, and network follow Ottawa charter and drive to be HL hospital, HL school and HL community. 5). High level of health literacy patient after coronary artery bypass graft surgery has quality of life than before improving of HL. 6) Unwanted pregnancy HL should focus on public policy, reproductive accessibility and assistant system 7) HL of Thai people for facing AEC should available responsibility organization for increasing HL continuing.

3) Measuring tool development researches: 1). the development of HL tool for students by tool development and test for standard, divided 5 indicators:
 1) Access indicator 2) cognitive indicator 3) assessment indicator 4) apply of health good and 5).communication indicator 48 items test for validity, reliability, discrimination and difficulty were appropriate level. 2) Synthesis and development of ABCDE (Alcohol, Baccy, Coping, Diet and exercise)-health literacy scale of Thai adults by conducted questionnaire test for standard tool for health behavior measurement.

Keywords: *Synthesis, Health literacy research, Thailand*

PPE_24
Using social business model in health literacy for the adolescent health: experience from UKM-Beranang community health project

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Abstract

The strengths and limitations of current health promotion for youth intervention was always debated as the goal was not achieved. To examine an individual's level of health literacy required many instruments dealing with all stages of input, process, output and impact assessment. Existing concept focussed the most on mediator and moderator, intermediate factors and its interaction, causal and outcomes, and consequences from attribute and antecedents. The measurement of all its construct should meet its goal to advocate, disseminate and implementing. In order, to measure its sustainability, this literacy product should be marketable, tailored to the population need and stakeholder demand. Social business model was used in the health intervention program in Beranang District Selangor focussing the secondary pupils with collaboration from district health and education department, parent-teacher association, non-governmental agencies and the community leaders in meeting the sexual reproductive health issues. The social networking behavioural analyses were closely assessed before designing the input of the package. Ways to deliver and communicate in meeting the stakeholder demand in improving youth health was engaged. The user and customer value preposition was use as measurement for monitoring its process. The impact was assessed through the community leaders and parent teacher assessment. Adequate materials and training in building-up skills is the most important component focussed in infusion of the health literacy. Offering health intervention in healthcare is costly but it attracts many funders if they see it product in well documented on the business canvas. The intervention design must be made ready to offer an interactive activity to the targeted group by committed trained volunteers who are sensitive enough with socio cultural believe and perceived well by the customers. Detail time planner must be well documented in the project milestone as one of the important process to be closely monitored in achieving its goal.

Keywords: *Health literacy, Social business model, Adolescent sexual reproductive health*

PPE_25

Child Obesity Situation Analysis in an Urban Area at Central Thailand

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Abstract

Background & objectives: Child Obesity is a growing and important public health challenge in Thailand, especially in urban areas. Not only is child obesity a risk factor for NCD in adulthood but it can also have a significant effect on children's and adults' long-term health. Researchers tried to investigate the obesity situation in overweight and obese children during 5-14 years in a province located in an urban area of Bangkok.

Methods: Various research methods were used. All pertinent documents on overweight and obesity at a provincial public health office were collected and discussed among public health professionals. Various key informants were interviewed using semi-structured questionnaires. The topics were the current situation of overweight and obese population data, strategic policy and management within the provincial public health office. People within various communities took part in the analysis. Triangulations of multiple data sources were also performed.

Finding: Around 17% of the children in the area are overweight or obese, which exceeds the 10% maximum set by the Thai MOPH. Furthermore, the researchers found if the parents are obese, 80% of their children are obese. If the parents are not obese, 8% of their children are obese. Many high calorie food venders are in front of all primary and secondary schools in the area. The researchers found there are existing plans and activities that have been implemented in the area i.e. Diet and Physical Activity Clinic (DPAC), Smart Kid Coacher (SKC), Food for fun and fun for fit and Smart Screen Health Application.

Conclusion: Awareness, behavior and unsupportive food environments are topics of priority to fight against obesity in children. Awareness needs to be raised and behavior needs to be changed. Changing behavior is a long-term process and needs collaboration from peers, families and schools. Awareness, behavior practice and environment have been put into policy and planning. The researchers will have to evaluate those planning and programs to measure how aware and how the behavior children has been changed by their evidence-based intervention and to prove if they have been effective.

Keywords: *Obese, Children obesity*

PPE_26
Malaysian Parents' Health Literacy and Perceptions Regarding Childhood Vaccination Programme

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Abstract

There appears to be a downward trend in children's vaccination uptake among Malaysian parents as more and more parents chose not to vaccinate their children. Thus, suggesting a need to understand Malaysian parents' perceptions and health literacy levels regarding childhood vaccination programmes through verbal communication in order to increase confidence towards childhood vaccination programmes in Malaysia. The purpose of this study is to understand how vaccinating and non-vaccinating parents' health literacy levels and perceptions towards childhood vaccination programmes could affect the decision whether to vaccinate or not to vaccinate their children. This study uses an in-depth interview method and a discourse analytic approach to identify the key factors in determining parents concern regarding childhood vaccination programme including their health literacy levels. The paper presents findings from the study which include parents' motivations towards childhood vaccination and the differences between a vaccinating parent and a non-vaccinating parent. The paper will highlight whether health literacy levels of parents influence childhood vaccination. It will also highlight why it is important to understand parents' concerns regarding childhood vaccination programmes in Malaysia and to improve communication regarding childhood vaccination programmes and uptake between parents and health care professionals in Malaysia.

Keywords: *Childhood vaccination, Discourse analysis, Thematic analysis, Vaccination scare, Health literacy*

PPE_27

Health Literacy: The Correlation of Public Health Students and Their Family Member

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Abstract

Background: Public health students required to have good level of health literacy to gain a better community health. Their family member is the nearest community who obtain health information that would be affected. The aim of the study was to analyze the correlation between health literacy of students and their family member.

Method : The study used cross sectional design. Sample was first year students of public health department of Dian Nuswantoro University and their family member. Students chosen by total sampling, family members were chosen by students regarding the closest member of family. Students filled the questionnaire by self-administrated in class. The student's closest family member was interviewed by students. Measures use short-form health literacy 12 items questionnaire (HL-SF12-IND) and 102 data were analyzed used Rho Spearman's test (α= 95%).

Results: The mean age of students was 18.92 years (SD: 1.14) and 89.2% were female. Student's health literacy showed 65.7% categorized as low health literacy. Less than half of students have high level of health literacy. More than quarters of students find difficulties to assess benefit and side effect of health treatment (24%). Thirty five per cent do not know how to call ambulance, 40% cannot decide vaccination they needed. Therefore, the mean age of family member was 45.52 years (SD: 8.974), 60.8% were female, the status in family 55.9% were mother and married (87.3%), 45.1% with senior high school education. Health literacy level showed 60.8% of family members were categorized as low health literacy level. Twenty six per cent were cannot considering benefit and side effect of health treatment, 23 % were difficulties to call ambulance, and 28.4% were hard to join exercise. A significant correlation was found between health literacy of students and family member (p-value 0.044; rho 0.2).

Conclusion: The low level of health literacy in both groups needs to increase to support community health literacy. To asses more factors related to health literacy in both groups need to conduct follow up research.

Keywords: *Health literacy, Family member, Students*

PPE_28

Literacy influencing the practice of internet utilization among Myanmar people

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Abstract

Background: Use of the internet as such work is needed in all educational level. However, internet addiction is an escalating issue globally and is not just a teenage phenomenon. People spend more hours on the Internet with a great deal in terms of addictiveness and reliance resulting in many changes of our lives.

Objective: To assess the internet utilization pattern among different educational levels

Methods: Cross-sectional analytic study was done in 41 selected townships of Myanmar. Total 2660 mobile phone users were interviewed by trained medical students from. Data collection was done by multi stage sampling method by house to house interview survey, using pre–tested semi-structured questionnaire with trained Final Part I MBBS students.

Results: The education level of the respondents was divided into high and low, 80% and 20% respectively. About 90% of mobile phone users used internet and it was significantly higher in male, higher education and urban population. The most common used web pages were Facebook (87% & 60%) and Viber (80% & 55%) in high and low education levels respectively. Internet users among high education level were used by mobile phone (93%) and laptop (14%), but two-third of respondents in low education level used with mobile phone. The most common reasons for using internet were getting information, social connection and recreation in both education groups. Respondents of high education level was more significant association with prolong internet utilization per day (36%, p=0.000) than in low.

Conclusion: Multiple logistic regression analysis showed that internet utilization was significantly higher in young age group, male gender, urban residence and high education level. People should balance to practice clever and productive internet usage among society.

Keywords: *Internet utilization, Education levels*

PPE_29
Assessing health literacy among female Arabic college students in Abu Dhabi

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Abstract
Health literacy is a key determinant of health promotions yet little is known about health literacy in Arabic populations. This study aimed to assess health literacy among female Arabic-speaking college students.

The Newest Vital Sign, a quick tool for assessing functional health literacy, was used to conduct a cross-sectional study with 238 female Arabic college students, ages 18 years and older. Descriptive analysis and analysis of association were performed using STATA IC/14.

Less than one third of students had adequate health literacy. Students in natural and health sciences, self-reported family history of diabetes, obesity, heart disease, and cancer had significantly higher frequency of adequate health literacy compared to their counterparts. Parent's educational level and previous receipt of nutrition education was not significantly associated with levels of health literacy.

In this strong oral culture, Arabic college students may be presumed to have adequate health literacy based on their experience, but limited research exists to support this frame of thought. This study sets the stage to provide the appropriate context for assessing health literacy among Arabic-speaking populations where this topic is relatively new. This will be necessary to translate future health literacy measurements into effective prevention and treatment initiatives.

Keywords: *Arabic College Students, Health literacy, Newest Vital Sign*

PPE_30

Effectiveness of Lung Cancer Awareness Raising Campaign among Residents of a Low Income Community in Kuala Lumpur

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Abstract

Background: Lung cancer is the most frequent malignant disease and is also the most common cause of death from cancer, with 1.38 million deaths worldwide. Low cancer symptom awareness is likely to contribute to patient delays in presenting to medical professionals, and in turn contribute to later stage diagnosis..

Methods: The study was a community based intervention with pre and post measurement. It was undertaken with urban population in Apartment Abdullah Hukum, Kuala Lumpur. Universal sampling method was used to recruit the study participants who were adults aged 18 years old and above, Malaysian citizen, able to speak Malay, willing to participate in both pre- and post-surveys. The questionnaire were adapted from Lung Cancer Awareness Measure Toolkit Version 2.1 and translated into Malay language. Data collection was conducted through face-to-face interview. Data collected was analyzed using SPSS software and was described using descriptive and inferential statistics.

Results: A total of 220 participants were recruited for baseline while 136 of them were included in post-campaign interview. Majority of them were female (62.7%), Malay (61.8%), aged 18-30 years (26.8%), obtained secondary school education (52.3%) and non-smoker (78.2%). There was no remarkable difference in sociodemographic characteristic between the baseline and post-intervention participants. Most of the participants had a poor baseline score for both signs and symptoms and risk factor. However, there was statistically significant increase in total knowledge score on lung cancer awareness and confidence level in noticing symptoms of lung cancer (4.86 vs. 9.06 and 4.39 vs. 5.97) respectively. The general anticipated delay in health seeking of the participants had also been reduced, following the increase in knowledge regarding lung cancer. Higher education level was significantly associated with higher level of lung cancer awareness. The most recognizable symptom was hemoptysis (58.6% in base line vs. 85.3% in post intervention) and the most known risk factor was second hand smoking (78.7% in base line vs. 91.2% in post intervention).

Conclusion: This study showed an overall statistically significant improvement of the participants' knowledge in recognizing lung cancer signs and symptoms, risk factors as well as decrease in anticipated delay after the intervention. The campaign was successful in increasing the level of awareness. Future intervention should utilize the mass media channel to reach a larger population with more robust study design.

Keywords: *Lung Cancer Awareness, Signs and Symptoms, Risk Factors*

PPE_31
Effects of Self-Management for Blood Sugar Regulation of Hyperglycaemia in Type 2 Diabetes

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Abstract

This research is quasi – experimental research and aimed to test the effects of self management for blood sugar regulation of hyperglycemia in type 2 diabetes. The samples were 66 samples and divided two groups such as experimental group was 33 samples and comparison group was 33 samples of them were in the intervention period of 12 weeks was collecting data by collected using a questionnaire and record. Activities, media lectures, exercise, meditation, group discussion. analyzed by descriptive statistics such as percentage, means, standard deviation, maximum and minimum. Internal difference comparison was used paired sample t-test and between groups were used independent sample t-test. The significant was set at   p-value < 0.05 and 95% confidence interval (95% CI)

The Found that after experimented, the experimental group had mean score of knowledge about the diabetes mellitus, The practice of blood sugar regulation were higher than before and comparison group significant (p-value < 0.001). There were also a significant decrease in the mean number of capillary blood glucose tests performed in the experimental group compared to the comparison group (p-value < 0.001). Experimental groups better reducing blood sugars. The average sugar level was 118.45 mg/dl.

Keywords: *Self management program, Type 2 diabetic patients, High blood glucose levels Type 2 diabetic patients, Self-management behaviors, Social support*

PPE_32
The Association between Parental Health Literacy and Child Health Literacy

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Abstract

Background: Low health literacy among parents can potentially impact the level of health literacy among their children.

Objective: To measure the strength of association between parental health literacy and their children's health literacy.

Method: Two separate cross-sectional studies were conducted to measure the health status and level of health literacy among 17 year old adolescents and their parents respectively. The adolescent health literacy was measured using the 12-item version of the HLS-EU-Q through a self-administered questionnaire whereas the 47-item version of the HLS-EU-Q was distributed to all parents with informed consent. A total of 1034 students and 651 parents completed the questionnaire and only 447 parent-child cases matched completely and were used for analysis. The generalized linear model was used to test the association between parental and child health literacy.

Results: The descriptive analysis revealed that 20.0% of adolescent parents had insufficient level of health literacy, 38.1% a problematic level, 32.3% a sufficient level and 9.5% excellent level. As for the adolescents, 37.3% had insufficient level, 35.1% had problematic levels, 21.8% had sufficient levels and 5.8% had excellent levels. Although weak, there seems to be a significant positive correlation between child and parental health literacy (r = 0.096, p-value <0.05). After adjusting for socio-demographic characteristics of the parents', parental health literacy were found to be significantly associated with their children's health literacy. The linear relationship between parental and child health literacy demonstrates that for every 1% increase in parental health literacy, there is a 0.565 increase in child health literacy (R2 = 0.161, p-value <0.05). With parental income, age and education held constant in the model, only parental health literacy was a significant predictor of child health literacy.

Conclusion: Clearly, parental health literacy level has a strong influence in determining the level of health literacy gained by their children. Imparting sufficient knowledge in obtaining and understanding health information is vital for adolescents to be able to decipher health information on their own. This will help create awareness and reduce the burden of diseases among adolescents.

Keywords: *parental health literacy, child health literacy, association*

PPE_33

Cancer health literacy, symptoms recognition and anticipated delay in seeking health care among urban dwellers in Malaysia

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Abstract

Objectives: The main aims of the study were to investigate population awareness about cancer symptoms and risk factors, and to identify the association between awareness about cancer symptoms and anticipated delay in seeking health care.

Methods: Using simple random sampling, 833 households from Community Housing Projects located in metropolitan Kuala Lumpur were selected. Public awareness of cancer symptoms and risk factors was assessed by the validated Cancer Awareness Measure (CAM) questionnaire. Altogether, 2,360 adults responded to face-to-face interviews (63.4% response rate). The association between demographic, socio-economic characteristics and awareness about cancer symptoms and risk factors was assessed by Analysis of Covariance (ANCOVA). The association between the awareness of cancer symptoms and anticipated delay in help-seeking was explored using binary logistic regression.

Results: Among 2360 participants, 69.7% could not recall any cancer warning symptom and 76.6% could not recall any risk factor for cancer. There were demographic and socio-economic differences in awareness about cancer symptoms and cancer risk factors. Anticipated delay in seeking care was reported by 25% of study participants. Recognition of unexplained bleeding (OR: 0.700, P <0.05), when a sore does not heal (OR: 0.443. P <0.01), change in the appearance of a mole (OR: 0.426, P <0.001), persistent change in bowel or bladder habit (OR: 0.585, P <0.01) as cancer symptoms significantly reduced the risk of delay seeking health care.

Conclusions: Public awareness about cancer symptoms and risk factors was low in urban Malaysians and low awareness appeared to affect prompt health-seeking behaviour - a crucial determinant of cancer treatment outcomes. Findings underline the need for public education campaigns in order to improve public awareness about cancer symptoms and risk factors in order to enhance help-seeking regarding cancer symptoms and early diagnosis.

Keywords: *Cancer symptom; Cancer risk factors; Public awareness; Cancer Awareness Measure; Anticipated Help-seeking Delay; Malaysia*

THEME F: HEALTH LITERACY & EFFECTIVENESS OF MEDICAL SERVICES

PPF_34

Quality Family Planning; more than providing contraceptives: An assessment of family planning services in Lao PDR

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Abstract

Background: Unmet need for family planning is high in Lao PDR. Research suggests that contraceptive use is associated with the quality of family planning services. Little is known about the quality of family planning services in Lao PDR. Therefore, this study seeks to provide insight into the quality of family planning services in Lao PDR.

Methods: The study will employ quantitative study, The Quick Investigation of Quality (QIQ) method was chosen for this study. The QIQ is developed by MEASURE Evaluation with funding form USAID. QIQ consist of a facility audit tool, an observation tool, and a client exit interview tool. Public health facilities in three provinces in Lao PDR (i.e. Huaphanh, Attapeu, and Vientiane) were assessed on structure, process and outcome measures of quality. The calculated sample size was 375 client exit interviews for all three provinces. This has been met, a total of 17 facility audits, 218 observations and 393 client exit interviews were conducted. Descriptive and comparative analysis was performed on the data in SPSS. Descriptive analysis was used to gain insight in the overall quality of family planning services in Lao PDR. The comparative analysis was performed to assess the differences between provinces, the differences between rural and urban, and the differences between facility levels.

Results: Almost half of women (41.3%) aged between 26-33 years, 96.7% are married, 99.0% living together with husband/partner; 30.80% graduated in elementary, 16.6% cannot read or write and 42.20% are farming. Information about quality can be drawn form three catagorisch: structure, process outcome. Structural aspects of quality include equipment, materials and infrastructure, accessibility of services, availability of services, and costs. And Process aspects of quality include choice of method, information given, interpersonal relationship, and technical competence and possible follow-up. Clients were asked to rate six aspects of the family planning services they received. They were asked to rate 1) the advice they got from the service provider related to a solution they were provided with to solve a problem with a method, 2) the method they had received 3) the way information was provided 4) the interpersonal relationship between themselves and the provider, 5) the technical competence of the provider providing family planning services, and 6) the overall family planning services. It stands out that clients gave predominantly positive reviews to the six aspects. Only a few clients rated the advice for the problem (1.2%), the way information was provided (2.8%), the interpersonal relationship (1.0%), the competence of the service provider (0.8%) as not good. The overall family planning

services were rated as not good by more clients (5.9%), however the vast majority of clients were satisfied with the services received.

Conclusion: Overall improvements are needed to meet quality family planning standards. In rural facilities attention is needed for the process aspect of quality. In district hospitals, and in health centers structural and process quality needs to be improved. Family planning services in Lao PDR are mainly a channel to provide contraceptives while little attention is given to the information provided and the personal relationship between provider and client.

Keywords: *Unmet need; quality of care; family planning services*

PPF_35
Health Literacy and Its Impacts on the Quality Of Healthcare Services Among Health Insured Patients With Type 2 Diabetes Mellitus In Vietnam

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Abstract

Introduction: The global prevalence of diabetes was 8.3% in 2013, 6.0% in Vietnam, and it is projected to increase worldwide. The healthcare expenditure among diabetic patients were approximately 2 - 3 times higher than those without diabetes. Empowering patient via improvement of health literacy enables health-friendly environments, better self-care with fewer health risks, better health care outcomes, and lower healthcare cost in diabetes patients. Vietnam, as the country aims to provide health care to the majority of their populations through universal health coverage, the challenge of identifying vulnerable individuals and delivering diabetes care cannot be neglected.

Study aim: This study aimed to explore the role of health literacy, health insurance literacy on self-management behaviors, diabetes outcomes, healthcare utilization and costs among insured patients with type 2 diabetes mellitus.

Research method: A cross-sectional study was conducted between March and July 2017, by using a random sampling method on patients with type 2 diabetes mellitus who visited, diagnosed, and be followed-up at least one year in Thu Duc Hospital in Vietnam, where there is electronic patient record system. The sample of 488 patients in each hospital were interviewed to evaluate their health literacy, health insurance literacy, self-management behaviors. These interview records will be subsequently matched with 1 year retrospective hospital data on diabetes health outcomes, health care utilization, and healthcare costs. Multivariate regression analyses will be used to examine the association and effects.

Result: The mean age was 58.6 ± 12.7 years, of total sample, 61.5% women, 72.3% married, 79.2% with education level at senior high school and below, 47.3% full time job, 11.1% unemployed, 94.9% with income less than 1000 USD, 77.2% perceived middle to high social

status. 73.4% rated their health status from fair to very good. Regarding the comorbidity, 35.9% hypertension, 19.15 heart disease, 5.5% hepatitis, 4.1% cerebrovascular, 3.1% pulmonary, 5.1% kidney, 9.6% arthritis, 3.7% eye disease, and other (2 patient cancer, 3 patients had mental health problem, 2 patients with ear disease, 8 unknown diseases). More in-depth analyses will be conducted and reported during the conference.

Conclusion: The findings of this study will provide the convincing evidences about the important role of health literacy, and suggest future interventions to optimize the diabetes care to achieve the sustainable care goals in Vietnam.

Keywords: *Health literacy, health insurance literacy, self-management behaviors, diabetes outcomes, healthcare utilization, healthcare costs*

PPF_36

Health literacy related knowledge, attitude and perceived barriers: an assessment of physicians, pharmacists, and nurses in public hospitals of Penang, Malaysia.

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Abstract

Introduction: Empowering patients with health literacy (HL) skills has emerged as one of the core competency of healthcare providers. Therefore, this study aimed to assess among Malaysian physicians, pharmacists and nurses, their HL related knowledge, attitude and perceived barriers, and also to determine the associated factors.

Methods: Six hundred eligible respondents were enrolled using stratified sampling from six public hospitals in Penang, Malaysia. A validated self-administered questionnaire was used for data collection. A panel of five including academicians and experienced physicians performed content validity before pre-tested among seven healthcare providers to determine its face validity. The questionnaire was piloted using eighty healthcare providers at a different hospital. Descriptive and inferential analysis were performed with statistical significance defined as p < 0.05.

Results: The response rate was 87.6% with 526 questionnaires completed. Of these, 34.2% had poor knowledge and more than half had negative attitude (53.4%) towards HL with no significant differences among physicians, pharmacists, and nurses. The majority of the respondents perceived time constraints and lack of human resources as major HL barriers. Respondents who had heard the term or concept of HL had significantly higher level of knowledge (p<0.001) and more positive attitude (p<0.001). While longer service years (≥11

years) significantly contributes to higher level of HL knowledge among healthcare providers (p=0.028).

