



18th IUSTI Asia-Pacific Conference
11th-14th November 2014

Program and Abstracts

18th International Union against Sexually Transmitted Infections (IUSTI), Asia Pacific Congress

Hosted by

- Consortium of Thai Training Institutes for STDs and AIDS (COTTISA)
- Bureau of AIDS / TB and STIs, Department of Disease Control, Ministry of Public Health, Thailand
- University of Phayao, Phayao Province, Thailand

Under the Auspices of

- International Union against Sexually Transmitted Infections (IUSTI)
- International Union against Sexually Transmitted Infections (IUSTI), Asia Pacific Branch Committee



18th IUSTI Asia-Pacific Conference
11th-14th November 2014

Contents

Welcome to Bangkok, 18 th IUSTI, Asia Pacific Congress	1
International Union against Sexually Transmitted Infections (IUSTI), World Executive Committee	2
International Union against Sexually Transmitted Infections (IUSTI), Asia Pacific Branch Committee	3
International Scientific Committee	4
Local Organizing Committee	5
General Information	6
Map: Ambassador Hotel, Convention Hall	8
Map: Ambassador Hotel, Convention Hall Foyer	9
Map: Ambassador Hotel, Garden 1, 2, 3 and Peony 6 & 7	10
Events Summary	11
Daily Events	12
Scientific Program	13
Legend to Abstracts	29
Workshop	30
Plenary Lectures	32
Symposium Session	36
Free Oral Session	75
Poster Presentation	147

Welcome to Bangkok,

18th IUSTI, Asia Pacific Conference



18th IUSTI Asia-Pacific Conference
11th-14th November 2014

Dear Colleagues,

On behalf of the organizing committee, it gives us great pleasure to welcome you to the “18th International Union against Sexually Transmitted Infections (IUSTI), Asia Pacific Congress” jointly hosted by Consortium of Thai Training Institutes for STDs and AIDS (COTTISA), Bureau of AIDS / TB and STIs, Department of Disease Control, Ministry of Public Health, and University of Phayao. The conference will be held during 11 to 14 November 2014, Ambassador Hotel, Bangkok, Thailand. The focus of our conference theme will be " STI, HIV and Sexual Health Global Collaboration for Effective Prevention ".

Bangkok's multi-ethnic society has created one of the world's great dining capitals, Thai food as well as a superb range of Asian and Western cuisine. Prices are very affordable, accommodating for economical as well as extravagant dining tastes. Bangkok guarantees convenience and availability of accommodation that will suit the immense requirements for such as event. Bangkok as the Land of Smile offers delegates a kaleidoscope of experiences that capture the uniqueness and diversity of Thai culture and history. A juxtaposition of East and West, Bangkok is where ancient local culture is inextricably woven with modernity. Congress attendees will have unique access to some of the most splendid collections available, including Thai antiques, and works of art. Also reflecting Thai ancient heritage is its temples, most of which are open to visitors.

On behalf of the Organizing Committee for IUSTI, Asia Pacific Congress 2014, we assure you of our commitment and capabilities towards hosting a Congress that will be both a professionally and personally rewarding experience for all delegates.

Chavalit Mangkalaviraj, M.D.
President, COTTISA

Sumet Ongwandee, M.D.
Director, Bureau of AIDS, TB, STI,
Department of Disease Control, MOPH

Mondhon Sanguansermisri, PhD., Prof.
President, University of Phayao

International Union against Sexually Transmitted Infections (IUSTI), Executive Committee

Prof. Dr. David A Lewis (Australia)	President
Prof. Charlotte A Gaydos (USA)	President-Elect
Dr. Immy Ahmed-Jushuf (UK)	Treasurer
Dr. Janet Wilson (UK)	Secretary-General
Prof. Dr. Christopher Fairley (Australia)	Assistant Secretary General
Dr. Raj Patel (UK)	Immediate Past President
Prof. Dr. Jonathan Ross (UK)	Editor, STI Global Update
Prof. Dr. Christopher Fairley (Australia)	Member Secretariat
Prof. Dr. Sax Yaw Adu-Sarkodie (Ghana)	Regional Director Africa
Dr. Somesh Gupta (India)	Regional Director Asia-Pacific
Dr. Airi Poder (Estonia)	Regional Director Europe
Dr. Patricia J Garcia (Peru)	Regional Director Latin America
Prof. Charlotte A Gaydos (USA)	Regional Director North America
Ms. Amina Hansali (Morocco)	Regional Chair Africa
Dr. Xiang-Sheng Chen (China)	Regional Chair Asia-Pacific
Dr. Claudia Heller-Vitouch (Austria)	Regional Chair Europe
Dr. Adele Schwartz Benzaken (Brazil)	Regional Chair Latin America
Dr. Bradley P Stoner (USA)	Regional Chair North America
Dr. Sam Phiri (Malawi)	Executive Committee
Dr. Freddy Tinajeros (Honduras)	Executive Committee
Dr. Miguel Tilli (Argentina)	Executive Committee
Prof. Aissatou Gaye-Diallo (Senegal)	Executive Committee
Dr. Keith Radcliffe (UK)	Executive Committee
Dr. Edward W Hook III (USA)	Executive Committee
Dr. J Dennis Fortenberry (USA)	Executive Committee
Dr. Priya Sen (Singapore)	Executive Committee
Dr. Francis Ndowa	Executive Committee
Assoc. Prof. Angelica Espinosa Miranda (Brazil)	Executive Committee
Dr. Sunil Sethi (India)	Executive Committee
Dr. Chavalit Mangkalaviraj (Thailand)	Executive Committee
Dr. Marco Cusini (Italy)	Executive Committee
Prof. Dr. Mihael Skerlev (Croatia)	Executive Committee
Prof. Jo-Anne Dillon (Canada)	Executive Committee
Dr. Nathalie Broutet (Switzerland)	Executive Committee, Liaison Officer
Prof. Dr. Angelika Stary (Austria)	Executive Committee, Liaison Officer
Dr. Lew Drusin (USA)	United Nation Representatives
Prof. Dr. Angelika Stary (Austria)	United Nation Representatives
Dr. Nathalie Broutet (Switzerland)	WHO Medical Officer
Prof. Dr. Basil Donovan (Australia)	Representative of ISSTD

International Union against Sexually Transmitted Infections (IUSTI), Asia Pacific Branch Committee

Dr. Somesh Gupta (India)	Regional Director
Prof. Dr. Xiang-Sheng Chen (China)	Chairperson
Dr. Kaushal Verma (India)	Chairman-Elect
Dr. Sunil Sethi (India)	Honorary Secretary
Dr. Somesh Gupta (India)	Honorary Membership Secretary
Dr. Brian Mulhall (Australia)	Immediate Past Chairperson
Dr. Kaushal Verma (India)	Vice Chair, South Asia Subregion,
Dr. Kamal Faour (UAE)	Vice Chair, West Asia Subregion
Dr. Qian-Qiu Wang (China)	Vice Chair, East Asia Subregion
Dr. Wresti Indriatmi (Indonesia)	Vice Chair, South East Asia Subregion
Dr. Catherine O’Cornor	Vice Chair, Oceania Pacific Subregion