Conclusion: The study findings supported the concern on inadequate knowledge and substantially negative attitude towards HL among study healthcare providers with highest cited barriers were time constraint and human resources. Thus, efforts to improve their perspective about HL to be effective patient educators are highly advocated.

Keywords: *Health literacy; Knowledge; Attitude; Perceived barriers*

PPF_37

Effectiveness of Immunization Reminder System for Nursing Mothers of India

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Abstract

Background: Global Immunization Vision and Strategy (GIVS) 2006-2015, World Health Organization mentions death of over 2 million children of less than five years of age and approximately 1 million children suffer lifelong disability annually in India This study focuses on creating awareness about vaccine reminder system and evaluating the effectiveness of the vaccine reminder system among the nursing mothers, carried out in South Canara district of Karnataka, India. Methods: We considered nursing mothers of new-born babies aged 0-3 weeks for participation. This experimental study is conducted among 125 participants using computerized random sampling sequence. The participants were then divided into intervention and control group. The intervention groups were enrolled for receiving short message service (SMS) reminders. The awareness about the "vaccine reminder system" was assessed among both the groups of mothers. The perceptions and willingness of both the groups of mothers was also evaluated. Results: It was found that 66% of the mothers in the intervention group and 57.50 % of the mothers in the non-intervention group were unaware about the immunization reminder system before the birth of their child. After follow up with the mothers at 6th week and 10th week, we observed that immunization reminder system was effective to increase the immunization coverage in the intervention group compared to the immunization coverage in the non-intervention group. All the participants showed higher user satisfaction with almost all parents in the intervention (45%) and non-intervention (55%) willingly expressing their interest in receiving short message service reminders in the future. Conclusion: IAP-Immunize

India can be a novel step to persuade all parents to vaccinate their child on time thereby reducing the India's disturbingly high child mortality rate. This app should also be used for vaccine and immunization-related literacy in India.

Keywords: Nursing mothers, Immunization reminder system, Short message reminders, India

PPF_38

Association Between Health Literacy and Blood Pressure Control Among Patients With Hypertension

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Abstract

Introduction: Hypertension is a leading risk factor of many cardiovascular diseases. Studies have shown that hypertension is often undetected and not adequately controlled. This study assessed the association between health literacy and the degree of blood pressure (BP) control, both current and recent past, in patients with hypertension. .

Methods: Consecutive patients (n-262), aged 15 to 65, with long standing hypertension and attending medical clinics in a tertiary care center in Galle district in Sri Lanka were selected for the study. Current BP was recorded using a digital BP apparatus adhering to standard method of BP measurement. Control of BP during the previous 6months was assessed and patients were categorized as "Good control" (all six BP records are in the desired range), "Intermediate control" (when 1-3 reading out of 6 are not in the desired range) or "Poor Control" (when >3 readings are not in the desired range). Health literacy was assessed by the HLS-EU-Q16, Sinhala version validated previously. The mean total scores of the HLS-EU-Q16 in the three categories were compared.

Results: Mean(SD) age and duration of hypertension were 57.9(6.2)ys and 7.5(4.5)ys, respectively. Forty six were men. The mean (SD) total HLS-EU-Q16 scores of hypertensives with Good control (n=114), Intermediate control (n=114) and Poor control (n=34) were 52.2(8.7), 52.3(6.3) and 50.9(8.6), respectively (p=0.79). There was no association between health literacy and current BP control.

Conclusions: Compared to patients with Good or Intermediate BP control, those with Poor control had low health literacy but the difference was not significant. There was no association between health literacy and current BP control.

Keywords: *Health literacy, HLS-EU-Q16*

PPF_39

Health Literacy and Influenza Vaccination Uptake among Health Care Workers in Perak, Malaysia

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Abstract

Introduction: Healthcare workers at higher risk of getting influenza infection due to their sensitive occupation. Therefore, putting risk to spread the infection to their colleague, family members and patients. Influenza vaccination is an effective way of preventing the infection but the uptake is low.

Objective: This study aimed to study prevalence of influenza vaccination uptake and associated factors among healthcare workers (HCW). Specifically, to determine the association between HCW's health literacy and uptake of influenza vaccination (including sociodemographic factors). The study will also look at effectiveness of the vaccine in term of influenza-like-illness (ILI) symptoms and work absenteeism.

Method: The study will involve two phases. Phase I study is the modification and validation of the health literacy questionnaire (HLQ) base on the Health Literacy Questionnaire developed by Ishikawa, Takeuchi and Yano. Phase II study is a cohort study that will be conducted in Hospital Raja Permaisuri Bainun Ipoh, Perak, Malaysia. The sample size for this study will be 1830 front liners who have direct contact with patients. Self- administered questionnaire will be used to obtain information regarding sociodemographic and vaccine uptake. Level of health literacy will be measured using the validated HLQ. The cohort will be follow up for one year via phone message/ WhatsApp to get information regarding ILI symptoms and work absenteeism.

Expected outcome: Health literacy and vaccine uptake is expected to be low. Among HCW who take influenza vaccination, the ILI symptoms and work absenteeism is expected to be low.

Conclusion: If there is association between health literacy and influenza vaccine uptake, the interventional program should target the component of health literacy that have been lacking. The result of the effectiveness of vaccine is to support the policy maker of the successfulness of the program.

Keywords: *Health literacy, influenza vaccine, Healthcare worker*

PPF_40

Relationship between Health Literacy and Experienced Involvement in Shared Decision-making among Adults in Taiwan

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Abstract

Background: The issue of health literacy and its effect on shared decision-making (SDM) has attracted considerable attention among researchers. However, there is very little in the way of empirical evidence on which to establish this relationship. Our aim in this study was to characterize the relationship between health literacy and the experienced involvement of patients in SDM.

Methods: A questionnaire survey of 2450 adults recruited from 74 communities in Taiwan was conducted in 2016. Health literacy was assessed using the Mandarin Multidimensional Health Literacy Questionnaire (MMHLQ). The 9-item Shared Decision Making Questionnaire (SDM-Q-9) was used to measure experienced involvement in medical SDM. Demographic (gender, age, and years of schooling) and health related characteristics (self-reported general health, outpatient visits, emergency room visits, and hospitalization) were taken into account as control variables. Multiple regression analysis was used for data analysis.

Results: Slightly more than half of the participants were categorized as possessing inadequate (14.3%) or limited (37.8%) health literacy. More than 70% of the participants (n=1741) reported having experienced at least one situation of medical decision-making in the previous year. Among those with SDM experience, health literacy was shown to be positively associated with experienced involvement in SDM (B = .28 p < .001), after controlling for demographic and health related variables. A stepwise process was then used to determine the predictive power of various health literacy dimensions on experienced involvement in SDM. Our results revealed that higher scores for "understanding health information" (B = .10 p = .001), "applying health information" (B = .09 p = .009), and "communication and interaction" (B = .15 p < .001) were significantly associated with experienced involvement in SDM.

Conclusions: The findings underline the importance of considering the health literacy of patients when implementing SDM in medical encounters. The full involvement of patients with low health literacy in SDM requires specific tools and techniques to promote understanding and application of health-related information, and to facilitate the communicating and interacting effectively with health professionals.

Keywords: *health literacy, shared decision making, Taiwan*

THEME G: HEALTH LITERACY & PRIMARY HEALTHCARE

PPG_41

Improving *Orang Asli* Maternal Health through Innovative Intervention Programme

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Abstract

Orang Asli (OA) is the indigenous people of Peninsular Malaysia with a population of about 178,197. Much assistance and support have been continuously provided to the OA community since Independence. However, the marginalised OA population is still lagging behind in terms of socio-economic and health status as compared to non-indigenous population. Main phase 1 study findings showed that the unsafe delivery rate was high (14.8%) and the level of knowledge on pregnancy-related diseases among the OA community was poor. This was most probably due to the low health literacy among the OA population on antenatal care and maternal health.

Interventional programme for phase 2 study was discussed among the stakeholders and the OA community volunteer programme and usage of Information, Education and Communication (IEC) materials were decided on. Thirty-five volunteers were required to complete training module on maternal health. Health educational videos narrated by OA health personnel as well as leaflet translated into local dialects were used to enhance comprehension on maternal health topics. The objective of this study was to examine the effectiveness of both interventions in improving the knowledge and practice on maternal health among OA.

The intervention programme started from April until September 2015. Four hundred thirty-five and 578 OA women (within reproductive age 15-49 years old) from Kuala Lipis and Hulu Perak were surveyed pre and post-intervention. Primary data was collected using quantitative method comprising of guided face-to-face questionnaire to assess the level of knowledge. Secondary data was obtained from Health Management Information System sourced from the respective district health offices to look into their practice.

Respondents with good level of knowledge on first antenatal booking and frequency of antenatal check-up increased significantly post-intervention, from 73.1% to 83.4%, p<0.001 and 63.7% to 86.1%, p<0.001 respectively. Similarly, more respondents were knowledgeable about safe delivery (84.8% to 88.3%, p<0.001). Regarding the actual practice, the average number of antenatal visits had improved from 6.2 to 6.9 visits per pregnant mother post implementation. Safe delivery practice had also improved significantly from 85.2% to 94.9%.

In conclusion, community volunteer programme and user-friendly IEC materials had shown promising outcome in improving the knowledge and practice on maternal health. The usage of OA's dialects in leaflets and video helped to improve the acceptance of knowledge conveyed as

compared to using Malay language. The interventions should be extended to a longer duration to maximise the impact and also be expanded to other OA communities.

Keywords: *Maternal Health, Orang Asli, Intervention Programme*

PPG_42
Relationships of Selected Factors, Health Literacy and Clinical Outcomes Dwellers with Hypertension in Community

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Abstract

A cross-sectional correlational study was conducted to examine the relationship between health literacy and selected factors (age, gender, education level, occupation, economic status, co-morbid, duration of hypertension, and severity of hypertension and community role) and clinical outcomes (Blood pressure, Body mass index (BMI) and waist circumference) among community dwellers with hypertension. A total of 360 persons attending the 6 Health Promoting Hospitals in Prachinburi Province, Thailand were selected by proportional stratified random sampling. Health literacy was measured by the health literacy questionnaire for persons with hypertension and selected factors information were collected during the in-person survey. Clinical outcomes were extracted from the electronic health record.

Overall, 53% of persons had inadequate health literacy. Forty-eight percent of persons had inadequate functional health literacy and 60% and 40% of them had inadequate interactive and critical health literacy respectively. Mainly overall health literacy was associated with age, educational level, economic status community role (x^2 = 18.661; x^2 = 54.935; x^2 = 37.319; x^2 = 29.158, p < .001) and blood pressure (x^2 = 4.752, p = .029) whereas BMI and waist circumference was not associated.

Hypertension education programs and materials should focus on specific populations, such as individuals who are elderly or illiterate to enhance their health literacy levels and to control their clinical outcomes.

Keywords: *Health literacy, Hypertension, Clinical outcomes*

PPG_43

Health literacy and its association with socio-economic status of patients with type 2 diabetes attending a primary care hospital of Thailand

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Abstract

Inadequate health literacy is considered a potential barrier to improving health outcomes. A low level of health literacy (HL) is common among patients with diabetes. The objective of this cross-sectional descriptive study was to investigate HL status and its association with socio-economic status of patients with type 2 diabetes (T2D). 300 adults with T2D were recruited from registered patients of Sawatee Health Promotion Hospital, a primary care hospital, Khon Kaen Province, Thailand. Information about demographic socioeconomic and HL was obtained by interviewing the patients using a structured questionnaire. HL was measured in 6 domains about diabetes; 1) knowledge and understanding, 2) access information and health service skill, 3) communication skill, 4) self-management skill, 5) decision skill, and 6) media literacy skill. Body mass index and HbA1c was extracted from medical records. Multiple linear regressions and multiple logistic regressions were used to assess the association of socioeconomic variables and HbA1c with HL. Results indicated that most (77%) of subjects were female, and the average age was 63 ± 10 years. Seventy-four percent had finished primary school. The mean durations of the diagnosis of diabetes were 11 ± 8 years. Majority (81%) of the subjects had HbA1c ≥7%. Half of them were obese. About half of the subjects (53%) had HL score (combining all skills) in moderate level and 9% in low level. In term of each skill of health literacy, the subjects had knowledge and understanding about diabetes, and access information and health service skill in high level by 77% and 60%. Sixty four percent of the subjects had communication skill in moderate level. For self-management skill, decision skill, and media literacy skill, they were in low to moderate level 62%, 43% and 87% respectively Multiple logistic regression showed that inability to read and write was statistically significant associated with low HL (ORadj 2.47, 95%CI 1.14 to 5.34), adjusted by age, sex, educational level and duration of being diabetes. In adjusted models of multiple regressions indicated that ability to read and write (coef. 5.27, 95% CI 2.54 to 8.00) and duration being diabetes (coef. 0.13, 95% CI 0.002 to 0.250) were significantly associated with HL score. Conclusions, about two third of T2D was inadequate HL. Findings confirm that ability to read and write is the basic of HL.

Keywords: *Health literacy, Type 2 diabetes, Socioeconomic*

PPG_44

Applying stages of change and health literacy on weight control and obesity prevention among village health volunteers in Kumphawapi District, Udon Thani Province

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Abstract

In Thailand, overweight and obesity have dramatically increased rate of occurrence causing numerous diseases and health complications. Therefore, weight control should be ensured for good Body Mass Index measurement. Consequently, this quasi-experimental research aimed to study and apply the stages of change on behavior as well as health literacy regarding weight control of the village health volunteers in order to prevent obesity. The sample of the study included health volunteers in the age group of 35 to 59. They were divided into two groups; an experimental and a comparison groups with 35 in participants each group. A 12-week weight control program comprised of many activities such as lectures, guideline, modeling, training and group exercise. Data was collected before and after the intervention by questionnaires. Ordinary descriptive statistics were used for assessing the outcome of the study and for analytical purposes, inferential statistics such as the paired t-test and the independent t-test was applied. Statistical significance was set at $p<0.05$ and 95% confidence interval (95%CI).

The results showed that after interventions, the experimental group had statistically the mean scores of knowledge on obesity prevention, health literacy, perceived self-efficacy, outcome expectation on weight control programs, as well as the application and practice to control weight higher than the experimental group and higher than those the comparative group (p-value<0.001). After interventions, the mean scores of BMI and body fat percentage has statistically lower than the comparison group (p-value<0.001).

Keywords: *Obesity, Weight Control, Weight Control for Obesity Prevention among Village Health Volunteers*

PPG_45
Factors relating leaders and villagers' capacity to solving sustainably dengue fever problem: a case study of three sub-districts in Nakhon Si Thammarat Province

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Abstract

This study aimed to explore the factors relating capability to solving sustainably Dengue fever problem among the leaders and villagers living in three communities, Nakhon Si Thammarat province. Three communities consisted of Kathun, Klongnoi and Thaisampao sub-districts were explored in capability of solving sustainably Dengue fever problem. The samples of this study were leaders and villagers from three sub –districts numbering 30 cases and 100 cases respectively. The instruments for assessing leader's capability consisted of 14 components (61 items) and villagers' capability numbering 11 components (58 items). Those of them were improved content validity at 0.91 and 0.97 then tested –retest to improved reliability was found that they were 0.91 and 0.98 respectively. Data analysis were done by descriptive and Pearson product

The results revealed that majority of leader was female (83.3%), Buddhist (91.1%) heist education level was high school (26.7%), occupation was agriculturist (44.4%), undergone training on Dengue fever prevention during 12 months ago (33.3%), ever sick Dengue fever (37.8%), and they had experience from the sick neighbors (32.2%). Regarding association between age marital status with leaders' capability were found that there were positive associated with statistically significance at $p < 0.05$ and $r = 0.24$, $r=0.31$ respectively but found that the association between number of family member with leaders' capability were negative associated with statistically significance at $p < 0.05$ and $r = -.23$, regarding religious, number of training and undergone training with leaders' scalability had association with statistically significance at p-value < 0.05, r=-.390, -.353 and -.327 respectively.

Regarding villagers were found that the majority of them were female (71.0%), Buddhist (85.3%), marital status (47.0%), highest education level was level of 4th elementary school, occupation was agriculturist (47.0%), undergone training on Dengue fever prevention during 12 months ago (36.0%), ever sick Dengue fever (23.8%), and they had experience from the sick neighbors (9.7%). Regarding the association between religious, education level, number of training, sick experience and sick neighbors with villagers' capability were positively associated with statistically significance at p-value<0.01, r=.24, r=.11, r=.21, r=0.44, r=.238 and r=.23, whereas age and period of living in area were negatively associated with statistically significance at p-vale < 0.01, r= 0.16, and -.202 respectively.

Thus, this study could illustrate that community and stakeholders should concern in dengue fever prevention due to the difference of various factors in community may affect to the process of the sustainable dengue fever problem solving.

Keywords: *Community capability, Sustainable dengue fever problem solving, Related factors*

PPG_46
To assess the awareness of Janani Suraksha Yojna (safe motherhood intervention) among the rural beneficiaries of Punjab, North India

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Abstract

Background: Janani Suraksha Yojna (JSY) is a safe motherhood intervention under the National Health Mission. It is being implemented with the objective of reducing maternal and neonatal mortality by promoting institutional delivery among poor pregnant women. JSY was launched in April 2005 and is being implemented in all the states and union territories with special focus on low performing states. JSY is 100% centrally sponsored scheme and it integrates cash assistance with delivery and post-delivery care. The success of the scheme is to be determined by the increase in institutional delivery among the poor families. States were classified into Low Performing States and High Performing States on the basis of institutional delivery rate i.e. states having institutional delivery 25% or less were termed as Low Performing States (LPS) and those which have institutional delivery rate more than 25% were classified as High Performing States (HPS).

Rationale of Study: Infant Mortality Rate & Maternal Mortality Rates are the leading causes of death in rural areas. Poor pregnant women residing in the rural area are the most prone age group for death due to pregnancy related problems. There is lack of knowledge about Janani Suraksha Yojana in rural area women.

Objectives: To Assess the awareness of JSY among the beneficiaries and to find out the association of socio-demographic factors with awareness of JSY.

Methodology: A descriptive cross-sectional study design and qualitative method of data collection was adopted. A Structured interview schedule was used to assess the level of awareness of beneficiaries regarding Janani Suraksha Yojana. It consisted of 21 items focusing on knowledge of beneficiaries regarding Janani Suraksha Yojana.

Results: This study revealed that (53%) of the beneficiaries were having good level of awareness while (47%) were having average level of awareness. Only (3.7%) knew about the name of scheme. 99.6% of the beneficiaries received advices regarding personal hygiene & immunization followed by family planning (99.3%), child handling (98.9%), bathing (94.5%), and hypothermia prevention of the child (92.7%).

Conclusion: The Government of India should implement the ways and means to promote the utilization of scheme by providing awareness to the population regarding the benefits of the scheme. The Accredited Social Health Activists (ASHAs) should have been well trained before they are handed over the job responsibilities. Increase in compensation for travel related and other miscellaneous expenses for them must be considered.

Keywords: *Awareness, Safe, Motherhood*

PPG_47

The Analysis of Preparedness Pariaman Hospital to Confront Disaster In 2016

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Abstract

Objective: Disaster is a part of incident that threat and disrubt the life and livehood a lot of people because of the natural factors or non-natural factors like human factors. Disaster management in the hospital do with the establishment of Management Team of disaster victims by the editorial hospital (Hospital Disaster Plan). The purpose of this study to know preparedness Pariaman Hospital to confront disaster year 2016.

Method: This study uses a qualitative descriptive fenomenalogi design , strategy with indepth interviews, observation and study of the document. The study was conducted in Pariaman regional public hospital from April to July 2016. The technique of determining informants using purposive sampling method. Data was prosessed by using reduction, data presentating, drawing conclusion and verification. The analysis data use triangulastion technic and triangulation resourch.

Result: The results shows that Pariaman Hospital have organizational structure of disaster management team, but the need for renewal of the structure team, readiness of human resources own the TRC team but has not formed a team of RHA and a team of Medical Assistance, as well as facilities and infrastructure of the hospital yet sufficient for handling mass casualties. The communication system is well. The hospital already has a communication tool for delivering information.

Conclusion: Disaster team less prepared for disasters because of the structure of the organization and its duties and functions have not been updated, infrastruktur and tools still less in medicate victims and own means of communication. It is expected the hospital to renew the organizational structure, forming a team of RHA, and Medical Assistance Team and completing the infrastructure in disaster management.

Keywords: *Preparedness, Disaster Team, Hospital*

THEME H: HEALTH LITERATE ORGANIZATION

PPH_48

Association between Motivation with Organization Engagement among Personnel in the Upper South Royal Thai Army Hospitals

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Abstract

This cross-sectional research was to study factors affecting organizational engagement among personnel working in The Upper South Royal Thai Army Hospitals. The samples of this study were 255 cases consisting of commissioned officer, lower rank commissioner, temporary employees, regular employees, and government employees Data collection was gathered with self-administered questionnaire during June – July, 2017. Data analysis was done with descriptive, analyzed association with Pearson Product Moment Correlation Coefficient.

The results revealed that whole of motivation level was moderate level ($\bar{x}$=2.62, S.D. =0.50), when considered in each part found that; motivation in work ($\bar{x}$=2.72, S.D. =0.47), type of work ($\bar{x}$=2.57, S.D. =0.51) and organizational context (x=2.50, S.D. =0.52) and work experience ($\bar{x}$=2.52, S.D. =0.52) were moderate levels. Regarding association between factors of motivation with organizational engagement were found that there was positive associated with statistically significance at p-value <0.01, r= 0.61. Thus, this study recommended that the administrators of organization should concern in all level of performance among personnel and empower/ support morale. Especially, there should give opportunity for all of personnel express their felling when they have any problem.

Keywords: *Motivation factors, Organizational engagement, Organization*

PPH_49

The Current Status of Health Literacy Promotion in Taipei City Hospital

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Abstract

According to the definition of World Health Organization, "health literacy" represents knowledge of health possessed by an individual and the capability to implement the knowledge when adopting health promotion actions. Different from the general health education, health literacy of an individual does not simply motivate one in searching massive health information, but is also a logic thinking to understand the contents, judge the correctness, investigate and confirm, and finally respond and implement with actions. Low health literacy is a global issue that leads to negative health outcomes worldwide. The purpose of this study was to determine the current health literacy promotion status of Taipei City Hospital, and 10 different aspects including leadership, health organization management, services, skills, communication, accessibility, media, high-risk situation, and workforces were analyzed.

The 10 aspects were used to determine the actual quality of Taipei City Hospital as a health literacy friendly environment, and the study also analyzes and represents the way that Taipei City Hospital creates its health literate environment. From leadership to all the equipment, material, human resources arrangement and trainings, Taipei City Hospital walks it way to be fully health literate, it provides what a health organization can do to the employees and its consumers, even though it may is not an educational organization like school, it still has its way to increase its employees and consumers' health literacy. Moreover, as a city hospital, Taipei City Hospital has the responsibility to take care of the citizens' health, and from the long-term view, rise people's health literacy is the best way to benefit both the individual and the society. The Taipei City Hospital contributes its effort in the promotion of health literacy and strengthen citizen effectiveness in self healthcare and health promotion. As a result, medical resources may be used more effectively because people have the ability to find the accurate information to maintain their health, and take it into action. As long as the medical resources are used in the right place, the burden on families, medical teams, and the society can be reduced.