International Scientific Committee

Prof. Dr. Christopher Fairley (Australia)	Chairman
Prof. Dr. Verapol Chandeying (Thailand)	Co-chairman
Assist. Prof. Dr. Joseph Tucker (USA)	Co-chairman
Prof. Dr. Roy Chan (Singapore)	Committee
Dr. Chenchit Chayachinda (Thailand)	Committee
Prof. Dr. Joseph Tak Fai Lau (Hong Kong)	Committee
Dr. Kamal Faour (United Arab Emirates)	Committee
Dr. Ngeow Yun Fong (Malaysia)	Committee
Prof. Charlotte Gaydos (USA)	Committee
Dr. Mark Gilbert (Canada)	Committee
Assoc. Prof. Dr. Rebecca Guy (Australia)	Committee
Assoc. Prof. Dr. Jane Hocking (Australia)	Committee
Prof. Dr. King K Holmes (USA)	Committee
Dr. Somesh Gupta (India)	Committee
Prof. Dr. David A Lewis (Australia)	Committee
Dr. Quan Zhong Liu (China)	Committee
Dr. Ying Ru Lo (Philippines)	Committee
Prof. Dr. Sheila Lukehart (USA)	Committee
Prof. Dr. David Mabey (UK)	Committee
Prof. Dr. Tetsuro Matsumoto (Japan)	Committee
Dr. Graham Neilson (Indonesia)	Committee
Prof. Dr. Rosanna Peeling (UK)	Committee
Dr. Anne Robertson (New Zealand)	Committee
Dr. Sovannarith Samreth (Cambodia)	Committee
Dr. Vonthanak Saphonn (Cambodia)	Committee
Dr. Khimuy Tnth (Cambodia)	Committee
Assoc. Prof. Dr. Magnus Unemo (Sweden)	Committee
Assoc. Prof. Andrew Vallely (Papua Newginea)	Committee
Dr. Kaushal Verma (India)	Committee
Dr. Qian Qiu Wang (China)	Committee
Assoc. Prof. Dr. William Wong (Hong Kong)	Committee
Dr. Gilbert Yang (Philippines)	Committee
Dr. Yue Ping Yin (China)	Committee

Local Organizing Committee

Chavalit Mangkalaviraj	Chairman
Verapol Chandeying	Co-Chairman
Sumet Ongwandee	Co-Chairman
Pachara Sirivongrangson	Committee
Angkana Charoenwatanachokchai	Committee
Krisada Mahotarn	Committee
Wanna Hanshaoworakul	Committee
Pahsuvadn Kongsin	Committee
Sukhontha Kongsin	Committee
Ratsiri Thato	Committee
Penpaktr Uthis	Committee
Rattana Lawung	Committee
Ake-chittra Sukkul	Committee
Chollada Nandavisai	Committee
Montinee Vasantiuppapakorn	Committee
Kittipoom Chinhiran	Committee
Somchit Lerknimit	Committee
Tanaphan Fongsiri	Committee
Thongkorn Yunnarungsi	Committee
Chiraporn Yachompoo	Committee
Somchai Lokphichart	Committee
Chantana Chookiartsiri	Committee
Naiyana Jirarojwattana	Committee
Tumneab Sungwanprakaisang	Committee
Ngamta Rajakrom	Committee
Montatip Sriwan	Committee
Nisit Kongkerkiat	Secretary & Treasurer
Busaba Thaipitakpong	Assist. Secretary & Treasurer
Nisa Krasae	Assist. Secretary & Treasurer

General Information

Name Cards

All registered delegates, and accompanying persons are requested to wear their name-cards during the period of the conference and its social events

Congress Secretariat

Our secretariat staff can be easily identified at Convention Hall D. Please do not hesitate to approach them if you need assistance.

Congress Venue: Social and Scientific Sessions

- | | |
|-------------------------------------------------|-----------------------------------------------------------------------------|
| Room: Convention Hall D | – Registration, Speakers' Room and Audiovisual Facilities |
| Room: Convention Hall A, B | – Opening Ceremony, Plenary, Symposium, Luncheon Symposium, Farewell Dinner |
| Room: Convention A | – Workshop |
| Room: Convention Hall Foyer | – Welcome Reception, Coffee & Tea Break, Exhibition, Poster Presentation |
| Room: Garden 1, Garden 2, Garden 3, Peony 6 & 7 | – Symposium, Oral Presentation |
| Room: Garden 1 | – IUSTI AP, Executive Meeting and General Assembly |

Publications

All delegates of the conference will receive a book of the Conference Program and Abstract

Tours and Travel Desk

Travel agencies will be on hand to assist you with inquiries on local tours, regional tours. Please contact reception counter of the hotel.