Keywords: *Health literacy, Health communication, City hospital*

THEME I: HEALTH SYSTEMS & POLICY

PPI_50

Understanding the Abuse of Non-steroidal anti-inflammatory drugs (NSAIDS) in China

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Abstract

Background: NSAIDs have been extensively used for clinical purposes as a standard antipyretic, analgesic, anti-inflammatory and anti-rheumatic drug. Its low cost, affordability and wide range of indications have made these non-prescription drugs a family 'essential' easily available anytime needed. Due to the lack of related drug use education, people in rural China tend to abuse NSAIDs. This resulted in side effects, such as gastrointestinal mucosal damage and liver toxicity which is becoming more serious among the Chinese population. Unfortunately, this has not raised major concerns within the pharmaceutical industry and the authorities.

Objective: This paper aims to provide the extent of abuse of NSAIDs so as to raise concern within the healthcare industry and the government regulators. The study also wants to find out appropriate ways to address this issue.

Method: Using an existing database on the use of NSAIDs in China, we reanalyzed the data using a quantitative approach. Our analysis focused on the abuse of NSAIDs including its determinants.

Result: The data presents 1358 cases of use of NSAIDs in rural China. Our analysis shows that 433 cases occasionally used it, accounting for 31.8%. 925 cases tended to use NSAIDs frequently, which accounted for 68.1%. Results also show that the frequency of use among females is much higher than among males. Among the 1358 cases, only 415 (30.6%) mentioned that they used the drugs according to the instructions; 623 (45.9%) expressed that they did not pay attention or read the instructions or did not follow the doctor's advice; the rest, 320 (23.6%) said that they bought and took pills without any advice from doctors. Without proper instructions or advice from doctors, patients in rural China have a higher tendency to abuse NSAIDs when they feel ill. On the data on medical prescriptions, we found that there are 174 prescriptions using a variety of NSAIDs prescribed at the same time. 155 prescriptions presented 2 kinds of NSAIDs and 19 prescriptions presented 3 types.

Conclusion: NSAIDs abuse in China has become very extensive, especially in rural areas. Abuse is not only in the use but also in the prescribing habit of physicians. There is a need to enact legislation that will control NSAIDs and the implementation of programs which should be multi-faceted working within a multi-level integrated system.

PPI_51

The Effect of Care Pathway on Nurses' Level of Burnout, Teamwork and Autonomy in Coronary Care Unit.

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Abstract

Background: Cardiovascular disease is the main cause of death globally. Therefore, patients with acute coronary syndrome need high quality care which is based on evidence practices. The care pathway emerged as an important tool to enhance the implementation of best evidence practice. Teamwork and autonomy among critical care nurses are likely to improve and subsequently level of burnout will decrease. However, impact of care pathway on nurse's autonomy and teamwork is yet to be ascertained. We aim to compare the difference between autonomy, teamwork, and level of burnout before and after implementing care pathway.

Methodology: This study will use quasi-experimental study pre-test and post-test. The study is divided into four phases, starting with first phase which is preparation of care pathway through literature search and expert panel evaluation. The second phase is to obtain baseline data using tools such as Brief T-Teamwork perception questionnaire, Copenhagen Burnout Inventory (CBI) and Dempster Practice Behavior Scale (DPBS). The introduction and implementation of care pathway will be done during the third phase. Finally, data will be collected again from the intervention group. Universal sampling for nurses will be undertaken. Quantitative data will be analysed using descriptive and inferential statistics.

Expected outcomes: There will be significant difference and improvement after the implementation of care pathway in autonomy, level of burnout and teamwork among cardiac care nurses.

Keywords: *Nurses, care pathway, cardiovascular*

PPI_52

Catastrophic Health Expenditure among Colorectal Cancer Patients and their Families in a Tertiary Hospital, Malaysia

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Abstract

The aim of this study is to estimate the cost of colorectal cancer (CRC) management and to explore the prevalence and the determinants of catastrophic health expenditure (CHE) among CRC patients and their families due to the costs of CRC management. Data was collected prospectively from 138 CRC patients at tertiary hospital in Kuala Lumpur, Malaysia. Patients were interviewed by using a structured questionnaire at the time of the diagnosis, then at 6 months and 12 months following diagnosis. Simple descriptive methods and multivariate binary logistic regression were used in the analysis. The mean cost of managing CRC was RM8,306.9 (USD2,595.9) and 47.8% of patients' families experienced CHE. The main determinants of CHE were the economic status of the family and the likelihood of the patient undergoing surgery. The result of this study strongly suggests that stakeholders and policy makers should provide individuals with financial protection against the consequences of cancer, a costly illness that often requires prolonged treatment.

Keywords: *Catastrophic health expenditure, Colorectal cancer, Cost of illness, Malaysia*

PPI_53
Analysis of drug screening information system as a prevention and control of drug abuse

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Abstract

Cases of drug abuse and addiction are mental health problems (Setiyawati, 2015). According to the World Drug Report report in 2013 of about 246 million drug users or 5.2% of the world population aged 15-64 years have been using drugs every year. Drug Abuse in Indonesia reached 4.2 million in June 2015 and increased in November 2015 to 5.9 million people. Prevention efforts can be done with early detection of a health problem. One of them uses screening. Drug screening is provided with the aim of extracting patient information regarding its involvement with drug use. This study aims to analyze the drug information screening system as an effort to prevent and control drug abuse. This method uses a qualitative approach to health workers who know of ASSIST screening. Informants as many as 4 people using techniques through in-depth interviews and observation. The Drug Screening Information System for Mental Health is able to overcome the limitations of the drug screening service in Mental Health service. Drug Screening Information System for Mental Health helps patients due to drug abuse and people at high risk of drug abuse to improve health and prevention of adverse effects due to substance abuse.

Keywords: *Information System, Drug Abuse, Screening*

PPI_54

Complementary and Alternative Medicine in a Public Health Community

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Abstract

Background: Complementary and Alternative Medicine (CAM) is one of the Thai Ministry of Public Health's policies which has been implemented across the country. The CAM program was offered free of charge at a public health community in central Thailand and nine CAM types or techniques were practiced in the community. This study investigated if CAM could help relieve or decrease health problems for community members and if it could also affect their opinions and perceptions

Method: The community was offered a health camp lasting up to seven days with nine types or techniques of CAM on offer: herbal drinking, scraping the skin, intestinal detoxification, herbal hand & foot immersion, herbal plastering/hot-press massage & steaming, yoga, practicing eating less & a balanced diet, relaxation thought, and self-supervision/self-care & resting. Knowledge and practice were provided by community health volunteers and other health community members who had been trained on the various techniques. A questionnaire was distributed to the participants or campers, who were asked about their underlying non-communicable diseases, health problems and demographic data. Campers were also asked about their perceptions, beliefs, benefits and ongoing use of the nine types of CAM. Multiple regressions was used to analyze the data.

Findings: 330 campers participated in the program and each completed the questionnaire. The collected data was analyzed. Participants who had one or two underlying diseases had a statistical relationship with CAM. Only two types or techniques of CAM, namely herbal plastering/hot-press massage & steaming, and balanced diet were statistically perceived to relieve health problems. The other seven types of CAM did not. Furthermore, only herbal drinking actually had a statistically significant impact on the health of campers but this impact was only small (2%).

Conclusions: Community participants who attended the health camp had benefits and were satisfied with the relief provided by herbal plastering/hot-press massage & steaming, balanced diet, and herbal drinking. But it is important make participants realise that they should practice the three techniques at home or wherever they are in order to benefit. The program should be scaled up to further investigate the results of these nine types of CAM in other public health communities.

Keywords: *Complementary and alternative medicine, Community health*

THEME J: INFECTIOUS DISEASES & NEGLECTED TROPICAL DISEASES

PPJ_55

Community Willingness to Participate in Dengue Prevention Public Activities in Kuala Lumpur, Malaysia.

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Abstract

Background & Objectives: Globally, dengue is the most rapidly spreading vector-borne viral infection. Prevention of dengue virus transmission requires community participation. Therefore, it is important to explore the factors that are associated with the willingness of communities in high prevalence areas to participate in public health activities to prevent dengue. This study aims to identify factors associated with willingness to participate in public dengue prevention activities among urban residents in Kuala Lumpur. **Methodology:** A cross-sectional study was conducted among residents of Titiwangsa District, Kuala Lumpur. After universal sampling, a structured questionnaire was administered via face-to-face interview. The questionnaire consisted of 4 sections, namely sociodemographic, perception and attitude on dengue infection and willingness to participate in public activity for dengue prevention. A total of 322 respondents were included. **Results & Discussion:** In the study, one-fifth of the respondents reported previous dengue infection. More than 95% knew about dengue fever. More than half did not know elevated temperature increases dengue cases. Additionally, more than 80% of the respondents wanted to help to reduce dengue cases in their area but more than half did not check dengue hotspot regularly. Willingness to participate in public activity for dengue control and removal of mosquitoes breeding sites was associated with age ($p<0.001$), educational level ($p=0.005$), perception ($p<0.001$) and attitude ($p<0.001$). **Conclusion:** This study found that there was inadequate knowledge of dengue infection among the urban residents. Majority of participants reported good attitude with regard to help others in the community in reducing dengue cases. Age, educational level, perception and attitude are important factors associated with willingness to participate in public activity for dengue control and removal of mosquitoes breeding sites. Efforts to improve the knowledge and attitude of community members regarding dengue infection is required to improve community willingness to participate in dengue-related prevention public activities.

Keywords: *Perceptions, attitudes, community willingness, dengue prevention*

PPJ_56

Epidemiological And Clinical Factors Of *Streptococcus Suis* Meningitis Patients Treated At Hospital For Tropical Diseases – Hochiminh City - Vietnam

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Abstract

Background: Streptococcus suis infection is an emerging zoonotic disease in Asia. It can seriously threaten human health and also have a major negative impact on pig industry.
Objective: To investigate the epidemiological factors and clinical symptoms of *S. suis* meningitis.
Method: Cases series study
Results: 72 cases of meningitis by *S.suis* type 2: 18.1% is farmers and 33.3% had regular contact with pigs and pork. 18% of reported cases have skin injury. Patients hospitalized throughout the year. Clinically: 98.6% with fever, headache - 93.1%, perceptual disorders - 63.9%; nausea and vomiting - 58.3%, body aches - 27.8%, diarrhea - 9.7% and decrease or loss of hearing - 38.9%.
Conclusion: Collaboration between Vetenarians and Medical doctors for the control of *Streptococcus suis* infection outbreak.

Keywords: *Streptococcus suis* meningitis; Epidemiological factors; Clinical manifestations

PPJ_57

Risk Perception of Childhood Immunization among the Public in Kota Kinabalu, Sabah.

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Abstract

Objective: The purpose of this study is to determine the risk perception of the public population in Kota Kinabalu towards childhood immunization.
Methodology: This is a cross-sectional study whereby a self-administered questionnaire was distributed in a few public places in Kota Kinabalu. Population samples of 400 respondents were randomly approached at numerous public areas in Kota Kinabalu. The respondents consists of those 18 years old and above, with the exclusion criteria of illiterate persons and foreigners. The sample size was estimated using the population size of Kota Kinabalu, assuming

that 50% of the population has a general knowledge of childhood vaccination. A questionnaire was prepared for the respondents to answer. Assurance of confidentiality of response was emphasized to all participants. Data were analysed using SSPI version 21.

Result: Overall, most of the respondents have a fairly correct perception on the risks of childhood immunization, whereby the common risks known include fever, pain, swelling and allergic reaction. Only a small amount of them believe that harmful side effects including autism, mental retardation or even death can occur. Majority of the respondents thinks that childhood vaccinations are safe & effective (70%) and that the benefit of childhood vaccinations outweighs the risks of it (58.1%).Most respondents (76.7%) agrees on the practice of childhood vaccination (Group A), while only 24.3% does not (Group B). Among the 24.3% of respondents in Group B, it is noted that the main reason why they refuse childhood vaccinations is due to their fear on the risks of it (32%). Among all the socio-demographic aspects, only age group, marital status, race and income were found to be significant in affecting whether they vaccinate their children or not (P value = 0.049, <0.001, <0.001, and 0.015 respectively)

Conclusion: Majority of participant have a fairly correct understanding of the risks of childhood vaccination. However, considering the percentage of those who agrees to the practice of childhood immunization is still low (76.7%) to achieve herd immunity, therefore more promotion regarding this practice, need to be done that targets those who live in rural areas in order to correct their understanding and perception towards childhood vaccination.

Keywords: *Immunization, risk, perception*

PPJ_58
The Experience of Health Science' student for Dengue Prevention during Study Health Science Courses in the University

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Abstract

The objective was to describe the experience of health science student for dengue prevention during study in seven courses of a University. Method of study was phenomenology design, qualitative collecting data. Participants were sampling by purposive technique for student in fourth class from seven courses such as Nurse, Medicine, Pharmacology, Medical technology, Physical therapy, Occupational health, and Environmental health. Observations and interviews used questions guideline such as dengue experiences, prevention, self-care, environment management. Data analysis used thematic analysis technique, and trustworthiness with member check and literature review.

Results of study explained dengue experiences of fourteen health science students devised on five men, and nine female. Mean age was twenty two years. Founding showed thirty-six themes

following seven courses such as 1) five themes of nurse student 2) five themes of pharmacology course, 3) six themes of medicine, 4) five of medical technology, 5) five themes of occupation health, 6) five themes of environment health, and 7) five themes of Physical therapy.

Conclusion, different of health science students' experiences were helping all stakeholders for understood. University should be using data for encouraged knowledge's activities, awareness and change behavior for dengue prevention during in university.

Keywords: *Phenomenology study, Dengue prevention, Student in university*

PPJ_59
Health Literacy, Knowledge, Attitude and Practices in Dengue Fever For Community Seniors: A pilot study

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Abstract

Dengue Fever (DF) incidence has been increasing dramatically over the last decade in Taiwan. Lack of satisfactory prevention practices for DF and health literacy (HL) may increase the associated risk factors for many vulnerable community seniors. The purposes of this study were to examine the effectiveness of a modified "flipped/teach back" learning method for behavior change toward DF, and to investigate the relationship between HL, knowledge, attitude and practices (KAP) in DF for community seniors.

Self-determination theory and a quasi-experimental research design with 200 participants from the North of Taiwan were involved in the study. There were two stages for the study design and this paper predominantly for the first stage of the pilot study with 11 participants involved. The questionnaire included social-demographic characteristics, self-determination tool, dengue KAP tool and short-form health literacy (HL-SF12), while nonparametric statistics were utilized for the analysis.

The results revealed that levels of health literacy ($r=0.671$, $p=0.024$), autonomy ($r=0.728$, $p=0.011$) and competence ($r=0.669$, $p=0.024$) were positively associated with the prevention practice of DF. Two domains of HL, the health care HL ($r=0.706$, $p=0.015$) and disease prevention HL ($r=0.612$, $p=0.045$) were further positively associated with the prevention practice of DF, but not health promotion HL ($r=0.551$, $p=0.079$). Furthermore, the attitudes towards the prevention of DF and autonomy ($r=0.69$, $p=0.019$) were shown crucial in this study.

The pilot study also indicated the general HL scores (M=30.3±10.2) of these seniors were lower than those of the general population (M=35.6±7.6; Asia Pac J Public Health. 2015 27:871-80) in Taiwan. Most community seniors have learned the standard prevention of DF knowledge from television (63.6%), health professionals' advocacy (27.3%), and newspaper (18.2%). In addition, many seniors' visual aptitude and reading abilities had moderated their health literacy and understanding of the DF prevention and DF promotion. Consequently, modified learning strategies (e.g. flipped/teach back) and localized verbal explanations of alternative methods to enhance their health literacy were recommended for the seniors.

Keywords: *Dengue Fever, Disease Prevention, Community Seniors*

PPJ_60
The molecular epidemiological characteristic of antibiotic – resisting Escherichia coli causing urinary tract infections in pediatric patients in Hanoi, Vietnam, 2015 – 2016

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Abstract

Urinary Tract Infections (UTIs) prevalence in children ranks the third position following to respiratory and digestion infections. In addition, there is a rapid rise in the number of bacteria strains causing UTIs and simultaneously producing extended–spectrum β–lactamases (ESBLs), which are enzymes with the ability to inactivate β–lactam class of antibiotics. In this study, we collected clinical samples from pediatric patients at three hospitals in Hanoi, Vietnam, from the beginning of 2015 to the end of 2016, and have studied mainly on Escherichia coli (E. coli) which is the most common bacteria strain causing Urinary Tract Infections (UTIs) and resisting to antibiotics to figure out the molecular epidemiological characteristic of this strain. The percentages of UTIs isolates, ESBLs producing, phenotype and genotype of antibiotic resistance (ABR) as well as the distribution of pediatric patients into a range of age groups and gender have been shown in our results of microbiological testing and molecular experiments. The number of UTI patients who are boys in the ESBLs – producing cases was 80 (54.79%), which was higher than the figure for female UTI patients (66, 45.21%). The age of UTI pediatric patients ranged from under 1 year to 15 years, in which the percentage of 2-year-old group reached the highest number with 37.67% (55/146) meanwhile the lowest rates belonged to the group of 11 years old and 15 years old with 1 patient of each group (0.68%). Our results confirmed that the alarmingly high numbers in the resistance to the group of cephalosporins

were shown at 100%. In particular, a number of UTI strains were marked as ABR strains to carbapenem, one of the novel generation of extended–spectrum antibiotics, with 2.74% (4/146), 3.42% (5/146) and 4.11% (6/146) for ertapenem, imipenem and meropenem, respectively. The findings in phenotype of UTI isolates, with 3/5 cases (60%) in E. coli resisting to all three types of carbapenem antibiotic, suppose an association of resisting to carbapenem antibiotics. In addition, we calculated 94.63% (141/149) E. coli harboring CTX – M gene, which is in agreement with the theory in some recent reports that the ABR situation has became much more complicated when CTX – M has partly replaced TEM and SHV enzymes as the prevalent ESBL type. The result of Multi Locus Sequence Typing (MLST) showed that the most common ST of E. coli among collected strains was ST131, following by ST69 and ST83.

Keywords: *UTIs, Pediatrics, ESBLs*

PPJ_61
Knowledge, Awareness and Practices of Incident Cases of Dengue in Chandigarh

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Abstract

Dengue is an endemic disease in India. Epidemics occur every year with incidence rising every year. Since 2010, Chandigarh has seen Dengue epidemics every year but the toll of reported confirmed cases has been very low. However in the year 2014, only 13 confirmed cases of Dengue were reported which was then followed by a sharp rise of 966 cases reported in 2015 and 1246 in 2016. Hence, a study was undertaken to assess knowledge, awareness and practices among those who had already been diagnosed with dengue and followed up multiple times by multipurpose health workers (MPWs) at their homes.

Objective: To ascertain knowledge, awareness and practices regarding dengue among incident dengue cases of 2016 in Chandigarh.

Methods: Retrospective Cohort study was conducted among the incident cases of dengue reported in the season 2016. The line list of cases was obtained from health department. Each household was visited once and face to face interviews were conducted with those willing to participate. Individuals above 18 years of age were included in the survey conducted from January 2017 to March 2017. Using a modified WHO (World Health Organisation) questionnaire, 149 interviews were completed. Results were reported as frequency and percentages.

Results: Data from the 149 interviews (57 males and 92 females) was used for primary analysis. Only 58.4% respondents were aware about dengue before diagnosis and 63.1% knew of its vector while only 10.1% were aware of the national programme and services available to them. Awareness was lower among those with lower level of education. Preventive measures

were known to 59.7% respondents. Out of these, use of repellents was the most known preventive measure, followed by avoiding water stagnation and appropriate clothing. Liquid repellents are the most commonly (77.2%) used preventive measures, used at night time only (63.8%). Use of mosquito net is negligible (3.4%), even in rural areas. Screens on doors and windows were more common in urban area of Chandigarh.

Conclusion: Since the study was conducted among incident cases, even after multiple visits conducted by health workers to the houses of these respondents, the knowledge regarding dengue is not as good as expected. Level of education is an important factor and should be kept in mind while designing an IEC (Information, Education and Communication) programme for dengue.

Keywords: *Dengue fever, Knowledge, Awareness*

PPJ_62

Community knowledge, awareness and preventive practices regarding dengue fever in Thanlyin township, Myanmar

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Abstract

Background: Myanmar is one of DHF epidemic countries in South-East Asia. DF/DHF is a leading cause of hospitalization and death among children. It have been a disease of urban in Myanmar, but more cases have been reported in rural areas since 1998.Cases in 2015 become twice more than 2009 and CFR in 2012 was 0.36%.During 2016, there was 46 cases in Thanlyin township. In identifying the target areas to control outbreaks, people perception and practices were needed to be understood.

Objective: To ascertain the knowledge, awareness and practices regarding dengue fever among urban community in Thanlyin Township.

Methods: A cross sectional study was conducted in June 2017. Multi-stage random sampling was applied and data were collected by face-to-face interviews with 120 adults of 18 years and more from each household. Data entry and analysis was done using Stata 11.0 statistical package.

Results: History of DHF during last year was found in 3.3% of households. The main source of DHF information was television and 97.5% were aware of dengue. More than 80% of respondents had awareness about dengue spread and symptom but 16.7% gave wrong answer that taking medicine as method of prevention. Regarding knowledge, 58% did not know DHF vector although majority had awareness of transmission by mosquito and only 46% knew clean water as breeding place. Half of the respondents answered day time as mosquito biting time and about three quarter had good knowledge on preventive measures. Mean knowledge score was highest in more than 60 year olds, graduates and respondents who had family history of DHF. More than 70% were practicing right dengue preventive methods such as covering of water storage container and utilization of bed nets but 60% added abate in uncovered water container and changing water practice was found only in 15% . House index, 23.33% and Breteau index, 71.67% were indicating high risk of dengue transmission in this area.

Conclusion: Adult populations from the study area were needed to informed clean water as main breeding place of DHF vector and taking medicine is not preventive method. To improve preventive practices especially changing water from opened container, continuous information and education via mass media should be implemented. For promotion of abate utilization, easy accessibility and availability within community is important. Further campaigns should focus on community participation to adopt effective preventive measures in such areas with high risk of dengue transmission.

Keywords: *Community knowledge, Dengue fever, Myanmar*

THEME K: LIFESTYLE, HEALTH PROMOTION & HEALTH LITERACY

PPK_63

Pictogram and @ line as an innovative Health Literacy mobilization tool in Thailand

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Abstract

Public Health Professional have used the KAP model as the main framework for behavior change in Thailand even though there are many others framework published. Therefore, many NCD cases as well as health expenditure increased. After the National Reform Council (NRC) get approval for launching the Health Literacy and Health Communication reform, Department of Health must find ways to shift health professional paradigm on their behavior change process. In addition. V shape pictogram, four circle and four systems were introduced to all professionals and stake holder as examples to facilitate health literacy nationwide. @ Line group has also been used to update policy and distribute new policy related information to professional networks. Results indicated changes in not only the public health professional at all levels, from the central to the region and to the rural area.