Messages

A message board will be located at the Convention Hall Foyer

Lost and Found

Please report lost article to the Secretariat staff, located at Registration Room.

Dress Code

Smart casual is recommended for the Opening Ceremony and Farewell Dinner.

Coffee and Tea Breaks

10.00 – 10.30 hrs and 14.30 – 15.00 hrs

Lunches

A number of restaurants in the hotel are available.

Speakers' Room and Audiovisual Facilities

Open hours:

11, 12, 13 Nov 2014:	08.30 – 16.00 h
14 Nov 2014:	08.30 – 12.00 h

A computer projection facility for PowerPoint presentations on CD-ROM or floppy disc will be available for speakers to review their slides, at the Speakers' Room (Convention Hall D). Please hand in it 2 hours or more before your presentation, or directly hand to conference room. In case of you leave the disk with officer, after your session ends, please go to the Speakers' Room to get your disk back.

Oral Presentation Session

Each speaker has 12 minutes to make the presentation, followed by 3 minutes for question & answer.

Poster Presentation

Posters will be displayed at the Convention Hall Foyer on 12 and 13 November 2014.

Please mount your poster before 9.00 h, of 12 November. Locate the number of your poster on the Program and Abstract and there will be a numbered board which coincides with it. Mounting materials will be available, please ask our reception staffs. The area available for each poster is 120 x 90 cm maximum (height x width).

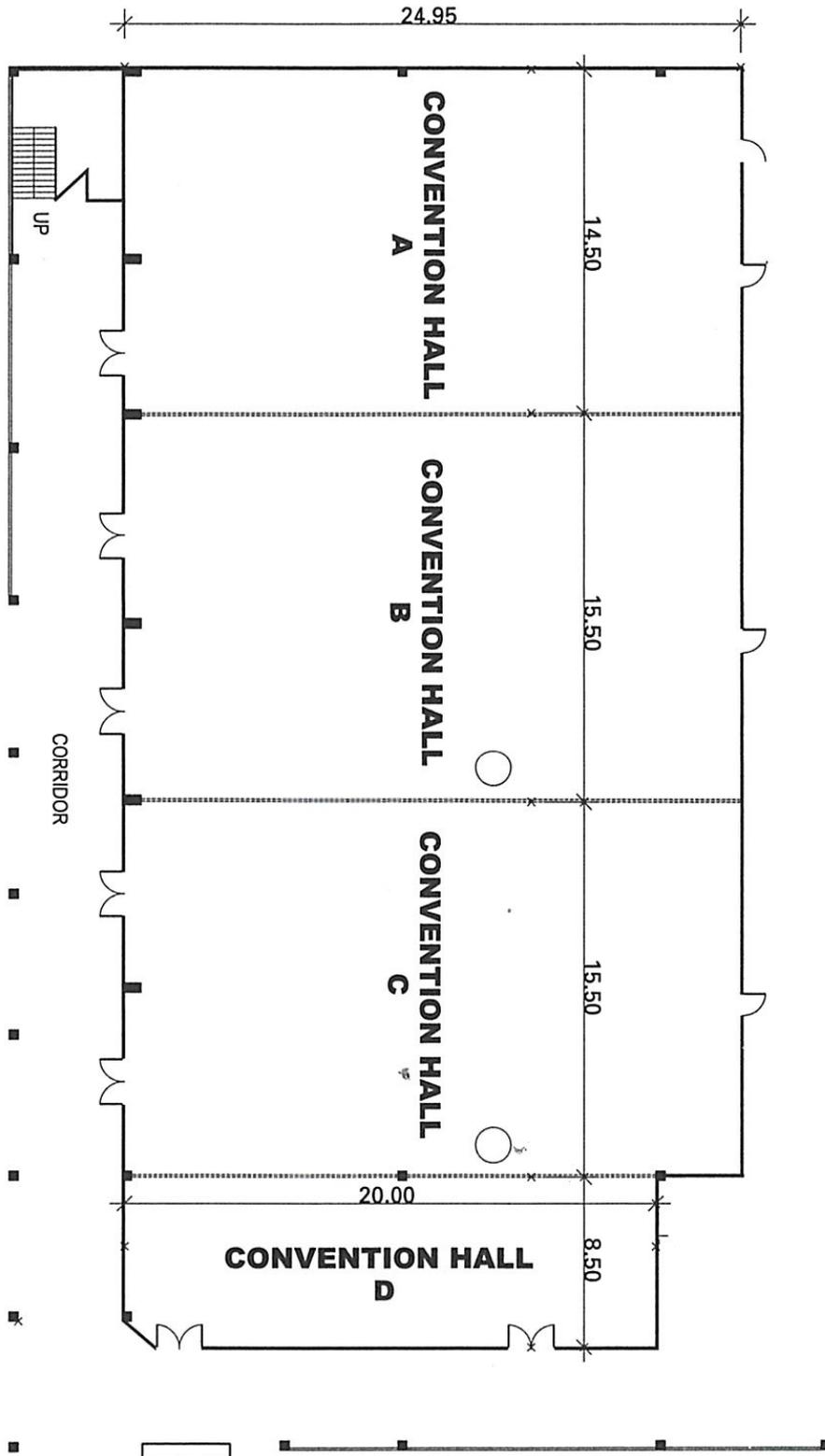
Posters that have not been removed by 16.00 h, on 13 November, will not be taken care by the organizers.