Keywords: *Health Literacy, Political Choice, Health in All Policy*

PPK_64

Health and Well-being of Nepalese Migrant Workers: A Review of the Literature

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Abstract

Around 3.5 million Nepalese are working abroad as migrant workers, primarily in South Korea, Malaysia, Gulf countries and India. Nepalese migrants send over US$4 billion of remittance home per year, the third highest of all migrant workers globally, which contributes 28% of Nepal's gross domestic product (GDP). These contributions however have made at an enormous cost to the life, health and well-being of migrants and their families. This review highlights the trends and patterns of out migration from Nepal. It focuses the impacts of migration on individual, family, and households. It also highlights the health risks of migration including mortality and morbidity patterns of Nepalese Migrant workers.

This review used a comprehensive systematic literature search to identify relevant studies on Nepal. The included articles were thematically analysed leading to four key themes or risk factors. The search found 18 articles from which we identified 3 key themes related directly to migrant workers: (1) sexual risk taking; (2) occupational health and (3) lifestyles, and a fourth theme related to partners and family of migrant workers who are left behind in Nepal. Of the 18 included articles, 11 articles discussed sexual risk taking and HIV, whilst considerably fewer focused on work-related risk factors and lifestyle factors in migrant workers.

Migrant workers who are generally healthy appear to be similar to migrant workers from other countries in regarding sexual health as a key issue related to being abroad. Risky sexual behaviour increases in individuals separated from their usual sexual partners, away from their own communities and families, leading to the so-called 'situational disinhibition'. Considering the recent media coverage of deaths and injuries among migrant workers in the Middle East, it is interesting to see that their sexual health is more prevalent in the academic research literature.

Greater efforts are needed to protect the health and well-being, labour rights, and human rights of migrant workers from Nepal and other South-Asian nations. There is a need to enforce universal labour laws in these countries and to develop accurate records to be able to generate morbidity rates. We urge destination countries to collect, record, and publish accurate data on causes of death of migrant workers so that public health research may be undertaken to identify possible interventions. Hence, this is an urgent call to the Governments of Nepal and host countries to take action to protect the health and well-being of Nepalese workers.

Keywords: *Migrant's health, injuries, lifestyles*

PPK_65
Developing Culturally Appropriate Educational Materials On Dementia For Asian Indian

Immigrants (DECAEDA)

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Abstract

The purpose of this study is to explore the available corpus of educational materials that can increase the awareness of dementia among people from South Asia. The focus group particularly targeted is elders from Indian origin. The effort of this paper is on Alzheimer's disease, as it is the most common cause of dementia. Second objective of this paper is to get Alzheimer's related informative resources to be more practically adoptable. The didactic materials are a brochure in Hindi, which is the most broadly understood language in South Asia.

Background: Cultural idiosyncrasies are concealed, yet critical, factors affecting people's understanding and developing a perspective about a disease or its conditions. Dementia is one of the disorders where in, immigrants from the Indian subcontinent have shown reluctance in accepting the condition as a disease. Any conversation about the condition of dementia is usually avoided by explaining it as a natural progression tied to the individual's age. Most of the existing materials that aim to educate people about dementia or Alzheimer's are in English. The general assumption is that people will search, find, read and internalize the messages. All these materials assume that the audience has the context, perspective and knowledge of an average American.

Culturally, the first generation of Indian immigrants, even after having settled in the United States still have lingering impressions from their experiences while growing up in India. In the Indian subcontinent, because of lack of quality education, outreach programs and a poor health system, a majority of the knowledge and information in the society consists of non-scientific, flawed traditional wisdom, which typically is passed down through the generations. In addition, diseases that is not easily explainable like dementia carries an additional stigma of being a curse or misfortune. Concerns of social ostracization further keep this topic from being openly discussed. Dementia is often wished away by explaining it as "normal ageing" or "madness in the elderly". These practices add to the existing confusion on the causes of dementia.

Indians who have immigrated here still find it easy to communicate in Hindi if the other person does not understand English or their native mother tongue. Although they prefer to read in English, when it comes to diseases and understanding the nature of the illnesses, the reading preferences changes to their own language as the words are able to communicate context in addition to the meaning.

Keywords: *Dementia, Indian Elderly Immigrants, Culture*

PPK_66
Development Model of Mobile Health Application for Multi sector HIV/AIDS Health Promoter

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Abstract

Utilization of information technology is a need to be able to handle health problems, one of the biggest problems of public health and social problems today is the spread of HIV / AIDS in the community. Required a comprehensive and terintegrative handling of all sectors, both health and Non-health. One of the utilization of information technology is the dissemination of information through the application of mobile / mobile Health (mHealth). An important element in disseminating this information is health advocates in all sectors by increasing the capacity of both knowledge and skills in disseminating information. Application development / mhealth should be easy to use and in accordance with the needs of health promoters. Therefore it is important to do a research in developing applications that are easy and according to user needs. The purpose of this study is to develop mobile / mhealth health applications related to HIV / AIDS for health promoters in multy sectors. The method to be conducted in this research is action research. The thinking framework used is the ISR (Information System Research) thinking framework to develop user-friendly applications. This thinking shell consists of three stages, namely the stage of compatibility / Relevance, Design / Modeling, and accuracy / Rigor. For the relevance phase, Focus group discussion is conducted to all user stakeholders, in this case health advocate from all involved sectors and experts of communication and HIV / AIDS expert, the modeling stage is done based on the result of discussion and conducting and stage of accuracy of application mining by study Litelatur. This process is done not linearly but is done iteratively / repeatedly to obtain optimal results. This study was conducted within one year with the output of mobile health applications for multi-sector health advocators containing HIV / AIDS and communication techniques in health promotion. So far, the researches that have been conducted by the target are the direct community or the key population. So the novelty in this study, is a special application for health promoters or advocates from all sectors (government, private and community) involved in HIV / AIDS programs.

Keywords: *Mobile Health Application, HIV/AIDS, Health Promoter,*

PPK_67

Effects of Behavior Modification Program for Oral Health Care for Dental Caries Prevention among Preschool Child's Parents in Child Development Center Nakhon Ratchasima Province

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Abstract

This study was quasi-experimental research and aimed to test the effects of behavior modification program for oral health care for dental caries prevention among preschool child's parents in child development center Nakhon Ratchasima province. This program was applied the protection motivation theory and social support. The participants were 62 parents, randomly assigned to be an experimental group (n=31) and a comparison group (n=31). The experimental group received a behavior modification program in oral health care which consisted of lectures, group discussions and activities " Smile Dental ". The comparison group did not receive this program. The duration of the program was 12 weeks. Data were collected by questionnaires, diary records and dental plaque examinations. Demographic data were summarized using descriptive statistics and comparative analysis within and between groups were analyzed by paired t-test and independent t-tests. The level of significance was tested at 0.05.

The results showed that after intervention, the experimental group had statistically significant mean scores of knowledge, perceived severity, perceived susceptibility, perceived self-efficacy, outcome expectation, practive higher than those before intervention, and the comparison group (p-value < 0.001) and the plaque index lower than those before experiments, and the comparison group (p-value < 0.001)

Keywords: *Preschool, Dental Caries, Behavior Modification Program*

PPK_68
The Utilization of Community Local Wisdom in Jatimulyo Village, Bojonegoro District, to Improving Health Literacy

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Abstract

The Central Bureau of Statistics noted that Indonesia's Human Development Index (IPM) continues to increase since 2010-2016, where HDI in 2016 is 70.18. However, this is not in line with the Human Development Index of Bojonegoro District which does not reach the national average of 66.73. One case study with low health literacy in Jatimulyo Village, Tambakrejo Sub-district, is characterized by the tendency of residents to consume medicine sold freely in stalls without recommendations from doctors. Based on the results of primary data, people tend to choose to take the medicine that freely sold in stalls rather than coming directly to primary healthcare because of a belief that the free medicine that does not work. This behavior indicates that the level of proce literacy of Jatimulyo Village community is still low. Therefore it is necessary a way to be able to encourage the public in understanding and using health information obtained to determine the degree of their own health. Tahlilan is a volunteer community-based activity to meet the citizens' needs for religious and spiritual aspects. Tahlilan became one of the local wisdom owned by most people in Indonesia, especially in Jatimulyo Village that was held very routinely, and separated between men and women. This community activity can be an appropriate means to encourage the health literacy of Jatimulyo Village residents through the counseling that is held regularly following the schedule of the activities. This writing method uses descriptive-qualitative through observation techniques and in-depth interview, and reinforced by the study of primary and secondary literature. It can be concluded that local health professionals should make use of the tahlilan forum to encourage more empowered communities in determining their own health.

Keywords: *Health Literacy, Medicine Purchase, Local Wisdom*

PPK_69
Effectiveness of Pictorial Health Warning Labels for Indonesia's Cigarette Packages

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Abstract

Background: Pictorial health warning labels (PHWL) on cigarette packaging is a key way to communicate with consumers about the harms from tobacco, particularly in developing countries that do not have the resources for effective mass media campaigns. Research is needed to determine the most effective PHWL content for Indonesia, a country with one of the largest populations of smokers in the world and amongst the weakest tobacco policy environments.

Methods: Data for this study came from a field experiment with Indonesian adult smokers (n=584), and 15-18 year-old adolescent smokers (n=280) and nonsmokers (n=313) using both between- and within-subject manipulations. First, we assessed effects of health warning label (HWL) characteristics, including warning type (text-only versus pictorial warnings), imagery type (graphic, suffering, and symbolic imagery), and textual type (didactic versus testimonial), on negative emotional responses, message credibility, and perceived effectiveness of the HWLs. Second, we assessed whether the effects of HWLs on these outcomes were moderated by smoker identity and self-efficacy to quit among smokers, and reactance to HWL stimuli. Main and interactive effects of HWL manipulations and participant characteristics on outcomes were estimated using linear mixed effects models to adjust for correlated data due to repeated measures.

Results: We found that compared to text-only warnings, PHWLs were rated significantly higher on all outcomes. Within the PHWLs, those with graphic imagery were rated the highest on all outcomes, followed by suffering imagery, and symbolic imagery. No significant differences were found between textual types for any outcome. Smoker identity was negatively associated only with perceived effectiveness, with no significant interactions found. Self-efficacy was positively associated with all outcomes, finding a significant interaction with imagery type in models for negative emotions, suggesting that rating differences between text-only HWLs and symbolic PHWLs were greater amongst those with higher self-efficacy. Reactance was positively associated with all outcomes, significantly interacting with imagery type in models assessing negative emotions and perceived effectiveness. This suggests the differences between symbolic and suffering PHWLs were greater amongst those with low reactance than those with high reactance, although the pattern of results with regard to which HWL image styles had the strongest effects was the same.

Conclusions: Overall, specific types of HWL content produced a pattern of responses for Indonesia that is similar to other countries. Our findings add further support for FCTC recommendations to adopt graphic PHWLs, with no evidence found to suggest the negative effects for PHWLs in key subpopulations.

Keywords: *Tobacco control, Policy, Health warning*

POSTER PRESENTATIONS: DAY 2

Date: 14th November (Tuesday)
Venue: Exhibition Hall

THEME K: LIFESTYLE, HEALTH PROMOTION & HEALTH LITERACY

PPK_70

Threaten Perception to Disease among Fishermen in Thasala District, Nakhon – Si – Thammarat Province

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Abstract

Fisher folk are considered a low health status in the current society due to mostly involved in inshore fishery activities. This descriptive research was to study health care behavior among fishermen in Thasala District, Nakhon–Si–Thammarat Province. The sample of this study was the fishermen living in Thasala District numbering 169 samples and gathered data by interviewing technique with interviewed questionnaires. The gathered data was analyzed with point biserial correlation coefficients.

The results showed that majority of fishermen's age was 37 years old, Islamic religion at rate 98.8, marital status at rate 62.7 and they had family's member about 5-9 persons at rate 60.9, education level was grade six at rate 47.9, average income between 5,000 – 10,000 Bath at rate 51.5, and also found that they were owner of both at rate 59.8, annual checkup at rate 71.6, regarding their perception related perceived vulnerable and perceived benefit was high level ($\bar{x}$ = 2.78, SD.= 0.31), overall of health behavior showed that they had health behavior was moderate level ($\bar{x}$= 2.90, SD.= 0.20), when considered each behavior found that they had consuming behavior was moderate level ($\bar{x}$= 2.21, SD. =0.68), exercise was moderate level ($\bar{x}$=2.11, SD.= 0.77), individual hygiene was moderate level ($\bar{x}$=2.82 SD.= 0.45), risk management was moderate level ($\bar{x}$=1.98 SD.=0.70) and self-care was moderate level ($\bar{x}$= 2.37, SD.= 0.69), regarding motivation to disease prevention was high level. This study found that after testing relationship between threaten perception and health behavior was found that there is associated with statically significance $p \leq 0.024$. Thus this study recommended that public health staffs should stimulate the fishermen concern in perceived threat and motivate them have proper behaviors.

Keywords: *Health care behavior, Perception, Fishermen*

PPK_71
Impact of School Examination on Stress and Eating Behavior among Malaysian Adolescents

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Abstract
Background: The Malaysia National Health Morbidity Surveys (NHMS) had demonstrated rising trend of overweight and obese prevalence among Malaysian children and adolescents. Higher level of stress has been associated with greater drive to eat thus could be one of the factors promoting excessive weight gain. Expectation to achieve academic excellence has been reported to be an important stressor identified among the adolescents.

Objective: This study aims to assess the stress level experienced by Malaysian adolescents prior to final year school examination and investigate its impact on eating behavior of the adolescents

Subjects and methods: A cohort study was conducted at school among 797 participants, 16 year old multi-ethnic adolescents from population representative of Malaysian adolescents. Baseline data were collected approximately two weeks prior to final year national school examination. Stress was measured subjectively using self-administered Cohen Perceived Stress Scale (CPSS) questionnaire. Eating behavior pattern was determined by self-reported Child Eating Behavior Questionnaire (CEBQ). Data were analyzed using IBM SPSS Statistics 24.0. Student's t-test, linear regression and logistic regression analysis were applied.

Results: From the baseline results, majority of participants were Malays (74.9%), female (60.2%) and from urban schools (60.5%). Mean CPSS score of 18.7 (95%CI: 18.4, 19.0) reflected moderate stress level with 29.1% of adolescents in the high perceived stress category. CPSS score were significantly highest (p<0.05) among Chinese [19.2 (95%CI: 18.5, 19.9)], female [19.3 (95%CI: 18.9, 19.6)] and urban [19.1 (95%CI: 18.7, 19.5)] students with 34.4%, 34.4% and 32.6% in high stress level category respectively. Obese and overweight students showed highest but non-significant CPSS Score [19.0 (95%CI: 18.4, 19.5); p>0.05)] with 33.8% in the high stress level category. High perceived stress adolescents had significantly highest score in emotional eating pattern and food responsiveness than the moderate and low stress categories. There was a strong significant positive correlation between perceived stress and emotional overeating; strongest among the urban (r=0.28), female (r=0.29), the underweight (r=0.31) and the moderately stressed adolescents (r=0.20). Positive significant correlation was also observed between perceived stress and food responsiveness; strongest among the Malay (r=0.24), male (r=0.22), underweight (r=0.27) and high stress level adolescents (r=0.22).

Conclusion: This study demonstrated that stress was a significant problem among the adolescents and expectation to achieve academic excellence in school examination is a significant stressor. Perceived stress level affect the emotional eating and external eating pattern among the adolescents thus should be considered while designing obesity preventative program.

Keywords: *Stress, Eating Behavior, Adolescents*

PPK_72

The Effects of Application by Empowerment and Health Literacy to the Health Literacy in Prevention Hypertension Of Old man, in Sub district Municipality Ummao, Yangtalat District Kalasin Province.

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Abstract

This quasi-experimental research aimed to study the effects of application by empowerment and health literacy to the health literacy in prevention hypertension of old man, in sub district municipality ummao,yangtalat district kalasin province. 88 were simple random sampling and divided into two groups. The experimental group and comparison groups, each group were 44 parents. The experimental group received the intervention program by the application of empowerment and health literacy on 5 occasions in 12 weeks. The interventional program consisted of a series of integrated activities revolving lectures with info graphic and video. Role playing sing a level song by leaf poem about hypertension, Exercise by basolo dancing and pulling rope, demonstration and practice to assess inporm action and by smart phone. Self-management: 3อ 2ส 1พ. Data were collected by questionnaires. Descriptive statistics (percentages, means standard deviations) were used to summaries the data and difference within and between the two groups were analyses using inference statistics. (Paired simple t-test and independent simple t-test) Statistical significance was set the 0.05 level of, and 95% CI were computed.

The results at the end of 12 weeks interventions program shown that the experimental group mean scores were higher than before the experimental about knowledge of hypertension. These were significance (p-value<0.001) and higher than comparison group these were significance (p-value<0.001), the experimental for access to health information and health services, Communication skills about hypertension by smart phone, Decision making skills about hypertension, Self-management to behave properly, and media literacy about hypertension, higher than the experimental group and higher than those the comparative group (p-value<0.001).

Keywords: *Hypertension, Empowerment, Hypertension Literacy, Old man*

PPK_73

Alcohol Consumption Among Young People in China

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Abstract

Background: Alcohol consumption remains a major problem in China particularly in the context of a fast-changing economy, which has been changing the people's lifestyles. Consumption and exposure to alcohol start with the young as alcohol plays a symbolic role in social activities and this behavior is carried through life. Alcohol use and abuse have serious consequences to the health of the individual person and to the society as a whole.

Method: A scoping review was conducted using different studies on alcohol consumption among young Chinese students. A number of databases were systematically searched and articles were assessed for consideration in the analysis. A thorough review by three researchers was conducted.

Results: Exposure to family and other social events with friends initiates alcohol drinking among the young particularly during annual festivities and celebrations. This is normally seen as a social norm and is accepted. There is an increasing consumption of alcohol as students' progress from lower years in the university to higher years. Peer influence is major determinant of alcohol consumption including abuse, dependence and binge drinking. There are sex differences in consumption and women tend to drink more indoors than men. Smoking and highly impulsive behavior are highly correlated with drinking. Some other factors that affect drinking are age, living expenses, and mother's and friend's attitudes towards drinking. There is also a high association with poorer academic background. Among left-behind young people by migrant parents, they tend to drink more than those who were not, and also more from among those whose parents both left. There is a different pattern for alcohol abusers and dependents. In general, there is a culture of alcohol consumption among the young in many sectors of the Chinese society.

Conclusion: Drinking behavior of young Chinese is a reflection of their social understanding and interpretation of this behavior, which shapes it. There should be more policies that need to be implemented with strict implementation to prevent abuse of alcohol among young people and these should be based on the context and the understanding of its determinants.

Keywords: Alcohol, China, Youth

PPK_74
Early Experience with Health Promotion Course for Pharmacy Students in Indonesia

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Abstract

Objective: To implement a new health promotion course integrated with pharmacy public health practices and determine pharmacy students' knowledge, perceived-role and self-efficacy toward health promotion course.

Method: One hundred and nineteen fifth-year pharmacy students undertook health promotion course in a pharmacy school in Yogyakarta. Questionnaire was modified from previous studies and has been translated and content validated in Indonesia setting. The questionnaire consists of a 30-item knowledge (yes/no), a 6-item perceived-role (4 likert scale), a 9-adjective self-efficacy (4 likert scale) used to measure students' knowledge and attitudes towards the new course.

Results: Of 119 pharmacy students completed questionnaire, 77% were female, mean age was 22 years old, and 79% have BPharm GPA > 3.00. A significant improvement ($P < 0.001$) in term of knowledge, perceived-role, and self-efficacy was found. The majority of the students perceived that implementing a health promotion program would be an opportunity to help the community and positive impact for their future career.

Conclusion: Pharmacy students had positive knowledge, perceived-role and self-efficacy towards a health promotion course. Strategies to strengthen positive attitudes into actual behaviors of engaging in health promotion activities are needed. Sustainability and integration of health promotion course in curriculum of Indonesian pharmacy schools nation-wide should be encouraged.

Keywords: *Health promotion, Attitudes, Pharmacy curriculum*

PPK_75

Participatory Action Research through Negotiation and Empowerment of the Residents (PARTNER): Do the Low-income Community Practise Healthy Dietary Habits?

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Abstract

Objective: To determine the eating practices among the low income community in urban areas.

Design: A cross-sectional survey was conducted in a low income housing area. A questionnaire survey was conducted via face-to-face interview to obtain details on sociodemographic characteristics and eating practices. A physical examination was done to measure body composition and blood pressure.

Setting: low income housing complexes in kuala lumpur, malaysia.

Subjects: 1450 respondents who were mainly the heads of households and their spouses.

Results: Descriptive statistics showed that 86.7% of the respondents in the low income community consumed fruit and vegetables less than five times per day, 11.7% consumed carbonated and sweetened drinks more than twice per day and about one quarter consumed fast food more than four times per month. In total, 65.2% (n = 945) did not have healthy dietary practices. The results of a binary logistic regression showed that age, education and ethnicity were significant predictors of unhealthy dietary practices among the low-income community. Those in the 30-59 years of age group had a higher odds (OR = 1.65, p = 0.04) of practising an unhealthy diet as compared to those above the age of 60.

Conclusion: Unhealthy dietary practices were found to be common among the low-income group-living in an urban area. It is important to highlight the importance of healthy dietary practices and public health intervention should be taken in order to ensure that a healthy lifestyle is adopted in the low-income group.

Keywords*: Unhealthy dietary practices, Low-income community, Urban population*

PPK_76

"Chaiya Model" the Network of Aedes aegypti Larval Indices Surveillance System for Sustainable Dengue Solution: the Result from Transmitting Technology to Area Based Collaborative Research

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Abstract

Dengue situation in Chaiya district, Suratthani province has been continuous outbreak, but the dengue solution model did not distinct. The objective of this study was to develop the Aedes aegypti Larval Indices Surveillance System for Sustainable Dengue Solution. Then, the district received transmitting technology of dengue solution namely "Lansaka model" which integrated the several knowledge concepts. The conducting process were five steps such as: 1) designing area based collaborative research; 2) processing with participatory action research; 3) setting key partnerships of network; 4) identifying the routine work for dengue prevention; and 5) monitoring evaluation system. The technology process was transmitted by experts in research team and community participation from April to December, 2016.

The changing outcomes of dengue solution network was "Chaiya Model" which covering 54 villages. The model consisted of seven main activities were; 1) village risk assessment of dengue outbreak; 2) larval indices surveillance system covering 54 villages and 11 centers; 3) computer program of larval indices calculus (http://lim.wu.ac.th); 4) three best practice models in three sub-districts; 5) the 1,007 village health volunteers were increasing capacity of dengue' knowledge; 6) developing the routine work to area based collaborative research; and 7) the working network of dengue solution with four people groups.

The important impacts were dengue morbidity decreasing, larval indices surveillance system of the district, and community mobilization. The suggestion for maintaining the changing outcomes for sustainability will be: 1) expanding the developing routine work of dengue prevention to area based collaborative research; 2) setting the supportive policies and budget by Contracting Unit for Primary Care of district; 3) continuing activities followed the guideline of the larval indices surveillance system; and 4) transmitting technology to other areas by experts from "Chaiya model".

Keywords: *Network, Aedes aegypti Larval Indices Surveillance System, Dengue*

PPK_77

Exercise for Weight Control among Overweight Undergraduate Students, Nakhonratchasima Province

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Abstract

This quasi-experimental study aimed to test the effects of health behavioral promotion program by eating clean food and exercise for weight control among overweight undergraduate student, nakhonratchasima province. The samples were 64 students and divided into two groups, an experimental and a comparison groups were 32 students each group. The experimental group received health behavioral promotion program by eating clean food and exercising for weight control by applying the protection motivation theory and social support. The activities composed of selecting weigh loss buddy, using appication of calculate calorie diet "Calorie Diary", learning from a model that used to be obese problem, cooking clean food, exercising by table 9 channels, and promoting through the group line. The duration of the program was 12 weeks. The questionnaires were used for data collection. The data were analyzed by ordinary descriptive statistics such as frequency distribution, percentage, mean and standard deviation. Comparative analysis was used Paired t-test and Independent t-test. Statistical significance was assumed at $p < 0.05$

The result showed that after experiment, the experimental group had significantly the mean scores of knowledge of overweight, perceived susceptibility on overweight, perceived severity on overweight, perceived response efficacy on overweight prevention and perceived self-efficacy on overweight prevention and promotion program by eating clean food and exercise for weight control among overweight higher than those before experiment and comparison group (p-value < 0.001). The mean scores of BMI, body fat and waistline of the experimental (p-value<0.05).

Keywords: *overweight, Clean Food, Undergraduate Student*

PPK_78

**Effects of Health Promotion Program for Prevention of Iodine Deficiency Disorders
among Pregnancies and Social Support from Husband
in Phu Pha Man District, Khon Kaen Province.**

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Abstract

This study was quasi-experimental research and aimed to test the effects of health promotion program for prevention of iodine deficiency disorders among pregnancies and social support from husband. This program was applied the protection motivation theory and social support. The participants were 60 pregnant women in their first trimester, 30 subjects were randomly assigned to be an experimental group and a comparison group. The experimental group received a health promotion program which consisted of lectures, group discussions, food cooking demonstration, iodized salt examination, "hug for love between husband and wife," guideline for prevention of iodine deficiency disorders during pregnant, and "diary of love" to record iodine food intake. Husband participated in all activities. The comparison group did not receive this program but received only knowledge from health personal. The duration of the program was 12 weeks. Data were collected by questionnaires and urinary iodine concentration (UIC). Demographic data were summarized using descriptive statistics and comparative analysis within and between groups were analyzed by paired t-test and independent t-tests. The level of significance was tested at 0.05.

The results showed that after intervention, the experimental group had statistically significant mean scores of knowledge, perceived severity, perceived susceptibility, self-efficacy, response efficacy, practice to prevent iodine deficiency disorders, social support from husband and urinary iodine concentration (UIC) higher than those before intervention, and the comparison group (p-value < 0.001).

Keywords: *Health Promotion, Iodine Deficiency, Pregnant*

PPK_79

Comparison of different active level of male youth in Malaysia to human reaction time by using alternate hand wall toss test

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Abstract

Human reaction time depends on how fast the human body responds towards a presence of stimuli. The average human reaction time depends on the type of stimuli; 0.25 seconds for visual stimuli, 0.17 seconds for an audio stimuli and 0.15 seconds for touch stimuli. The aim of this study is to find out the association between active level of male youth in Malaysia and how it affects their reaction time. A number of 67 male youth, ranging from 16 to 28 years old were recruited during a health screening programme all over Selangor. A set of questionnaires were given, included inside was demographic backgrounds and Short Questionnaire to Assess Health (SQuAsH) questionnaires. Each participant's body composition was measured using the InBody 270 Body Impedance analyser machine. SQuAsH questionnaire was used to determine the active level of the participants and to further divide them into three groups; sedentary, active, and a group specifically for archers. Analysis was done by using Mann- Whitney test and bivariate correlation analysis via IBM SPSS Statistic 23.0. The association of their active level and reaction time was then investigated by comparing two groups; sedentary and active. The test revealed a significant difference (p= 0.016) for both variables, and showed there was a small correlation with insignificant difference in Spearman rho analysis. (r= 0.112, p=0.287)

Keywords: *Male youth, Reaction time, Active level*

PPK_80

The association between health literacy and frailty in Taiwan

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Abstract

Introduction: Low health literacy is proved to be associated with poor physical and mental health. In addition, inadequate health literacy was reported to be related to frailty. The purpose of the study is to explore the relationship among health literacy and frailty in community-dwelling elderly living in Taiwan.

Methods: This cross-sectional study was designed to recruit individuals older than 65 years old in the community setting. Demographic, socio-economic variables were obtained by face to face interviewing. The validated questionnaire, Chinese version of HLS-EU-Q short form, was used to measure health literacy. Anthropometric variables, including BMI, gait speed and hand grip strength, were obtained. Based on the five Fried frailty criteria (weight loss, exhaustion, low physical activity, slowness, weakness), the participants were divided into three stages: non-frail (score 0), pre-frail (score 1–2) and frail (score 3–5). The collected data were analyzed to detect the correlation among health literacy and frailty in the elderly by using logistic regression model.

Results: Mean age of all participants (N=133) was 71.05±4.70, ranging from 65 to 86 years old. A total of 99 participants (74%) was female and 34 participants (26%) was male. Most participants (N=98, including 31 illiterate individuals) received education below elementary school level. More than half of all (56.4%) had sufficient general health literacy. However, 32.3% and 6.8% of all had problematic and inadequate health literacy, respectively. A total of 4 participants (2 men and 2 women) were categorized as frail, and 74 participants (18 men and 56 women) were pre-frail. In our analysis, the index of health promotion health literacy was negatively associated with frailty level (r=-.219, p=.012), but the association was not detected in general health literacy, health care health literacy, and disease prevention health literacy. In multinomial logistic regression analysis, old age was associated with pre-frail status (OR=1.17, 95% CI 1.039-1.317). For women, individuals with high disease prevention health literacy were at lower risk of being pre-frail (OR= 0.717, 95% CI 0.543-0.945). However, the relationship between health literacy and frailty status was not statistically significantly.

Conclusion: Low health literacy was associated with pre-frailty. The results implied that health literacy may play a key role in frailty prevention. In addition, gender difference may warrant further investigation by future studies.

Keywords: *Health literacy, Frailty, Elderly*

PPK_81

Health Literacy Education for Communities

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Abstract

Low health literacy has been shown to lead to poor preventive health habits, worse health and poor engagement with primary care and preventive health services. In turn, this raises healthcare costs by increasing people's use of emergency services, and the frequency and duration of hospital stays. This is because people with low health literacy do not always understand their medicine, treatment and discharge plans; how to stay healthy at home; or how to access healthcare services other than the emergency room.

Thus, educating community members, especially those with low health literacy, is an important part of helping the population to improve and maintain their health.

In the U.S., health literacy education programs are being developed to address this need and have been shown to help people with low literacy or low English proficiency to learn how to take care of their health at home and engage successfully in the healthcare services that are available to them.

In addition to basic health knowledge and vocabulary, these programs specifically address:

• How to seek primary care and urgent care

• How to communicate with providers

• How to make sure they understand their treatment, and

• How to adopt healthy habits

These education programs are usually conducted in collaboration with community organizations that already have relationships with a group of people in need of extra support. Often they are taught at adult education programs, but many other venues can be appropriate. Examples include programs for people of low socioeconomic status, refugee centers, public libraries, or public school systems (for parents).

While there is rarely funding available to rigorously test the effectiveness of these programs, there have been positive results from program evaluations, showing improvement in health knowledge, health literacy, self-efficacy and intent to improve habits and engage in primary care and preventive health activities.

Of the few rigorous scientific studies that have been done, one showed significant reduction in unnecessary doctor visits, emergency room use, health care costs, and sick days taken by children and parents.

This presentation will show the kinds of resources and curricula that have been used and summarize some of the research findings that support this approach.

Keywords: *Community, Education, Empowerment*

PPK_82
Effects Technology and Life Style to Optimize Health Awareness as Guide on Well Being

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Abstract

Technology has grown rapidly in a short span of time. It can also rapidly in the development of life style, especially the use of mobile phones by young people (infants under five years, school age, adolescents) to experience addiction if not wise in its use. Technology that has a positive and negative side to human development, one of them health effects, physical health, psychological, social, economic and productivity. Humans can use mobile phones as a medium to increase work productivity, add relationships, insights, etc. However, the young people who are using mobile games to play games, social networks, or accessing youtube. Most of people spend the majority of their waking hours staring at a digital screen. Studies suggest that 60% of people spend more than 6 hours a day in front of a digital device. Mobile is the most practical gadget, because it can be used and accessed anytime, anywhere, with any position. This results in one of the senses that are exposed by the radiation rays of the mobile phone ie the eye. Eyes are the most sensitive and valuable senses because the eye has no protection against exposure. Therefore, many young people use glasses as aids because their eyes can not see normally. In addition many emerging abnormalities of eye function and eye disease such as cataracts. Abnormalities of abnormal eye function greatly affect the health of the complex and of course will decrease work productivity. The effect is referred to as "blue light exposed". Blue light is a color in the "visible light spectrum" that can be seen by the human eye. Sources of blue light include the sun, digital screens (TVs, computers, laptops, smart phones and tablets), electronic devices, and fluorescent and LED lighting. Disorders caused by exposure to light that is on the brain, eyes and body. So it disrupts the rest, memory, and difficulty of learning because the brain loses focus. Not maximal brain performance can reduce productivity and increase stress levels. Disturbed sleep schedule affects the development of cancer cells resulting in increased risk of breast cancer and prostate gland. Sleeping late at night can affect hunger so potentially the risk of obesity. This paper aims to increase awareness of health against the use of smarthphone and the use of smarthphone wise.

Keywords: *Smartphone, Life Style, Damage, Public health*

PPK_83

TEMUNOCENT (Temulawak-Sinom Effervescent Tablet): The New Innovation of Indonesian Traditional Drink (Jamu) in Practice Dosage Form as Whet Appetite

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Abstract

Indonesia is tropical country that very popular with the richness of its plants as traditional medicine. Sinom (Tamarindus indica) and Temulawak (Curcuma xanthorrhiza) is one of Indonesia plants that commonly used as traditional drink (Jamu) to increase appetite. During this time, sinom-temulawak was made in conventional technique by boiled all ingredients and served the extracted essence as beverage. In addition to being nutritious as an appetite enhancer, a mixture of both proven empirically able to provide other health benefits when used routinely, such as lower cholesterol, curing gastritis, fever, and keep body immunity. However, nowadays society began to leave this traditional drink due to the factor of taste which it is less delicious compared to others modern beverage, as well as less practical and unattractive package. Moreover, because of natural-based materials, this traditional drink cannot be stored for long period.

The authors innovate in developing the traditional drink of sinom and temulawak namely "Temunoscent" in the form of practical dosage form as an effective step in instilling herbal drinking culture to the society. Effervescent tablet dosage forms are chosen because its practicability and stability are better than conventional preparation. Moreover, on the side of taste, it can be modified by excipient increment without influence the therapeutic effect. Therefore it will be able to increase its acceptability in society. In the other hand, this innovation is done in order to preserve Indonesia medicinal plants that have many benefits in health, and encourage people to consume Jamu as traditional drink easily.

Keywords: *Sinom-temulawak, Effervescent*

PPK_84

Knowledge of Breast Cancer and Breast Self-Examination Practice among Yemeni Female School Teachers in Malaysia

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Abstract

Background: Breast cancer is the most frequent cancer and the second cause of cancer deaths among women worldwide, including Yemeni women. The purpose of this study is to determine knowledge on breast cancer and breast self-examination (BSE) practice among Yemeni female school teachers in Klang Valley, Malaysia.

Methodology: A cross-sectional study was conducted among 163 Yemeni female schoolteachers in Malaysia between April 2017- May 2017. The inclusion criteria for this study are teachers who were teaching at the selected primary and secondary Arabic schools, aged 20 years old age and above, and teachers who signed consent form to participate in the study. Teachers who had a previous history of breast cancer or who were pregnant or lactating were excluded from the study. A simple random sampling method was utilized and data were collected via self-administered questionnaire by using a validated questionnaire, which was developed for this study. The questionnaire consisted of four sections, background information of respondents, knowledge on breast cancer, health belief model, practices related to breast cancer screening.

Result: The response rate derived in this study was100 %. The mean age of respondents was 32.8 ±7.23 years, 128(78%) of them were married, 26 (15.9%) had family history of breast cancer and 34 (20.9%) of them previously participated in breast cancer education program. The majority of respondents 131(79.9%) had heard/read about breast cancer screening, but only 43(26.2%) practiced breast self-examination and 136(82.9%) had intention to practice BSE in the future. This study showed majority of respondents 121(74.2%) and 104(63.8%) had low level of knowledge on breast cancer and BSE practice, respectively. Univariate analysis showed that hear/read about breast cancer screening, participated in breast cancer education programs, were statistically associated with knowledge of breast cancer (p=0.001) (p=0.005) respectively, Also, hear/read about breast cancer screening (p=0.01), participated in breast cancer education program (p=0.003), and education level (p=0.01), were statistically associated with BSE practice,

Conclusions: The findings showed that knowledge of Yemeni female school teachers towards breast cancer and rate of BSE practice are low. Targeted education should be implemented to improve knowledge of breast cancer and BSE practice to improve breast cancer prevention among this group.

Keywords*: Knowledge of breast cancer, Breast self-examination, Yemeni teachers, Malaysia*

PPK_85

Promoting successful aging in Chinese society: A photovoice approach to optimize health literacy of older adults

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Abstract

Introduction. Physical activity (PA) is a key activity in healthy and successful aging; nonetheless, compliance to regular PA does not essentially happen in old age. There are lots of personal and environmental reasons for sedentary lifestyle. Using a photo-voice approach, a six-week intervention was developed to understand older adults' reasons for their sedentary lifestyle and support them to receive and interpret health information from professionals, and finally make their own decision in doing PA.

Method. This is a wait-listed controlled study with diabetic or hypertensive older adults living in Hong Kong. The intervention which consisted of muscle strengthening exercise, photo-taking, sharing of ideas based on the photos, group discussion on strategies to overcome barriers in PA was run over 6 weeks in group meetings. In the last meeting, each participant develop his/her own action plan for the next 4 weeks.

Results. A total of 204 older adults [107 in Intervention group (IG), 97 in Control Group (CG)] participated in the study. After 6 weeks, the change of mean number of steps per day in IG was significantly higher than that of the CG (IG vs CG: 403 vs 52, p<.05). There was also significant improvement in lower limb strength (mean difference = 0.94, p<.05) and lower limb flexibility (mean difference = 2.04, p <.05).

Conclusion. The findings showed that this photo-voice project had supported older adults to make decisions in their lifestyle and there were improvements on physical fitness.

PPK_86

Smoking cessation and health literacy- the preliminary experience from Taiwan

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Cigarette smoking is one of the most important preventable risk factors of non-communicable diseases. Advertising and public education was promoted by the government and several NGOs for more than 10 years, and the enhanced cigarette smoking cessation program was also launched since 2012 in Taiwan. This research aims to explore the health literacy in the population who seek for cigarette smoking cessation assistance in Southern Taiwan and to identify if their Fagerstrom Test for Nicotine Dependence (FTND) score is associated with the initial health literacy or their decisions to receive cessation assistance through health education or accompanied with medication.

183 participants were enrolled in this investigation, with 166 male and 17 female, 75% graduated at or under high school education, 25% either single, widowed or divorced, and the average age 46.5 years old. Using HLS-EU-Q47 Chinese version as the evaluation tool, 7 participants (3.8%) were with inadequate health literacy, 59 (32.2%) problematic, 90 (49.2%) sufficient, and 27(14.8%) were excellent. Their scores in three sub-domains of health literacy, i.e. health care, disease prevention and health promotion, as well as general health literacy, showed significant differences, while health care HL was most satisfactory and disease prevention least desirable (Chi-Square test of homogeneity p-value: 0.0003; Fisher's exact test p-value:0.0288). After adjusting age, gender, marital status and education, negative correlation was observed between general health literacy and FTND scores (β=-0.14), and positive association between general health literacy and the choices of smoking cessation programs(β=1.89), but none with statistical significance (p =0.464 and 0.197 respectively).

The results demonstrated the relatively inadequate health literacy on disease prevention in smoking population, and health literacy may play some role in nicotine addiction and healthcare seeking behaviour but failed to show statistical significance because of the limited case number. Further investigation should be arranged to confirm the initial findings in our study, and more in-depth analysis aiming to explore the effect of cigarette cessation programme in enhancing the health literacy may be the next step worthy to conduct.

Keywords: *health literacy, smoking cessation, health promotion*

THEME L: MENTAL HEALTH & HEALTH LITERACY

PPL_87

Mental health among people who inject drugs in Haiphong, Vietnam: need for routine assessment and social interventions

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Abstract

Objective: To identify patients with poor mental health in a cohort of Persons Who Inject Drugs (PWID), the associated factors and the implications in terms of care.

Methods: Patients were recruited through respondent driving sampling (RDS) from September to October 2014. Mental health was assessed using a 5 items questionnaire (current depressive feeling, hopelessness, excessive worry or suicidal ideas and their frequency, past history of suicide attempts). In order to better identify patients suffering from anxiety/depressive disorders, those with at least 2 frequent symptoms were considered and compared to the others (medical history, drug use and sexual behavior, sociodemographic characteristics and clinical assessment).

Results: Among the 603 PWID recruited, 89.7% were male, mean age was 36.5 years (8.4 years), all were IV heroin users. 31% of patients were screened positive for probable anxiety/depressive disorder and 11,5% reported at least one suicide attempt (9.3% of male patients and 31.1% of the female patients). Factors independently associated to probable anxiety/depressive disorder were lacking a household registration in Haiphong, receiving money for sex, starting injection at a later age, being arrested more frequently but staying less frequently in voluntary or compulsory centers. They had also a higher school degree, started later to inject drugs and more often perceived their health as poor or very poor. Past suicide attempts were also associated with being arrested in the past, lack of household registration, health perceived as poor or very poor and also being female, not having a child and using metamphetamines.

Conclusion: Prevalences of anxiety/depressive disorders are probably high among PWID in Haiphong and 1/3 of women reported suicide attempts. Social factors are closely associated to mental health status. Further investigations are needed but screening for mental health and comprehensive care, including social interventions, for depressed/anxious patients are needed.

Keywords: *Mental health, suicide, methamphetamine, heroin, injection drug use*

PPL_88

Assessment the status of mental health disorders of students in high schools

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Background: Mental and behavioral disorders in children and adolescents are very common, affecting around 20% of children and adolescents on the world (WHO – 2003). In Viet nam, according to studies from many authors, about 10-20% of students with mental health problems need to be monitored, counseled and treated. The MCNV, that NGO has been carrying out a pilot project on community and family based care of mental health in the rural areas of Quang Tri province since 2013. We used SRQ – WHO 1994 to screen 4837 people to identify mental health disorder and provide services to them at family. Now we would like to know what is the mental health status of high school students in Quang Tri? What are the factors that affect students' mental health problems?

Objective: To answer these questions, we conducted this research to determine the prevalence of mental health problem in high school students in Quang Tri and to identify the factors related to the student's mental health problems.

Methodology: A cross - sectional study using SDQ25 (Scoring the Strengths and Questionnaire) for students self-report. The study was conducted at 03 high schools in Quang Tri which one in mountainous; one in rural; one in city area.

Results: 2,636 (87,08%) students in these schools were answered SDQ25. Among of them 1,649 (62,56%) girls and 987 (37,44%) boys.

The assessment showed that prevalence of mental health problem of students was 293 (11,08%), this group has total score of SDQ25 above 20. Students slightly which may significant mental health problem was 550 (20,86%), this group has total score of SDQ25 from 16-19.

Study indicated that 5 factors are significant associated with mental health problem of students (i) the students with poor family background are at highest risk of MH disorder is 23,15% with ($p < 0.001$); (ii) the students have more than 5 children are at highest risky of the MH disorder is 20,79% *($p < 0.001$);* (iii) the students have poor academic performance are at highest risk of mental health problem is 26,79% ($p < 0.001$); (iv) the students don't have any close friend are at highest risk of mental health problem is 24,18% *($p < 0.001$);* (v) the students don't participate any extra activities in school are at highest risk of mental health problem is 15,20% ($p = 0.001$).

Conclusion: The finding of this study concluded that there were relationship of mental health problem of student and poor family circumstances, more than 5 children in the family, poor learning outcome, no close friend, don't participate any extra activities in school. Therefore high schools should conduct health promotion activities and counseling for students and their parents to reduce mental health problem.

Keywords: *mental health problem, students at high school*

PPL_89
Health literacy and the pharmacological treatment of mood disorders: a systematic review

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Abstract

Background: Mood disorders are chronic relapsing diseases, which consist of major depressive disorders and bipolar disorders. Health literacy seems to be important in ensuring adherence towards medications and follow up appointments with mental health professionals. This study aims to review the literature relating to health literacy in the treatment of mood disorders, focusing on feedback and opinion from various types of people. **Methods**: Relevant studies were identified through various databases, including Scopus, Web of Science, Science Direct, CINAHL Complete and MEDLINE Complete. Combination of keywords were used, which are "health literacy" OR "health information" OR "health decision" OR "health knowledge" OR "health understanding" OR "health disparity" OR "health disparities" AND "mood disorder" OR "major depressive disorder" OR "bipolar disorder" AND "antidepressant" OR "antipsychotic" OR "mood stabilizer". The search comprised studies in English only. **Results**: Most papers included are observational studies with survey and interview as the tools to collect data. Some review papers are included to get more information regarding this subject area. They are different type of people that play important roles in improving the pharmacological treatment of mood disorders, as a result of high mental health literacy, namely patients themselves, public, pharmacists, nurses, as well as general practitioners. Older patients have lower level of mental health literacy, if compared to younger patients. Mental health literacy among people who live in remote and rural areas are still low and need to be improved by using campaigns that focus on evidence-based management for depression. Stigmatizing attitudes towards people with mental disorders were greater to men, compared to women. Personal history of mental health care is associated with attitudes towards interventions, which is related to mental health literacy. Despite increased level of health literacy on depression, if compared to other mental disorders, patient confidence in mental health therapists and treatment options are still low. **Conclusion**: Different type of people have various level of mental health literacy. Interventions to increase health literacy these people, related to the management of mood disorders should be highlighted and focused, in ensuring adherence towards the appropriate pharmacological treatments designed to this type of patients.