Social Events

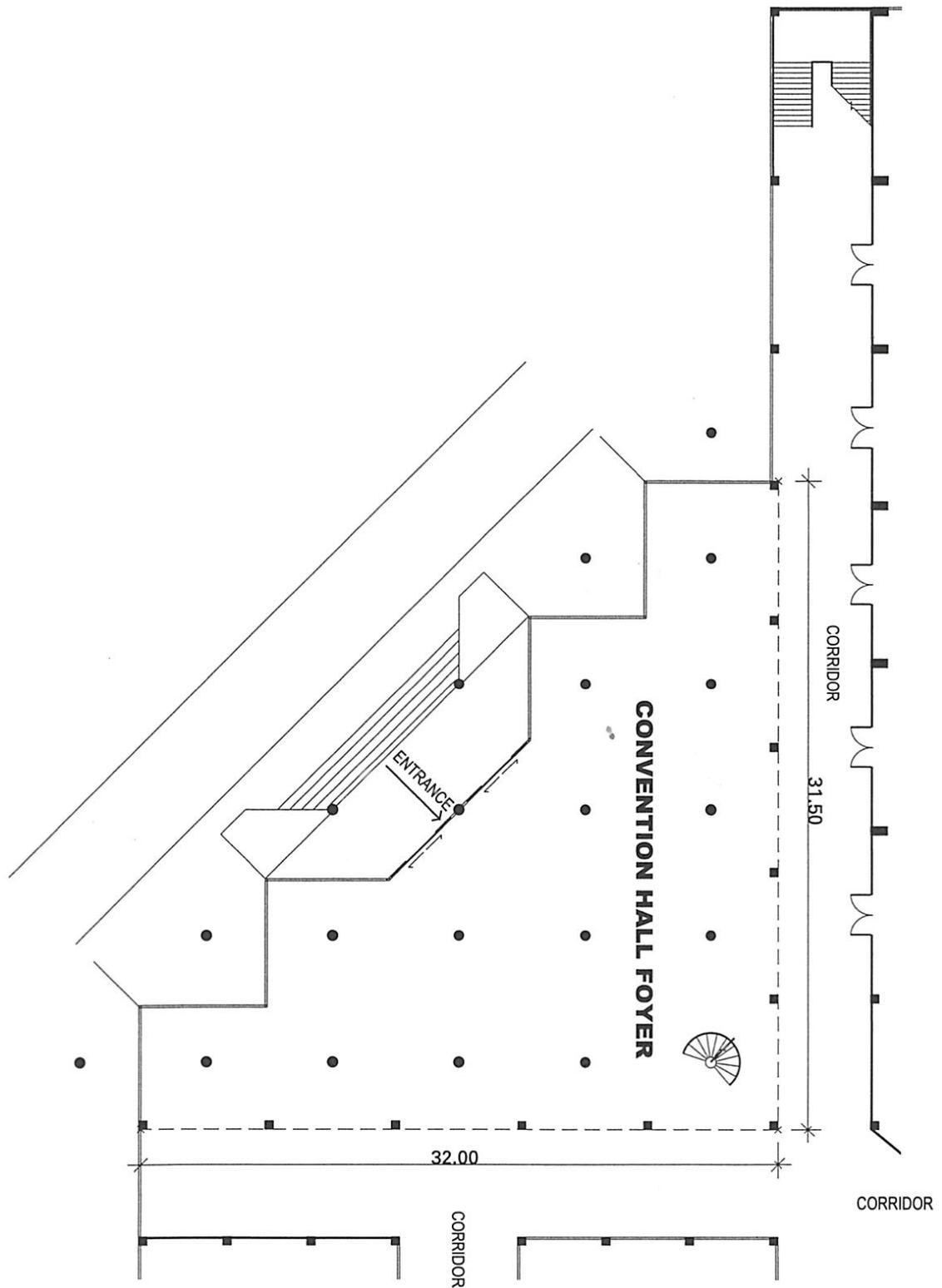
All registered delegates and accompanying persons are invited to participate in the Opening Ceremony (Convention Hall A and B) & Welcome Reception (Convention Hall Foyer), as well as Farewell Dinner (Convention Hall A and B). Additional tickets are available, please ask secretariat or reception staffs. The cost per ticket will be announced.