Keywords: *Mood disorders, Major depressive disorders, Bipolar disorders, Health literacy*

PPL_90
Validation of the Mental Health Literacy and Stigma Questionnaire in an Urban Community of Malaysian Young Adolescents

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Abstract
Introduction: The Mental Health Literacy and Stigma (MHLS) questionnaire has been widely used to assess depression literacy among different populations. This instrument has been validated internationally among adults and adolescents. However, validation of this questionnaire in young adolescents has not been conducted in Malaysia. The aim of this study was to provide an evidence of the reliability and validity of MHLS questionnaire among Malaysian adolescents. The questionnaire focuses on knowledge of depression, help-seeking behaviour, stigmatizing attitudes and social distance constructs.

Methods: A total of 65 students aged 13 years old from two public secondary schools in Kuala Lumpur participated in this study. The MHLS questionnaire underwent forward and backward translation, content validity and pre-test process prior to reliability and validity. The data was analysed using Statistical Packages for the Social Sciences (SPSS) version 24. Internal consistency was measured by Cronbach's alpha and inter-rater agreement was assessed using kappa statistic.

Results: The MHLS questionnaire demonstrated acceptable levels of Content Validity Index (CVI), Cronbach's alpha and kappa values across all constructs. The Cronbach's alpha ranged from 0.529 to 0.711 across all constructs. Kappa values for majority of items indicated moderate level of agreement (0.41 and above).

Conclusion: The MHLS questionnaire appears to be comprehensible and sensitive to detecting knowledge of depression, help-seeking behaviour, stigmatizing attitudes and social distance in young Malaysian adolescents and therefore can be used to measure depression literacy in our setting.

Keywords: *Mental Health Literacy and Stigma, Validation, Adolescents, Depression, Help-seeking behaviour*

PPL_91
Malaysian Infertile Men and Women: Do they Suffer Mental Health Problems?

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Abstract

According to World Health Organization (WHO), about 1 in four couples in developing countries experienced infertility and it is expected to affect between 8 and 12% of reproductive-aged couples globally. Indeed, infertility is not only seems as 'a disease of reproductive system' but it usually results in negative sequels, frailties and impairment of quality of life. Thus, this condition may cause a major life crisis. Internationally, there are various studies done revealed that infertility is consistently linked with negative psychological reactions such as depression, anxiety, and deterioration of general well-being. In Malaysia, despite of high incidence of infertility cases, there is still a scarcity of literature focusing on psychological difficulties faced by Malaysian infertile couples. The objective of this study is to examine the mental health status and it's determinants among Malaysian infertile men and women.

A cross sectional study was conducted among 502 Malaysian infertile men and women, attending a subfertility clinic in 'National Population and Family Development Board' (LPPKN), Kuala Lumpur, Malaysia from February-April 2016. Data were collected using a validated, self-administered Depression, Anxiety, Stress scale (DASS-21) questionnaire. Participants' mental health status was examined by a composite score comprising of 21 questions that screened for depression, anxiety and stress. Data were analyzed using SPSS version 21. The sociodemographic characteristics were tabulated by percentage and frequency using descriptive analysis. Logistic Regression analysis was performed to measure the associations between the predictor (sociodemographic profiles) and the outcomes (depression, anxiety, and stress).

Most participants were young, female, Malays, and had attained tertiary education. Participants with recurrent visits reported to has higher anxiety level as compared to the subjects that came for the first time to the subfertility clinic ($p < 0.05$). Infertile women tend to report significantly higher level of depression, anxiety, and stress as compared to infertile men ($p < 0.05$)

This study revealed that Malaysian infertile men and women demonstrated susceptibility to mental health problems that occurs more commonly among women than men. Thus, this study may facilitate fertility facilities to strategize and redesign better intervention for the infertile couples

Keywords: *Infertility, Depression, Mental health*

PPL_92
Does Undergraduate University of Malaya Students Struggles with Anxiety during Their First Year?

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Abstract

Anxiety can be characterized as a displeasing feeling of uneasiness, nervousness, apprehension, fear, concern or worried thoughts, feelings of tension, and physical changes such as increased blood pressure. Previous studies in Malaysia demonstrated that university students are exposed to higher risk of getting psychological disorders compared to their peers of similar age groups in the general population. It is believed that, the anxiety symptoms can be seen as early as first year students. Therefore, in present study we would like to investigate the prevalence of anxiety and its associated factors among first year undergraduate students. A cross-sectional study was conducted in the main campus of University of Malaya from September to December 2015, among the first year undergraduate students. Students were recruited through universal sampling with the total number of 3075 students. A self-administered questionnaire, through mobile application, iSurvey was used to assess demographic data, socioeconomic condition, lifestyle and mental health status of students. A short version of standardized Depression, Anxiety and Stress Scale-21 Items (DASS-21) was used to measure students' anxiety symptoms. The outcome variables were presented in percentages. Comparison between groups was done using chi-square and Fischer's exact test for qualitative variables. A p value less than or equal to 0.05 was considered statistically significant. Of 3075 students, 1644 gave consent and participated in the study (response rate: 53.4%); 1635 students met the inclusion and exclusion criteria and 1606 students answered full questionnaire. The mean age of students are 19.46±0.66 years; male students represented by 444 (27.2%) whereas female students were represented by 1191 (72.8%). About half of the students reported to enrol in non-science field (55.5%) with majority having one financial support (82.6%). About 66.4% of students indicated that their family household income was less than RM3000 per month whereas 33.6% indicated to have more than RM3000 per month. The prevalence of anxiety according to DASS-21 scoring; mild is 11%; moderate is 29%; severe is 11%; and extremely severe is 10%. Gender, age and medical illness were reported to have significant association with anxiety. Based on these findings, it showed that there is an urgent action to screen students' mental health throughout their year of study. Early intervention programs may also beneficial and essential to reduce the problems and their associated functional impairment.

Keywords: *Anxiety, University students, Malaysia*

PPL_93

Association of Knowledge of Depression, Help Seeking Behaviour and Stigmatizing Attitude with Depression Symptoms among Secondary School Going Adolescent in Selangor State

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Abstract

Introduction: Although the prevalence of mental health disorder especially adolescent depression is high, adolescent depression literacy which comprises of knowledge about depression, help seeking behaviour and stigmatising attitude assessment and its association with symptoms of adolescent depression has not been examined in Malaysia. Adolescent depression is a mental disorder that can impair the functional capability of adolescents thus affecting personal development, interpersonal relationship and the illness may even persists into adulthood. A large proportion of adolescents from 12-19 years of age across all societies are affected by mental disorders.

Objective: The primary objective is to assess the level of depression literacy among school going adolescent. Secondary objectives are to determine the association depression literacy and symptoms of adolescent depression.

Methods: A cross sectional study among secondary national school going adolescent in Selangor State will be conducted from January 2017 to January 2019. Fifty national secondary schools in Selangor State will be randomly selected to participate in this study. Universal sampling of all Form 1 students in selected schools will be conducted. A minimum of 1000 respondents is required for this study. A pre-tested modified validated self-administered questionnaire will be used to obtain information regarding their sociodemographic characteristics, knowledge, help seeking behaviours, stigmatizing attitude and its association with depression symptoms.

Expected Results: Depression literacy levels are expected to be inadequate and lower compared to what was reported by Institute of Health, Behavioural Research (IHBR), Ministry of Health Malaysia (MOH) in 2011 and other international studies. There could be a significant association of depression literacy and symptoms of adolescent depression.

Conclusion: A large number of school going adolescent are suffering from depression disorders despite the existence of School Mental Health services. Thus, it is pivotal to assess the level of depression literacy and its association with depression symptoms

Keywords: *Depression literacy, depression, adolescent, mental health outcome*

PPL_94

Adolescent Mental Health Promotion using Life Skills in Schools

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Abstract

Various risky behaviors among adolescents stem out of range of psychological distress that the adolescents experience as a result of various familial and social pressures, lack of coping capacities, involvement in substance use and other risky behaviors, academic pressure, physical conditions and other relationship related difficulties. Research studies report that the indicators concerning adolescents' health and educational outcomes found to be a significant concern and demands for a comprehensive intervention to address their difficulties and equip them with skills to cope with distress, make right decisions, handle emotions and situations which will eventually capacitate them to deal with adjustmental challenges. Therefore the aim of the study was to evaluate a school based interventions to promote mental health of adolescents using life skills approach in Udupi District

A quasi-experimental with pre-post assessment without control design was used. The school was selected using convenience sampling method and all 150 adolescents studying in 9th grade of the school were selected for the study. A semi-structured questionnaire including General Self-efficacy scale and Well-being Manifestation measure scale was used to collect data before and after the interventions. Ethical clearance was obtained from Institutional Ethics Committee. Permission to conduct the study was obtained from the Headmaster of the school. Written informed consent and assent was taken from parents and adolescents respectively. Confidentiality was assured. The intervention was provided in the form of workshop using more participatory methodologies to enhance the adolescents' knowledge and skills for 6 sessions, each lasting for one hour. The topics covered in the interventions included learning skills, cognitive skills, coping skills, social skills, nutrition and physical fitness.

Increase in knowledge related to study skills, stress and life skills was observed. However, there was no significant difference between the pre and post intervention assessment scores in self-efficacy and psychological wellbeing of the adolescents.

Keywords: *Mental health promotion, Adolescents, Life skills approach*

PPL_95
Mental health and Stress among students in South African universities: Implication for academic performance

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Abstract

The prevalence of mental health and stress are increasing among university students, particularly, amongst students transiting from High Schools to universities because of diverse stressors they experience. Issues such as student retention, progression and student successful academic performance, are becoming progressively important for all universities. The aim of this paper was to explore mental health and stress among first year under-graduate university students in the North-West Province of South Africa, so as to generate ideas towards better academic performance.

Methodologically, content analysis approach was used to analyse secondary data relating to mental health and stress of university students. In past studies, focus had been on quantitative approaches and research studies were limited to a narrow range of disciplines. Therefore, there is a need to embark on a longitudinal research to investigate student mental health and stress challenges in all disciplines as they study in the university.

Result indicated that the prevalence of mental health and stress is particularly higher among female students in the first year of their program compared to their male counterparts. It is recommended therefore, that educational policies in the North-West Province formulate and integrate psychological programs in the curriculum of Universities as this would assist in addressing mental health and stress issues among students. Lastly, collaborative, multidimensional, and culturally sensitives preventive mental health programs, must be developed by educators and health care providers in universities, in order to prevent and promote mental health among their students. As this will in turn, enable, and augment psychosocial well-being and academic performance among university student.

Keywords: *Mental health, Stress, University education, Academic performance*

THEME M: NON-COMMUNICABLE DISEASES

PPM_96

 Medication adherence among hypertensive patients in private clinics, Yangon, Myanmar

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This cross-sectional study, was designed to determine the medication adherence among hypertensive patients and to identify the factors related to medication adherence among hypertensive patients in private clinics in Yangon. A total of 216 hypertensive patients were interviewed using a set of structured questionnaires during 1st-30th April 2017. Chi-square test and fisher exact test were employed for data analysis. The result revealed that only 14.8 % of the participants were reported to have good adherence to anti-hypertensive medication. Significant association was found in age (p-value<0.001), occupation (p-value$=0.023$), family income (p-value$=0.002$), duration of diagnosed with hypertension and start taking medication (p-value<0.001) and hypertension history in the family (p-value$=0.002$). In addition, types of anti-hypertensive drugs currently being taken (p-value$=0.037$), perceived barriers (p-value<0.001), perceived severity (p-value$=0.050$) and cue to action (p-value$=0.015$) showed significant association with medication adherence. Based on these results, a health promoting program should be developed to enhance medication adherence for patients with hypertension.

Keywords: *Adherence, Hypertension, Cross-Sectional Study*

PPM_97

Threaten Perception on Hypertension among Pre-Hypertension at Rhonphibul Sub-district, Rhonphibul District, Nakhon Si Thammarat Province

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Abstract
The study on threaten perception among Pre - Hypertension at Rhonphibul Sub-district, Rhonphibul District, Nakhon Si Thammarat Province is quasi experimental research (one group pre-posttest quasi-experimental research) aimed to study an effectiveness of behavioral modification. The samples selected for the study by purposive sampling numbering 30 pre-hypertension cases having blood pressure levels between 120-139 / 80-89 mmHg. The period of intervention was conducted during June to December 2017 and collected data with interviewing questionnaire. Data analysis was done with descriptive and paired t – test.
The results showed all of participants had increase of blood pressure level to optimal level numbering 26 cases (86.67%)and found that whole of mean score on perceived threaten on

hypertension after was higher than before interventions. When considered in each components of perceived threaten found that mean score on perceived susceptibility to hypertension disease after intervention (=31.23 S.D.= 2.944) was higher than before intervention (= 25.53, S.D.=3.511), when compared mean score before and after intervention were found that there was different with statistically significance at p-value< 0.05.Regarding perceive severity found that the mean score on perceived severity after intervention (= 30.43, S.D.= 2.687) was higher than before intervention (= 25.47, S.D.= 4.208) as well, when compared mean score before and after intervention were found that there was different with statistically significance at p-value< 0.05. Thus this study recommended that this program could apply to other areas where had similar problem due to it could encourage more perception about threaten of hypertension disease.

Keywords: *Threat perception, Pre-hypertension, Intervention*

PPM_98

Association of Social Support with Foot Care Behavior among Patients with Type 2 Diabetes in the Rural Area of Thailand

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Abstract

Diabetes patients are at risk for foot ulcers which can lead to foot amputation. Social support, especially family support, can be a vital component in the successful control of diabetes including foot care. This cross-sectional analytical study was aimed to investigate the association of social support with foot care behavior among patients with type 2 diabetis (T2D). A sample of 257 T2D patients was selected by systematic random sampling from the patients living in Khambo Sub-District, Waritchaphum District, Sakon Nakhon Province, a rural area of Thailand. A structural questionnaire was used to collect data, which consisted of demographic characteristics, getting foot care information, social support and self foot care behavior. The questionnaire measured the social support and foot care behavior using 3 scale; agree, uncertain and disagree for social support questions, and often, sometimes and never practice for foot care behavior questions. Social support and foot care behavior scores were categorized as low, moderate or high according to the criteria suggested by Best. The association of social support with foot care behavior was analyzed using multiple logistic regression. The results indicated that 80% of the subjects were females, and the average age of the subjects was 61 ± 10 years. Two third of them had completed elementary education, and their main occupation was agriculture. Majority of the subjects (86%) received food care information from health personnel. Sixty percent of the subjects receiving support from their family in good level. Their

perception of receiving the support from health personnel, friends, and village health volunteers in good level were 48%, 46%, and 40% respectively. The score of foot care behaviour of the subjects was at a high level in 66.9%. After adjusting age and gender, multiple logistic regression showed that the acquisition of information about foot care from health personnel (ORadj 3.51, 95% CI: 1.47 to 6.72) and receiving good support from their friends was associated with good foot care behavior (ORadj 2.91, 95% CI: 1.64 to 5.16). In conclusion, good support from friends and getting information from health personnel play an importance role in diabetes-foot care practices. Health care provider and friends of T2D patients have to strengthen their relationship with the patients to provide more social support and promote the compliance with diabetic foot-care.

Keywords: *Type 2 diabetes, Social support, Foot care behavior*

Diabetes literacy seen from the Diabetes Self-management and education program: A population-based cross-sectional study in Indonesia

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Abstract

Background: In 2014, cardiovascular diseases (CVD) together with Diabetes and its complications, the leading two of the NCD categories, accounted for the major cause of deaths in Indonesia. According to the World Economic Forum, the cost of NCDs gave a burden to Indonesia estimated three times Indonesia's GDP in 2014, and nearly 107 times Indonesia's total health spending in 2014. This study aimed to explore about the diabetes literacy of Indonesian seen from the adherence of the people with diabetes to follow the Diabetes Self-management and education (DSME) program.

Methods: A total sample of 10,065 respondents, taken from the fifth wave Indonesia Family Life Survey in 2014, aged 18-65 was analyzed. The adherence of the people with diabetes determined from the self-reported question about routinely for taking diabetes medication, regularly do the glucose test and have been given diabetes education by the health providers.

Results: Of the 10,065 adults, 414 people had diabetes. The prevalence of diabetes was significantly higher in women (55.80%) than in men (44.2%). The mean of BMI among diabetes participants was 25.19±3.98 kg/m2, categorized as overweight using Indonesian BMI criteria. The mean of regularly did blood glucose test, urine glucose test during last 12 months was 5.89±8.38 and 0.64±2.04 times, respectively. The percentage of routinely for taking diabetes medication was 54.59%, and 59.73% of it was women.

Conclusion: Women in this study were more likely to have higher adherence of the diabetes self-care. The using of DSME program can be more effective when empowering women in the family of people with diabetes to improve adherence to therapy, increasing awareness of healthy living and encouraging lifestyle changes, and developing policies to promote and enforce healthier lifestyles.

Keywords: *Adherence of DSME, Diabetes Literacy, Indonesia*

PPM_100

The Risk Factor of Stroke in West Sumatra

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Abstract

Stroke is the third leading causing of death (after heart disease and cancer) and the number one causing of disability worldwide. West Sumatra has a stroke prevalence of 10.6 per 1000 inhabitants. This research aims to determine the risk factors of stroke incidence West Sumatra.

This type of research was observational analytic case-control design. Case population was all patients hospitalized in the neurological ward first diagnosed stroke and recorded in the medical records of the National Hospital Stroke Bukittinggi, West Sumatra. Controls selected by matching age that all patients hospitalized in internal medicine wards who never had a stroke. The number of samples was 88 people, consisting of 44 cases and 44 controls. Data were analyzed using univariate and bivariate.

Risk factors of stroke incidence in hospitalized patients at the National Hospital Stroke Bukittinggi, West Sumatra is a gender ($p = 0.038$; OR = 2.8, 95% CI = 1.009 to 7.774), family history of stroke ($p = 0.0045$; OR = 4.25, 95% CI = 1.430 to 12.630), and diet ($p = 0.002$; OR = 4.00, 95% CI = 1.501 to 10.657), while coffee consumption habits ($p = 0.144$; OR = 1.87 , 95% CI = 0795-4422) did not prove to be significant as a risk factor for stroke in the National Hospital stroke Bukittinggi, West Sumatra.

So that, gender, family history of stroke, and diet are risk factors for the incidence of stroke in hospitalized patients at the National Hospital Stroke Bukittinggi, West Sumatra. Therefore prevention efforts are noticed in a family environment factors such as diet and an unhealthy lifestyle in addition to genetic factors involved in the family.

Keywords: *Case control, Risk factors for stroke, Matching*

PPM_101
The relationship of patients' attributions and self-care adherence among the adolescents with Type 1 diabetes in Sri Lanka

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Abstract

Background & Research Objectives: Type 1 Diabetes Mellitus (T1DM) is a chronic metabolic disorder which emerges mostly before the adolescence period. Self-care behaviour is the key to adapt the intensive management regimen. The scientific evaluation of this area within the Sri Lankan context vital to make effective management. The main objective was to determine the relationship between attributes of adolescents and self-care adherence.

Methodology: A cross sectional study was carried out with 125 adolescents with T1 DM. Self-care Inventory recorded the respondents' perceptions of adherence to prescribed diabetes self-care recommendations over the previous month. It included five subscales: overall self-care adherence, glucose regulation, insulin and food regulation, emergency precaution and exercise. Ethical approval was granted from the University of Peradeniya. Sri Lanka.

Findings: The mean age of participants was 13.6±2.8 years and 53.6% were female. The average HbA1c was 9.8 ±1.7%. The mean ages at diagnosis and duration of diabetes were 8.0±3.1 and 5.6±3.7 years respectively. The mean overall self-care adherence score was 39.6±6. It demonstrated significant relationships with age (r= -. 307; p=.000) and duration of diabetes (r= -. 376; p=. 000). Glucose regulation (r= -.355; p=.000), insulin and food regulation (r= -.211; p=.018) and emergency precaution (r= -.345; p=.000) displayed negative relationship with age of the adolescents. Each subscale highlighted negative, moderate level of relationship with the onset of diabetes.

Early, mid and late adolescent periods show different level of cognitive, psychosocial and behavioural developments. Sri Lankan education system highlights competitive educational goals within the adolescent period. Eg: advance level examination for selecting universities. The developmental changes, competitive educational goals, lack of parental involvement for self-care tasks may be the reasons for poor adherence to self-care, while advancing age and duration of diabetes.

Keywords: *Type 1 diabetes, Self-care adherence, Sri Lanka*

THEME N: NUTRITION & FOOD SAFETY

PPN_102
Nutrition Literacy of Gout Patients on Food Consumption in Watnongwaeng Medical Center, Khon Kaen Province

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Abstract

This research was a cross sectional descriptive study designed to study the nutrition literacy of 45 gout patients on food consumption in Wat Nong Waeng medical center, Khonkaen province. The researcher collected data by random sampling. Period of data collection was from May to June 2017. The questionnaires used in this research were subjected to content verification from 3 experts. The researcher tested the confidence of the questionnaire and found that the Cronbach's alpha coefficient on cognition measurement was 0.82 and the remaining component was 0.93 The statistics used for data analysis were number, percentage, mean, standard deviation, median, minimum, maximum, Pearson's correlation coefficient and Spearman's correlation coefficient.

The result of the study showed that most gout patients were male at 91.0%, with age between 50-59 years at 33.0% and average age at 58.3 years. The patients had the knowledge about gout, food intake and self-care in moderate level at 53.0%. The ability to access to the knowledge resources was low at 80.0%. The communication skill was in moderate level at 64.0%. The decision making ability was in a high level at 56.0%. Self-management skill was in a moderate level at 67.0%. Media literacy was in low level at 62.0%. Overview of food consumption on purine found that most gout patients always consumed chicken and duck eggs at 28.8%, followed by beef and pork at 20.0%. Food that gout patients consumed at moderate level were chicken and duck eggs at 62.2%, followed by chicken, duck and goose meat at 60.0%. Foods that gout patients did not consume were stink bean seed at 97.7%, followed by seaweed, sea-hae shrimp and shrimp paste at 88.8%. The nutritional literacy component was not significantly correlated at .05 with the dietary intake of purine of gout patients.

Therefore, the development of low and moderate health literacy patients should be improved. The community participation and media development on health literacy should be further developed. Moreover, the study of culture, religion and beliefs about the dietary habits of gout patients should be studied.

Keywords: *Nutrition Literacy, Gout Patients, Purine*

PPN_103
Realizing the Link between Nutrition and Food Safety: the Case of Food Poisoning

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Abstract

FAO (Food and Agriculture Organization) defininition of food security is food security exists when all people, have physical access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life WHO (World Health Organization) said that Food safety and Nutrition are inextricably linked, particularly in places where food supplies are insecure. When food becomes scarce, hygiene, safety and nutrition are often ignored as people shift to less nutritious diets and consume more 'unsafe foods' in which chemical, microbiological, zoonotic and other hazards pose a health risk. The number of food poisoning axceeds 500.000 cases a year from known pathogens, reveald the new research. Hygiene and sanitation of food and beverages in an effort to free food from harmful substances / prevent food containing life-threatening substances not consumed. HSFB (Hygiene sanitation food and beverages) have a principles of food sanitation, segregation of foodstuffs, storage of foodstuffs, food processing, food storage, food transport, and food presentation. HSFB also has several aspects, first is contamination the entry of unwanted substances into the diet. Contamination consists of four kinds are microbial contamination (bacteria, fungi), physical contamination (hair, dust, soil, etc.), chemical contamination (fertilizer, pesticide, mercury, cad, arsenic, cyanide, etc.), radioactive contamination (alpha rays, gamma, etc.). Second is poisoning, the emergence of clinical symptoms of a disease / other health disorders due to consume unhygienic foods. Occurrence of poisoning due to natural foodstuffs (mushrooms, toxic tubers), microbial infection (dysentery, cholera), toxin/microbial toxin (aflatoxin), chemicals (pesticides, mercury, lead), and allergies (seafood). The third aspect is poisoning accidentally for certain negative purposes (business competition, murder, suicide), and the last aspect is decay, the process of food decomposition (in part / whole) becomes an unwanted condition resulting from natural maturation, pollution, fermentation, etc. Occurs by physics, due to lack of water / wilting, impact, insects; enzym, damaged by overcooking; microbes, fungi, damage food composition, become stale, change the taste / color. Food safety impacts on nutrition are contaminated food could cause disease, immune suppression and stunting; when contaminated crop is withdrawn from the supply chain the quantum of food is directly impacted; food contamination affects rural incomes and access to food. Most people do not look for the cause of poisoning and Prevention and control. This literacy is for embed food safety in agriculture and nutrition policies and strategies and global attention to food safety for impact at all levels.

Keywords: *Poisoning, Nutrition, Food safety, Public health*

PPN_104

Causative Factors of Toddler under the Red Line in Mojo Primary Health Care, Surabaya City, Indonesia

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Abstract

The development of qualified human resources will be successful if the process of growth and development are optimal from early age. Optimal growth and development are closely related to the nutrients consumed by toddler. Toddlers need more nutrients. Unbalanced nutritional intake will interfere the growth and development of toddler's psychological, mental and intelligence. In Indonesia, the nutritional status of toddlers is one of the issues that require special attention. Toddler's nutritional status can be seen from the card (Kartu Menuju Sehat). Toddlers under the red line (BGM) indicate them at risk for malnutrition. Data in Mojo Primary Health Care area, Surabaya City in 2015 showed the rate of toddlers under the red line reached 2.7%, with 135 incidents from 4972 toddler. The aims of this research are analyzing factors of toddlers under the red line at Mojo PHC and finding out alternative solution of problems at Mojo PHC, Surabaya City. This research uses observational analytic method, get explanation about risk factors and causes of toddlers under the red line at Mojo Primary Health Care. Factor analysis was measured using questionnaires with 40 respondent toddler's parents. Alternative solution is obtained from metaplan results in 10 toddler's mothers. This research is in the Mojo PHC area, Surabaya. The result of this research, toddler with low nutrition is caused by bad parenting systems, consumtion of low nutrition and not variation foods and breastfeed. 53% mother in Mojo PHC Area answer consume of food that low nutrition and not variation, meanwhile 33% of them think bad parenting make toddler low nutrition. The rest of them think that breastfeeding is one of the factors. Alternative solution from the result of metaplan is healthy foods education for toddler's mother and training how to prepare toddler's healthy food for cadre and mother. Toddler under the red line is toddler with low nutrition that could be malnutrition. Main factor of toddler under the red line in PHC Mojo area, Surabaya is consume of not variate and low nutrition foods. Alternative solution from this problem is healthy foods education for toddler's mother and training how to prepare toddler's healthy food for cadre and mother.

Keywords: *Toddler, Low nutrition, PHC*

PPN_105

Risk factors of malnutrition incidence on toddlers in the working area of Pauh Health Center In 2016

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Abstract

Malnutrition is one of the main nutritional problems on infants in Indonesia which will lead to disruption of growth, mental development and disruption of the body's defense system, so it can make people with KEP fallow level. The purpose of this study was to see the risk factors of malnutrition incidence in children aged 12-24 months in the working of pauh Health center in 2016.

A case control study with matching was used in 44 cases and 44 controls on children aged 12-24 months in the working area of Pauh Health center in 2016. Simple random sampling was used in the study to collect samples using questionnaires from interviews with mothers of children. Data were analyzed by univariate, bivariate, and multivariate analysis with Mc Nemar test and logistic regression.

The result of bivariat analysis showed that the variables related to the incidence of malnutrition (p value <0,05) were infectious diseases, parenting pattern, and number of children. Variables that are not related to the incidence of malnutrition (p value> 0,05) are mother's education and mother's working status. Multivariate end modeling showed that the dominant variable on the malnutritional incidence were infectious diseases with p-value 0.002 (OR = 8.32). It can be concluded that children who have a history of infectious diseases have a risk to suffer malnutrition by 8.32 times.

A history of infectious diseases is a dominant factor in the incidence of malnutrition. For that, it is expected to the Health Center and parents, to keep monitoring the development of childrens, and especially for parents to pay attention to the pattern of parenting.

Keywords: *Malnutrition, Number of children, Mother education, Infectious diseases, Parenting, Mother's employment status*

THEME O: OCCUPATIONAL & ENVIRONMENTAL HEALTH

PPO_106

An Ecological Framework for Interventions in Water and Sanitation with respect to diarrheal diseases in the Indian context

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Abstract

The Ecological Model of Behavior Change was given by Urie Bronfenbrenner, in 1971, which stated that, in order to bring about changes in an individual's behavior, the influence of his immediate (microsystem) and non-immediate environments (meso-system, exo-system) need to be acknowledged. This paper has emphasized the need for using the Ecological Model for interventions in the water and sanitation (WS) in the Indian context.

WSH continue to remain one of the greatest public health concerns in India since British colonial times. A cross-sectional, multi-stage cluster random study was conducted in urban and peri-urban Pune, to collect information related to drinking water and sanitation characteristics, in economically deprived and non-deprived populations. The study areas, i.e. city center (CC), neo-urban (NU) and peri-urban (PU) represent Pune in different phases of urbanization. In the study areas, 2706 individuals were interviewed and information related to demographics, drinking water and sanitation characteristics was collected. They included absence of a private water tap, intermittent water supply, lack of water treatment at the household level and absence of a private sanitary facility.

Over-all crude reporting of water borne diseases was 3.39%. It was observed, that the risks were significantly higher in all the lower socio-economic groups [$p<0.01$]. However, disease morbidity was higher in the higher socio-economic groups of city center and neo-urban. Uni-variate odds ratio at 95% CI was less than 1, implying absence of association between disease and the risks in this study. This diverts one's focus from evident exogenous risk factors such as those considered in this study to others, related to behavioral attributes of the individual, that influence hygienic practices of the individual. This further, exacerbate the effect of poor WS. Behavioral attributes are further influenced by one's cultural and socio-economic affiliations which should not be overlooked.

To address this complex interplay of factors at different levels a holistic approach is needed. This approach will address the vast arrays of factors directly or indirectly responsible for the unsuccessful elimination of inadequate/poor drinking water and sanitation. The ecological model helps in identifying both proximal risks that are present in the immediate environment such as solid waste and distal or non-immediate factors that influence the presence or absence of the proximal risks such as actions of the city administration, cultural beliefs, media, presence of cheap technology and policy level actions.

Keywords: *Ecological model, Water and sanitation, Interventions*

PPO_107
The health literacy and a model of using pesticides among corn farmers in the Northern of Thailand

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Abstract
The research aimed to explain, investigate affecting factors on the health literacy and formulate health literacy model of using pesticides among corn farmers in the northern of Thailand. The method used was a cross-sectional study and area study was a sub-district where is the highest corn plant in the northern of Thailand. Data were collected through a questionnaire of which reliability and validity from 246 samples of the corn farmers, selected by proportional stratified random sampling. Data were analyzed by descriptive statistics and logistic regression.

The results showed that 80.5% of gender was male, mean age of sample was 53.3 years old and 78.9 % of samples studied in primary school. The levels of health literacy of using pesticides in samples were intermediate level, low level and high level (62.2 %, 23.2 % and 14.60 %). This research consisted of 9 independent variables which were age, number of occupation, number of past pesticides poisoning , attitude on using pesticides , social support of prevention on using pesticides , prevented practice on using pesticides, self-efficacy of prevention on using pesticides and outcome expectation of prevention on using pesticides.

The logistic regression revealed that 4 independent variables influence to the health literacy of using pesticides among corn farmers among corn farmers. The very strong variable was attitude on using pesticides (OR= 1.439, CI=1.261-1.641). The strong variable was prevented practice on using pesticides (OR= 1.029, CI=1.011-1.048) and the likely strong variables outcome expectation of prevention on using pesticides (OR= 0.584, CI=0.384-0.249) and number of occupation (OR= 0.580, CI=0.409-0.421). Those affecting factors were taken to construct health literacy of using pesticides and could predict model at 42.5 %. The health literacy model be equal to constant (6.858) + ATTITUDE (0.364) + PRACTICE (0.029) – OC (0.537)- OE (0.545).

The study recommends that should be established intervention in order to promote health literacy program and make policy to encourage health literacy of using pesticides among corn farmers.

Keywords: *Health literacy model, Pesticides, Corn farmers*

PPO_108
Occupational Exposure to Environmental Tobacco Smoke: A Cross Sectional Study among Manufacturing Employees in Malaysia

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Abstract

Background: Environmental tobacco smoke (ETS) is defined as being exposed to material in indoor air that originates from tobacco smoke. The process of breathing in ETS is known as passive smoking or involuntary smoking. Exposure to ETS is one of the occupational hazards faced by employees worldwide on regular basis. The International Agency for Research on Cancer (IARC) has declared ETS as priority carcinogen and its exposure within occupational settings can be prevented or controlled through various workplace measures and policies. The situation on exposure of Malaysian manufacturing employees to ETS however, is a lesser known issue.

Objectives: This paper aims to present on findings of study to estimate prevalence of exposure to ETS at workplace among manufacturing employees in Malaysia and its associated factors.

Methods: A cross sectional study was conducted among 1291 manufacturing employees who have participated in the Health Screening Programme under the Social and Security Organization (SOCSO). The respondents were invited for telephone interview and assessed using the Malaysian version of web-based application, OccIDEAS. This online tool was Malay-translated and expert validated. OccIDEAS is found to be a reliable tool for estimation of occupational carcinogen exposure, with its time and cost saving factors. Respondents were asked about their specific job tasks and exposure assessment to ETS was carried out using predefined algorithms within OccIDEAS. The findings were analysed for 501 eligible respondents, resulting in an overall response fraction of 51.3%.

Results: 151 respondents (30.1%) were found to be exposed to ETS at their workplace. The study noted significant differences in exposure prevalence between manufacturing industries located in urban and rural areas (p=0.01, OR 1.71, CI 1.11-2.64). The odds of an employee who have worked more than 20 years being exposed to ETS is 2.51 times higher compared to one who have worked for less than 20 years (p=0.00, CI 1.56-4.04). There is also significant assocation between health status of respondents and exposure to ETS (p=0.03, OR 1.54, CI 1.03-2.29).

Conclusion: This study is an important addition to the scientific literature and provides information on exposure to ETS among Malaysian manufacturing employees, which was not previously available. Exposure to ETS is found to be a substantial risk and relevant workplace related policies must be strictly implemented to prevent health impacts among employees. Further research is also required to estimate the lifetime risk of cancer that likely will result from exposure to ETS at workplace.

Keywords: *Environmental Tobacco Smoke, Occupational exposure, Risk assessment*

PPO_109
Factors Related Computer Vision Syndrome (CVS) Cases in Employee of Riau Kepri Bank, Pekanbaru

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Abstract

Computer Vision Syndrome (CVS) defines as complex eye symptoms related to computer use, as resulted by long-duration of using computer. This study aim to discover the factors determinant of CVS in employees of Riau Kepri Bank, which known of >3/4 employees are active long-duration computer user in daily working. The study was quantitative observational with cross sectional study design. The research variables include visibility distance from the computer, position of the top of computer to horizontal height of eye, local lighting of work station, working duration with computer, length of work, age and gender. Data collected through questionaires, in-depth interview and direct measures for lighting parameter. Data analyzed by univariate, bivariate and multivariate. The result of multivariates analysis shows the duration of working ≥ 4 hours is 9 times more risking causing CVS with p value <0,05. The cofounding factors are position of the top of computer to horizontal height of eye, visibility distance to computer, work station's local lighting and length of work. CVS symptoms that have been experienced by employees are as follows :54.3% eye fatigue and tension, 28.7% neck pain, 27.7% shoulder pain, 25.5% headache, 20.2% blurry vision, 17% seeing twin object 17%, 14.9% watery eyes and focus difficulty, 11.7% back pain, 5.3% eye irritation and sore irritation. As conclusion, the dominant factor affect the CVS is duration of working with computer. Other factors perform as confounding factors of CVS (position of the top of computer to horizontal height of eye, local lighting of work station, length of work and lighting). Suggest to the employees to doing 20-20-20 every hour which means take a rest every 20 minutes of working, stretching, manage lighting and ergonomic of work station according to the standar is require.

Keywords: *Computer vision syndrome, Duration of working, Bank employess*

PPO_110

Community Preparedness on Health Hazard of Natural Disaster

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Abstract

Background: Disaster is an occurrence disrupting the normal conditions of existence and causing a level of suffering that exceeds the capacity of adjustment of the affected community. Myanmar as a country in South-East Asia is vulnerable to disasters such as tsunami, earthquake, and cyclone have killed more than 1000,000 people each.

Objective: To assess the Community Preparedness on Health Hazards from Natural Disasters among 18 year and above population in urban and rural areas of 4 divisions in Myanmar

Method: A cross sectional descriptive study among 1720 respondents using face to face interview with semi-structured questionnaires. Multi-stage random sampling was used.

Result: During disaster, over three-quarter of respondents prepared by listening to radio for weather information and more than half prepared to evacuation. Emergency response was carried out only 33.5% and about 25% of these respondents were carried out safe area management, dissemination of early warning information, evacuation and sanitation program. Nearly half of respondents have disaster plan and three quarter of them able to be located the safest areas in their home, decided the path way and the closest possible public shelter. When going to a shelter, more than 75% of respondents answered to take identity card, cash and medicine. After disaster, half of respondents took out reconstruction of their home and rehabilitation and one-quarter of these respondent estimated damage and needs. Sixty-two percent of respondents would return home if the area is declared safe place and more than half would look residual dangers, wild animals and would make sure for safe food and water. Regarding preparedness of future disasters, 36.8% knew that how to prevent natural disaster and most of them thought that there should be emergency response team but only 20.5% was the member of the team. Only 11.4% of respondents attended the first aid training and 17.3% had history of standard shelter construction.

Conclusion: Prevalence of preparedness on disaster is below average but half of respondents have disaster plan drawing and preparation of reconstruction and rehabilitation after disaster. Attending first aid trainings and construction of standard shelter was found to be very low in all of these residences. Giving education about disasters, promoting disaster awareness, establishing of disaster preparedness plans, and reconstruction and rehabilitation actions are required to be improved in all of these areas.

Keywords: *Preparedness, Disaster, Myanmar*

PPO_111

Place, Sociality, Health:
Forms of relocation and recuperation in modern Japan

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Abstract

Place takes on a more essential role of recuperation after the 2011 Fukushima nuclear power plant accident. From the summer of 2011,in order to help children who were radiation-affected to dispel the cesium from their bodies and raise their immunity, Japan started a relocation and recuperation program which has sent the children to places that are out of the radioactive contamination zone for periods of time. Rewinding the clock to the summer of 1914, Baba elementary school in Kanazawa of Japan was starting a morning mountain climbing program in order to improve students' physical strength. After then, the school also started a school camp held in the woods. These programs had been offered not only for regular school children but also for the weakly or mental illness children. It was proved beyond doubt that all children, whether fit, or weak or mentally challenged, had made notable progresses in their physical strength.

Both programs held in 1914 and the prevent followed a key medical principle named Hoyo(保養). Hoyo originated from the traditional Chinese health concept Yangsheng (養生). After the word kenko (健康) was introduced to express the English word "health" in Japan, the term Hoyo became less used. But the Fukushima nuclear disasters has brought new attention to the principle of Hoyo. The incidents have also given them new implications.

In his work, Wilbert Gesler (2003) argued that a sense of place is multidimensional in character; it emphasizes wholeness, connectedness, and integration; it promotes healing from within the human body, and it is conductive to healing as an ongoing and meaningful process. I find the key ideas of place in the Japanese Hoyo play very similar roles, even though their cultural contexts are very different. Working from a non-Western perspective and also from health recovery from radiation affection, my study focuses on the interaction of Hoyo program between natural, built, symbolic and social which Gesler mentions as aspects of "healing environments". I will point out specifically, that in Hoyo's recuperation and relocation, mobility is a means, place will be the destination and will always be embedded in a real place that would recreate a wholeness in healing for this planet.

Keywords: *Healing, Place, Radiation-affected*

PPO_112

Heat Waves and Community Health: The Case of Greater Kuala Lumpur

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Abstract

Canopy-level Urban Heat Island (UHI) is a well-documented effect on cities' microclimate and has become an emerging challenge for Greater Kuala Lumpur (GKL) due to different thermal properties between urban and the surrounding rural settings. This study evaluated the temporal variations of UHI Intensity (UHII) in three selected urban stations with compact urban settings and man-made materials of high thermal properties such as Petaling Jaya, Subang and Parliament by considering Sepang as the reference sub-urban station. This study is carried out by analyzing hourly air temperature data under stable atmospheric conditions from Meteorological Department of Malaysia for the year 2016. The results indicated that Petaling Jaya mostly recorded high mean UHIIs with a maximum value of 1.7 °C at about 8 pm after sunset. The peak nocturnal UHII is observed at late evening few hours before or after the sunset. By considering the seasonal variations, high intensities usually observed in Pre-South West and South West Monsoon seasons from March to August with a gradual decline with minimum values measured during the North East monsoon seasons. Petaling Jaya recorded highest intensity of 1.68 °C during South West monsoon season whereas more cool islands are observed in Parliament with the highest intensity during North East Monsoon season (December: -0.61 °C). Hourly variations revealed that the growth of UHI occurs as higher warming rates observed at urban stations from 3 pm until sunset, roughly 1 hour later than that observed value at the rural station. The findings of this study alerts that elevated temperatures in an urban agglomeration like GKL can affect the community's environment and quality of life of sensitive population. Exacerbated daytime temperatures coupled with higher air pollution levels in urban stations deteriorate human health by inducing thermal discomfort, respiratory illnesses, heat cramps, exhaustion, heat stroke, and heat-related mortality. Therefore, upcoming studies need to focus more on developing guidelines, recommendations, suggestions and frameworks to highlight the health issues of UHI to educate the society to self-sustain the associated health impacts.

Keywords: *Urban Heat Island, Greater Kuala Lumpur, Sustainable Cities, Community Health*

PPO_113

Association between Night Shift Work, Sleep Impairment and Metabolic Syndrome among Malaysian Industrialised Workers

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Abstract

Background: Occupational factors particularly night work is attracting growing interest as a possible determinant of metabolic syndrome. The study aimed to identify the association between night work and metabolic syndrome. The study also aimed to assess whether sleep quality mediate the association between night work and metabolic syndrome. **Methods**: An analytical cross-sectional comparative study was conducted among Malaysian industrialised workers in Klang Valley. Sleep quality was assessed with Pittsburgh Sleep Quality Index (PSQI) questionnaires. Metabolic syndrome was defined according to the modified National Cholesterol Education Program-Adult Treatment Panel III 2005 (NCEP- ATP III) criteria. Multivariate models were used to study the independent association between night work and metabolic syndrome. Baron and Kenny's four steps approach together with Bootstrapping method was used to determine whether sleep quality and PSQI components were the mediators in the association between night work and metabolic syndrome. **Results**: A total of 494 workers participated in the health screening and questionnaire survey. There were 177 participants (35.8%) who worked night shift and 317 participants (64.2%) without night shift. Night shift work was associated with PSQI global score, subjective sleep quality, sleep latency, sleep duration, sleep disturbances and daytime dysfunction. However, none of the PSQI sleep components were found to be significantly associated with metabolic syndrome. The adjusted Odds Ratio (OR) for the association between night work and metabolic syndrome was 1.89 (95%CI =1.22-2.93).There was no evidence sleep quality and its components mediate the association between night shift work and metabolic syndrome. **Conclusion**: There was statistically significant positive association between night work and metabolic syndrome. Poor sleep quality was found to be more rampant among night workers, but sleep quality and PSQI components did not mediate the association between night work and metabolic syndrome.

Keywords: *Cardiovascular diseases, Circadian disruption, Melatonin, Shift work, Sleep disturbances*

THEME P: PATIENTS' SATISFACTION, QUALITY OF LIFE AND HEALTH LITERATE SERVICES

PPP_114

The evaluation of patient safety culture in public hospitals in Malaysia: A multicentre assessment using Hospital Survey on Patient Safety Culture-Malay version (HSOPSC-M)

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Abstract

Introduction: Patient safety has become a major concern in achieving a high quality medical care. It is expected that every level of healthcare providers to adopt a safety attitude in the delivery of care. This study aimed to evaluate safety culture among healthcare staff in public hospitals in Malaysia using Hospital Survey on Patient Safety Culture (Malay version)

Methodology: This study used the Malay version of HSOPSC applied to healthcare staff having direct contact with patients in 4 types of public hospitals available in Malaysia (physicians, pharmacists, registered nurses, assistant medical officers and rehabilitation therapists). The questionnaires were distributed to a total of 700 participants. Data were managed using Microsoft Excel and SPSS version 21.

Results: This study retrieved 89% response rate from the participants. Among dimensions assessed in the questionnaire, Organizational Learning scored the highest with a score of >80%. More than 50% rated their organization as acceptable in practicing safety culture. In the practice of event reporting, about 56% of staff admitted that they never reported any adverse events for the past 1 year.

Analysis of variance showed statistically significant differences in mean patient safety score in hospital types, profession and age group ($p < 0.05$). Multiple regression discovered an association between patient safety score with demographic factors $R^2 = 0.08$, Adj $R^2 = 0.07$, F $(7,607) = 7.234$ $p < 0.05$ with statistically significant association with hospital types, profession, education level and gender.

There were significant differences in mean patient safety score among age, profession, hospital types and experience of staff. In multiple logistic regression, Medical officers are 4.23 times more likely to practice safety culture in public hospitals (OR 4.23, 95%CI 1.14 to 15.74, $p < 0.05$) and reported medical events 2.21 times more than other groups (OR 2.21, 95%CI 1.17, 4.14, $p < 0.05$).

Discussion/conclusion: All dimensions except Organizational learning showed low scores suggesting rooms for improvements in all other dimensions. The practice of safety culture is affected by hospital types, profession, education level and gender. Medical officers showed a higher ratio of practicing patient safety culture compared to other groups. In order to cultivate safety culture in public hospitals, interventional approaches should target to specific groups and dimensions.