Map: Ambassador Hotel – Convention Hall

Convention Hall A, B, C, D

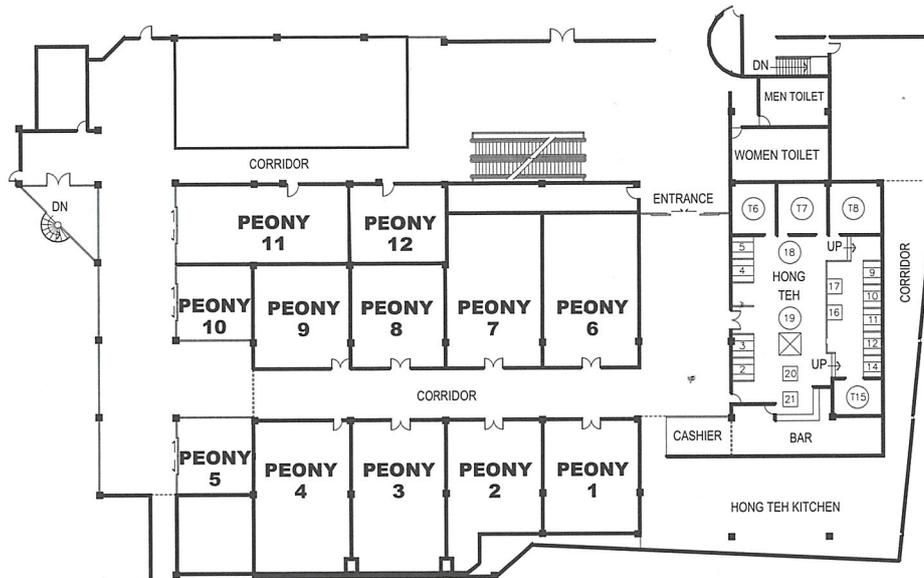


Map: Ambassador Hotel – Convention Hall Foyer

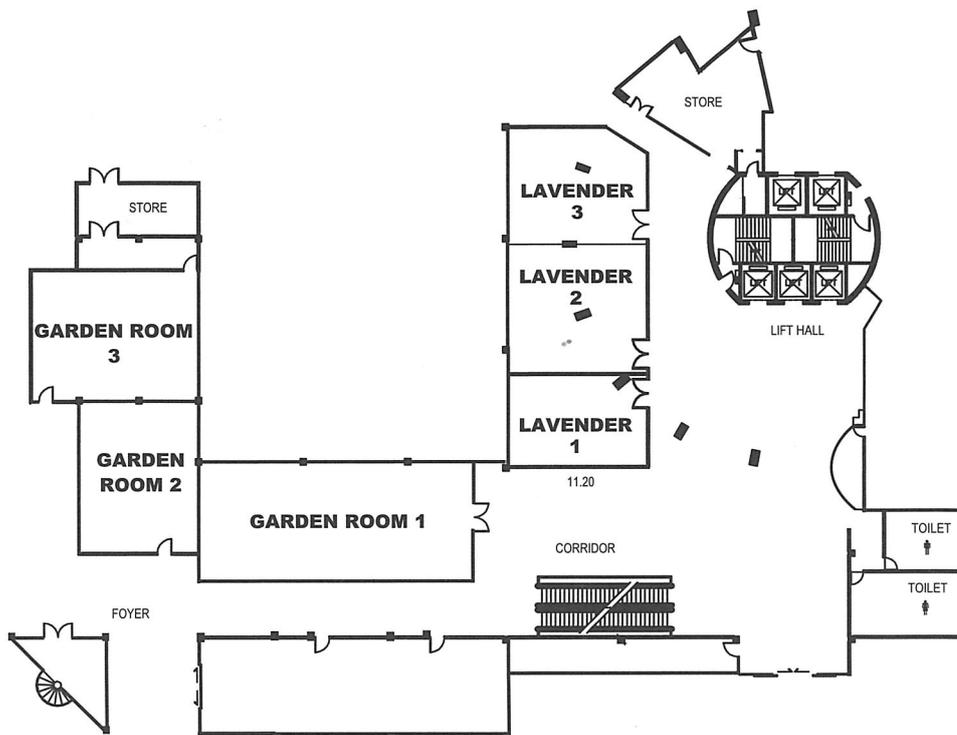


Map: Ambassador Hotel – Garden 1, 2, and 3, Peony 6 & 7

Peony 1-12



Garden Room 1, 2, 3 Lavender 1, 2, 3



Events Summary

Time	Tuesday 11 Nov 2014	Wednesday 12 Nov 2014	Thursday 13 Nov 2014	Friday 14 Nov 2014	
8.30 – 10.00	Registration	Plenary 1	Plenary 2	Plenary 3	
10.30 – 12.00	11, 12, 13 Nov 08.30 – 18.00 14 Nov 8.30 – 12.00	Symposium 1	Free Oral Session 8	Symposium 14	
		Free Oral Session 1	Free Oral session 9	Symposium 15	
		Free Oral session 2	Free Oral session 10	Free Oral session 13	
		Free Oral session 3	Free Oral session 11	Free Oral session 14	
		Free Oral session 4			
12.00 – 13.00	HIV Workshop 10.30-12.00 STI Workshop 13.00-14.30	12.00 – 13.00 IUSTI Executive Committee & General Assembly meeting	11.30-13.00 Lunch Symposium “Time to Act: Dual Elimination of HIV and Syphilis” Supported by Standard Diagnostics. Inc.	12.00 – 12.20 Closing Ceremony Prize Giving & Invitation to next IUSTI AP Meeting 2016	
13.00 – 14.30	Dermatology Workshop 15.00-16.30	Symposium 2	Symposium 7		
		Symposium 3	Symposium 8		
		Free Oral session 5	Symposium 9		
		Free Oral session 6	Free Oral session 12		
15.00 – 16.30		Symposium 4	Symposium 10		
		Symposium 5	Symposium 11		
		Symposium 6	Symposium 12		
		Free Oral session 7	Symposium 13		
	Opening Ceremony 18.00 – 18.30 Key Note Lecture 18.30 – 19.30 Welcome Reception 19.30 – 21.00	Dinner, Thank you Party 19.00 – 22.00 Executive member IUSTI, IUSTI AP, Plenary and sym- posium speakers, Scientific and local organizing committee (invitation only)	Farewell Dinner 18.30 – 22.00		