Keywords: *Safety culture, Public hospitals, Malaysia*

THEME Q: SOCIAL DETERMINANTS OF HEALTH & HEALTH LITERACY

PPQ_115

Association between Female Literacy and Neonatal and Infant Mortality in Sri Lanka

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Introduction: Maternal literacy and literacy among females are linked with many health indices particularly those applicable to neonates and infants. However data are inconsistent, hence, no firm conclusions can be made. This analysis examined the relationship between female literacy and neonatal and infant mortality in Sri Lanka.

Methods: Information related to female literacy, neonatal and infant deaths was search in Annual Health Bulletins, National Censes, and country specific databases maintained by international organizations such as WHO and UNICEF. The most recent information described district-wise was collected and tabulated. Associations between literacy and mortality rates were examined by both Pearson and Spearman correlations.

Results: The Annual Health Bulletin published in 2014, extracting information from the Registrar General's department in Sri Lanka, described district-wise neonatal and infant mortality rates in 2010. Mortality rates were not available for two districts in the Eastern Province. District-wise literacy rates of female above 10ys in 2012 were collected from the National Censes department of Sri Lanka. Female literacy rate ranged from 87 to 98% with mean (SD) 94(3)% and median (IQR) 94(92-96)%. Infant mortality (per 1000) ranged from 3 to 26 with mean (SD) 9.5(5.9) and median (IQR) 8.2(5.4-13). Neonatal mortality (per 1000) ranged from 1 to 16 with mean (SD) 6.2(3.9) and median (IQR) 5.5(2.9-8). No significant associations were seen between female literacy and infant and neonatal death rates with Pearson or Spearman correlation analyses. Correlation of 0.84 (p<001) was observed between neonatal and infant death rates.

Conclusions: This analysis showed no association between female literacy and neonatal or infant mortality rates in Sri Lanka. It is likely that factors other than female literacy are the determinant of death in early period of life.

Keywords: *Female literacy, Infant mortality, Neonatal mortality*

PPQ_116

Risk factors of low health literacy for adults in Taiwan

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Abstract

In order to understand adult health literacy of the general public in Taiwan, and to decode essential related factors, 1401 subjects with more than 30 years old had been accessed for health literacy level via European Health Literacy Survey Questionnaire (HLS-EU-Q47) throughout Taiwan (Ref. Asia Pac J Public Health. 2015 27:871-80). 1268 valid complete responses were included in further analysis, with 632 (49.8%) male subjects, 48 years old in average and general health literacy mean score 34.34 over 50.

Through multiple regression analysis, several factors were shown to be significantly related to their general health literacy, including self-perceived social status, ability to pay for medication, smoking status, watching health related television programs, community involvements, using on-line registration for medical appointments, and self-perceived health status (SPH). In them, the SPH was the strongest predictor. On the other hands, age, gender and the highest education level were not associated significantly.

Those in the lowest quadrat of health literacy (25%), as compared with the other subjects, were shown with lower social status, lower SPH, more difficulty in paying for medication, watching less health related television programs, less involved in community activities, smoking, and less using online registration for clinical appointments.

These served as important characteristics for those with inadequate health literacy and deserve effective intervention to facilitate health services for them. (Supported by the HPA, Taiwan, MJHG research grants, and MOST research grant).

Keywords: *Health literacy, adult, Taiwan*

PPQ_117

What People Living with HIV/AIDs Expected From Their Pharmacist?

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Abstract

This qualitative study aims to explore perspection and expectation of people living with HIV/AIDs (PLWHIV) toward pharmacist and pharmaceutical care service. Key-informants were PLWHIV who were members of Thailand Network of People Living with HIV/AIDs (TNP+) receiving healthcare services from health setting around Chiang Mai province. They were selected by purposive sampling and snowball technique. Data were collected and collated by observation and in-depth interview during April 2014-2016.

Nine Key-informants for the in-depth interview were 7 women and 2 men, age 42-55, 7 have a primary education and only 2 have high school education level. Six of them use universal healthcare coverage while 3 hold social security scheme. They have been living with HIV/AIDs for 10-22 years.

PLWHIV face with many problems such as health and healthcare utilization problems, family issue and financial problems. Consultation regarding these problems were mainly with their nurse, family, and TNP+'s member. According to their antiviral regimens, they also suffer some drug adverse reactions such as anemia, lipodystrophy, abnormalities of kidney and liver's function. They also consult drug-related problems with their nurse.

All of key-informants acknowledge their pharmacist but they cannot remember their pharmacist's name. Most of them have positive perspective toward their pharmacist such as "speak politely", "smiling", and "nice" . Dispensing is the most recognized role of pharmacist. According to their experiences, some also extended pharmacist role into drug counseling, drug allergy investigation and management, and acute care services.

Key-informants expected these following roles from their pharmacist; 1) Delivery services with attention, goodwill and friendliness. Safety and well-being of patients is priority concerns. 2) Work enthusiastically and fast 3) Dispense drug clearly and cover with all necessary information. 4) Outreach to outside pharmacy department and especially in a community to strengthen patients' drug safety.

Keywords: *People Living with HIV/AIDs, pharmacist, satisfaction*

PPQ_118
Health Literacy Index and Identification of Health Literacy Determinants in Yogyakarta City, Indonesia

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Abstract
Background: Health literacy is an essential process of communication between pharmacists and patients. Patients with limited health literacy would be difficult to understand available health information and medications, making it difficult to make decisions in their treatment.

Objective: This study aimed to measure health literacy index in communities in Yogyakarta City and to see its association with some underlying factors.

Methods: This research was a cross-sectional study using a questionnaire adapted from Health Literacy Survey-Europe-Asia-Questionnaire (HLS-EU-Asia-Q), which was distributed to 400 respondents in pharmacies, hospital, and health center in Kota Yogyakarta. Health literacy indexes were calculated as guided by HLS-EU instrument, and the association between variables were identified with Chi Square.

Results: With most respondents were female, had middle-low education and income, as many as 67.3% of respondents have limited health literacy index. There was association between health literacy index and drug information receipt by respondents.

Conclusion: Knowledge about health need to be increased, and pharmacists can actively involve in improving health literacy in the community.

Keywords: *Health literacy, Determinants, Yogyakarta, HLS- EU-Asia-Q*

PPQ_119

The Role of Maternity Waiting Homes in Reducing Maternal Morality
Study in 5 Provinces In Indonesia

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Abstract

Martenity Waiting Homes (MWH) is one effort by the government to reduce maternal mortality due to delays in treatment during pregnancy, delivery, and postpartum period; especially for areas with difficult access. This study aimed to determine the effectiveness of the utilization of Martenity Waiting Homes, using Rapid Assessment Procedure (RAP) approach in 5 provinces in Indonesia (Banten, East Nusa Tenggara, Jambi, Maluku and Gorontalo) for approximately 4 months. Methods of data collection used were in-depth interviews, focus group discussion (FGD) and observation. The results showed that the majority of MWH is already functioning in accordance with the purpose of formation. However, some MWHs were not functioning as expected due to lack of socialization; not many people know the existence and function of MWH. The MWH management in 5 regions was conducted without a clear pattern. Some of the obstacles encountered; expensive means of transport, large catchment area of Health Centers, lack of health personnel, inadequate infrastructure, poor recording and reporting system, lack of funding, and cultural barriers. Suggestions: The Minister of Health Republic Indonesia should define clear and solid concept of MWH; ranging from policy, technical implementation, to funding. The Local Government and the District/Municipality Health Office should considered that MWHs should be established in the area within reachable access to health facility and health personnel in order to maximize the function of MWH in accordance with the expected goals.

Keywords: *Martenity Waiting Homes, Effectiveness*

THEME R: WOMEN & ADOLESCENT HEALTH

PPR_120

Determinants Sexual Behavior in Adolescent Risk in Padang City 2016

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Abstract

Objective: Sexual behavior before married impact high rate of teenage pregnancy 10% (2010), abortion 41,6%-62,5% (2010) and the spread of sexually transmitted diseases 45% (2012). This study objective to determine the determinant of sexual risk behaviors in Padang 2016.

Methods: This study was an observational study with cross sectional design. This research was doing from August to November 2016. The study population was adolescent junior high school, senior high school, vocational schools and universities in Padang

Total sample in this study is 125 peoples. Data was collected through kueisioner. The data was processed with SPSS and analyzed by Chi-Square and logistic regretion test statistic with 95% (α=0.05) confidence interval.

Results: The results showed that 14,2% of respondents do high-risk sexual behavior, 86,2% had a bad parent communication, 34,2% less parental supervision, 44,9% higher age, 50,7% of the male gender, 36,4% less religiosity, 37.3% frequently exposed to pornographic media, 7,1% and 31,1% negative attitude peers. The test results demonstrate the significant value statistic gender (p = 0,003), religiosity (p = 0,001), media (p = 0,010), attitude (p = 0,000), and peers (p = 0,000) of the high-risk adolescent sexual behavior. Results of multivariate analysis after controlling for other variables, the variables that attitude is the most influential variable (p = 0,00) and PR = 11.28

Conclusions: Age, gender, religiosity, media, attitudes and peers can influence sexual behavior adolescent in Padang. For the Office of Information and Communications encompass more sites that contain pornography. Schools are expected to enable PIK KRR and the Forum of Islamic Studies, more parents teach reproductive health and religious education on earlier.

Keywords: *Sexual Behavior, Attitudes, Peers Group, Mass Media, Adolescent*

PPR_121

Self-Determination on Pain Management Literacy for Primary Dysmenorrhea and Life Satisfaction

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Abstract

Primary dysmenorrhea is a health problem that affects the quality of life of the global female population, so there is an urgent demand for a safe and simple, self-operated, alternative therapy to alleviate this condition. The purpose of this study was to investigate the effects of collateral meridian therapy (CMT) on female primary dysmenorrhea based on the self-determination theory (autonomy and relatedness).

An experimental research design and randomized control trial was used. There were 81 participants involved from the northern metropolitan Taipei area in Taiwan, and they were then classified into an experimental (n = 40) and control group (n = 41). The experimental group used the CMT as the intervention method. After the first time intervention was carried out, we then later proceeded to compare pre- and post-intervention after 3 months.

The assessments included: descriptive statistics capabilities, Visual Analogue Scale (VAS), Self-determination Scale (STD) and Life Satisfaction Scale (LSS). The Generalized Estimated Equation (GEE) was used to adjust the differences between the two group's average score in the level of dysmenorrhea, life satisfaction and self-determination.

After adjustment by the GEE, the result showed a statistically significant decrease in the level of dysmenorrhea after having used the CMT method (β=-3.27, SE=0.43, $p < 0.001$) and enhanced the women's life satisfaction remarkably (β=1.01, SE=0.34, p=0.003). With an increase in women's autonomy competence, the score of dysmenorrhea decreased (β=-0.22, SE=0.35, p=0.529) and their life satisfaction increased dramatically (β=0.58, SE=0.17, p=0.001). With the intensified women's relatedness, then the score of dysmenorrhea decreased (β=-0.30, SE=0.31, p=0.325) and their life satisfaction increased (β=0.24, SE=0.13, p=0.060).

This study confirms that women can improve their self-determination capabilities and overcome the difficulties of learning the CMT in order to manage their own dysmenorrhea and to be more satisfied with their quality of life. We expect that women will use the CMT method in a more appropriate and beneficial way to manage their primary dysmenorrhea and this will decrease the use of analgesics, clinical visits and total medical costs in the future.

Keywords: *Self-determination, Pain Management Literacy, Life Satisfaction*

PPR_122
Screen Viewing Time and Physical Activity of Adolescent Students living in Municipality Area of Thailand

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Abstract

Nowadays children and adolescents are increasing exposed to screen viewing time (SVT) opportunities. Excessive SW time been linked to negative outcomes such as obesity, poor cognitive performance, antisocial behavior and reduced sleep time. This cross-sectional study was aimed to describe screen viewing time and physical activity of adolescent students in a secondary school located in municipality area of Khon Kaen Province, Thailand. Total 304 of student subjects (grade 7 – 9, aged 12-15) was selected by cluster random sampling. Demographic data and SVT were collected by a structural questionnaire. STV refered to the amount of time spent on watching television (TV), playing computer games and using multiscreen for social networking. Physical activity questionnaire for adolescents (PAQ-A) was used to assess general levels of physical activity of the subjects. SVT of male and female was compared by two independent t-test. Pearson correlation was analyzed the association of SVT and physical activity score. Multiple logistic regression was analyzed the association of SVT and socioeconomic variable. Results indicated that sixty-one percent of the subjects were female with average (SD) age 13.0 ± 0.87 years. Average pocket money received 101 ± 48 Baht/day. Most of their parents have educational level in Bachelor degree. The subjects spent average total SVT 5.9 ± 2.8 hr/day from this amount of time consisted of time spent in using social media (line, facebook, instagram, twitter etc.) by 2.3 ±1.2 hr/day, watching TV by 1.5 ±1.2 hr/day, and playing computer games by 2.1 ± 2.0 hr/day. Majority (78%) of them had low level of physical activity. For gender stratum, male spent significantly more time in playing game than female (p-value 0.001). Multiple logistic regress showed that male were risk of spending excessive SVT (>5 hr/day) than female (ORadj 1.66, 95%CI 1.01 to 2.73). SVT was negatively associated with physical activity score (r -0.123, p-value 0.03). In conclusion, the finding indicate that adolescents aged 12-15 spent excessive SVT and had low physical activity. Effective intervention program are needed to encourage adolescents to have more time in exercise and reduce time for screen especially in boys.

Keywords: *Screen viewing time, Adolescent, Physical activity*

PPR_123

Tetanus vaccine literacy among middle schools student in Non-Thai District Nakhorn Ratchasima, Thailand

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Abstract

Like most primary care center Non-Thai district primary care center had reported 100% coverage of childhood vaccines in the year 2005. However, there are 26 incidents of tetanus vaccine given to the 12-22 years old patients with the wounds from the year 2008 to the present. This unnecessary vaccination of tetanus vaccines is a waste of resources. And it could represent the lack of health literacy in the area of vaccination among this age group. The purpose of this study was to examine the knowledge and understanding about childhood vaccination among junior high school students in Non-Thai District Nakhon Ratchasima, Thailand

Methods: Self-administrated questionnaires asking about awareness of their 6th-grade vaccination were given to 228 students in the catchment area of the primary care center.

Results: The response rate was 88.2. A bit more than half of the respondent was living with their parents (57.7%). While the other 36.3% live with their grandparents. And 5.5% live with other relatives. Only 53.2% of the respondents reported that they knew their vaccination history, and 46.8% did not know they were vaccinated during their childhood. Among the respondents who reported that they had received vaccines in childhood, 38.3% knew from their parents that 32.7% knew of their history and 29% said they knew about vaccines. But when asked when did they receive tetanus vaccine 59.3% gave the incorrect answer.

Conclusions: The results showed that only a little more than half of junior high school students knew that they had received their childhood vaccines. But almost 60% gave the wrong answer about the specific detail about tetanus vaccine. The public health personnel in this area should increase the vaccination literacy by adding content about knowledge about tetanus vaccination during the time they administrat the vaccine to the 6th graders.

Keywords: *Adolescent, Vaccination, Health literacy*

PPR_124

Predictors of mental health of new inhabitant youths in Taiwan

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Abstract

It is estimated that in Taiwan by 2030, about 13.5% of adults at the age of 25 had been born in the new inhabitant families. The new inhabitant families are characterized by lower socioeconomic status and different cultural origins of the immigrant mothers. These family characteristics, in addition to racial/ethnic discrimination, might put the new inhabitant youths in greater jeopardy of mental illness, than their counterparts in Taiwan. To date, very few studies on mental health have focused on the new inhabitant youths in Taiwan. This study addresses this gap by examining macro-, interpersonal and individual predictors of mental illness in the subpopulation of new inhabitant youths.

The analytic sample was drawn from a survey, conducted between Nov. 2014 to Jan. 2015 to collect the information of mental health and family and school experiences of junior high school students in mid-Taiwan. The survey had stratified jurisdiction areas by level of urbanization. In each level of urbanization, one or two junior high schools were sampled. The respondents in the survey included 721 students, 259 of them being new inhabitant youths, who constituted the analytic sample of this study.

The dependent variable of this study was level of depression. Macro predictors included level of urbanization of the school and family socioeconomic status. Interpersonal factors included social support and mother's parenting style. Individual factors include racial/ethnic identity and gender. The results showed that individual factors were not predictive to depression. Interpersonal factors, such as social support and mothers' caring parenting might have a positive effect on mental health. Among macro factors, family socioeconomic status was related to mental health. Overall, interpersonal relationships and socioeconomic status had the most important impact on mental health. The study findings were discussed in terms of their implication to mental health programs and future study direction.

Keywords: *Mental health, New inhabitant, Adolescent*

PPR_125

A qualitative study on healthcare providers' perspectives on factors influencing family planning services among Type 2 Diabetes Mellitus in reproductive aged women.

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Abstract

Family planning is an effective intervention to reduce morbidity and mortality among Type 2 Diabetes Mellitus in reproductive aged women. However, underutilization and low acceptance of family planning remain a concern and can be influenced by many factors. The objective of this study is to assess factors influencing family planning services delivery among diabetic women in government health clinics from the health care providers' perspectives in Gombak district, Selangor.

This study was carried out in 8 health clinics in Gombak district, Selangor. A total of 18 in-depth interviews that includes doctors and nurses were conducted using semi structured questionnaires. The study was analyzed using a deductive approach to assign the emergent themes to broader categories reflective of the study's conceptual framework.

Healthcare providers felt that there were several factors which influenced family planning services among its clients. There were 5 themes emerged from the study. The themes are insufficient resources, attitude changes at workplace, lack of knowledge, inadequate training and gender preferences.

Findings from this study suggest that there is a need to improve on the current family planning services for high risk reproductive aged population such as women with Type 2 Diabetes Mellitus. Strategies to improve family planning training and ensuring adequate resources are important. This will ensure sufficient family planning services delivery with more effective contraceptive usage for better maternal health among diabetic women. Future studies are needed to identify the most important factors associated with family planning services in a wider range of medical problems.

Keywords: *Family planning, Health care providers, Type 2 Diabetes Mellitus*

PPR_126

Reasons of Parity 3 or More at Haiphong Hospital of Obstetrics and Gynecology in 2016

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Abstract

Background: The population of Vietnam is ranked 13th in the world, is now up to 89.5 million people and will continue to increase rapidly. The family planning program (each family has one or two children) is considered as one of the important tasks of national development. However, the third child ratio and the gender imbalance above continuing upward trend in the last 5 years.

Objectives: Find out the prevalence of parity ≥ 3 and their reasons at Haiphong Hospital of Obstetrics and Gynecology in 2016.

Materials and methods: a cross- sectional in 485 women had delivered three or more infants at Haiphong Hospital of Obstetrics and Gynecology from June to August, 2016.

Results: The prevalence of parity ≥ 3 is 11.9%, no relation to geography, education and career. The main reasons are unplanned pregnancy (40.0%) and desire to have a baby boy (29.9%). The sex ratio at birth is 162. The proportion of cesarean delivery is 53.4%, in which is due to an old C-section.

Conclusion: The main reasons of parity ≥ 3 are unplanned pregnancy and desire to have a baby boy.

Keywords: *Parity 3 or more, Reason, Haiphong Hospital of Obstetrics and Gynecology*

PPR_127

Knowledge and Awareness on Caesarean surgery and post-operative care among ante-natal mothers in Ratnapura District

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Abstract

The numbers of caesarean deliveries are increased recently in Sri Lanka. The current situation is such that, there is least number of studies directly addressed on maternal knowledge and awareness regarding caesarean surgery and post-operative care. Insufficient knowledge and awareness related to caesarean surgery and post- operative care will lead to increase the number of unwanted maternal complications and hospital re-admissions.

This study was conducted in the ante-natal clinics in primary health care setting to assess maternal knowledge and awareness on caesarean surgery and post-operative care. A cross sectional community based survey was carried out with hundred pregnant mothers by using pre-designed, self-administered questionnaire. Maternal knowledge was compared with the maternal educational level, number of caesarean deliveries they faced and the regular base clinic visits. At the end of the survey, a health education session was conducted through a lecture and delivered leaflets which enclose more information regarding the subject.

The survey results found that 41% mothers had average knowledge and 24% mothers had good knowledge regarding caesarean surgery and post-operative care. There was no any significant association between the maternal knowledge and the educational level (P=0.158). Furthermore, there was a significant association found between knowledge and the number of caesarean deliveries they faced (P=0.023). Mothers who participated to the ante-natal clinic regularly had adequate knowledge and positive correlation was found between study variables (P=0.032).

The knowledge and awareness of ante-natal mothers in Ratnapura District were found to be inadequate. Certain specific areas were identified which need further improvement. It is vital to utilize the findings of this study to synthesize future education program in Ratnapura District for strengthen maternal knowledge and awareness on caesarean surgery.

Keywords: *Knowledge, Caesarean surgery, Ante-natal mothers*

PPR_128

The effects of individually tailored Breast Care Nurse led video Orientation programme on Information and Navigation for newly diagnosed breast cancer patients at University Malaya Medical Center (UMMC), Malaysia

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Abstract

Background: Advancement in medical treatment with wider treatment options have made breast cancer care more complex. Short consultation time of the experts, treatment complexity, patient's fear and poor coping skills at the time of diagnosis may affect patient's decision and can cause treatment delays and non-adherence. A study on needs on needs of breast cancer (BC) patients in UMMC shows that patients have unmet supportive care needs in information during their whole journey. 7% of our patients default surgical treatments in UMMC and 35% default or do not complete chemotherapy and other oncology treatments. One of the main reason for advance BC presentation in Malaysia is treatment decision delay and breast health literacy on disease and treatment outcomes are one of the main factors contributing to non-adherence to treatments.To address this knowledge gap UMMC Breast Care Nurse (BCN) provide navigation and orientation to new patients by navigating them on hospital admission and multimodal treatment processes using a video. Objective of our study is to assess the effectiveness of BNC led video orientation on the improvement of patient knowledge and satisfaction.

Method: An audio-visual educational tool to address multimodal treatments and its' side effects and in addition navigating admission, discharge and follow-up was developed in layman language in Malay, Mandarin and English language. It also includes advice on diet and exercise to maintain a healthy life style during survivorship period. A pilot study was carried out in 50 patients to assess the effectiveness of the video, and found that patients needed a face to face interaction to watch the video. Hence, a breast care nurse led orientation was developed to use the video. In order to reduce cost of producing CDs and improve access, a youtube channel was created for public and patient viewing. A self-administered pre- and post-survey on newly diagnosed breast cancer patients in UMMC was performed to assess pre- and post- patients' knowledge after video orientation.

Results: There were 145 newly diagnosed breast cancer patients in UMMC, of which 64.1% (n=93) received the intervention. The orientation was found to be effective in improving knowledge on navigating treatments in UMMC. Breast treatment and navigation literacy on disease and treatment outcomes were seen from no and little knowledge in about 70-80% of patients, improved to 80% good and greater degree of knowledge after the intervention.

Conclusion: This orientation programme has improved patient treatment and navigation literacy. This approach can be used to educate cancer patients in a middle resource setting.

Keywords*: Breast cancer, Navigation, video orientation*

ACKNOWLEDGEMENTS

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