Daily Events

Registration

The registration desk is situated at Convention Hall D, first floor of the Ambassador Hotel.

Hour of operation:

Tuesday	11 November 2014	08.30 – 16.00
Wednesday	12 November 2014	08.30 – 16.00
Thursday	13 November 2014	08.30 – 16.00
Friday	14 November 2014	08.30 – 12.00

Speaker's Room

Room: Convention Hall D

Workshop

Room: Convention Hall A, on 11 November 2014

Plenary, Symposium

Room: Convention Hall A & B

Oral Presentation, Symposium

Room: Garden 1, Garden 2, Garden 3, Peony 6 & 7

Poster Presentation

Room: Convention Hall Foyer, 12 and 13 November 2014

IUSTI Asia Pacific Business Meeting

IUSTI AP Executive Committee Meeting, and General Assembly

Room Garden 1, on 12 Wednesday of November 2014.

Scientific Program

Tuesday 11 November 2014

	18th IUSTI Asia Pacific Congress: Pre-conference Workshops	
10.30 – 12.00	Workshop 01: Living with HIV Chairs: Dr. Veerakathy Harindra (UK) Dr. Imtyaz Ahmed-Jushuf (UK)	Convention Hall A
	<ul style="list-style-type: none"> ➤ Living with HIV in resource rich country Dr. Veerakathy Harindra ➤ Sexual and reproductive health in HIV positive women Dr. Ruth Taylor (UK) Open forum/discussion	
13.00 – 14.30	Workshop 02: Current challenges in STI management Chairs: Dr. Imtyaz Ahmed-Jushuf Dr. Veerakathy Harindra	Convention Hall A
	<ul style="list-style-type: none"> ➤ Managing vaginal discharge Prof. Dr. Verapol Chandeying (Thailand) ➤ Genital ulcers syndrome – Case studies Dr. Somesh Gupta (India) Dr. Sunil Sethi (India) ➤ Syphilis in western Europe – New challenges Dr. Ruth Taylor (UK) Open forum/discussion	WS-02-01
15.00 – 16.30	Workshop 03: Dermatology for non-dermatologist Chair : Prof. Dr. Verapol Chandeying	Convention Hall A
	<ul style="list-style-type: none"> ➤ Approach to the dermatologic patient ➤ Genital dermatological condition Dr. Gilbert Yang (Philippines) Open forum/discussion	WS-03

Tuesday 11 November 2014

18th IUSTI Asia Pacific Congress		
18.00 – 18.30	<p>Opening Session</p> <p>Welcome address:</p> <ul style="list-style-type: none"> - Dr. Sopon Mekthon (Thailand) Director-General, Department of Disease Control, MOPH - Prof. Mondhon Sanguansermisri (Thailand) President, University of Phayao <p>Welcome and Opening Remark:</p> <ul style="list-style-type: none"> - Prof. Dr. Xiang-Sheng Chen (China) Chairman of Executive committee, IUSTI Asia Pacific 	Convention Hall A & B
	Moderator: Dr. Chenchit Chayachinda (Thailand)	
18.30 – 19.30	<p>Key Note Lecture</p> <p>“Add quality to STI services”</p> <ul style="list-style-type: none"> - Dr. Wiwat Rojanapithayakorn (Thailand) Director, Center for health policy and management, Mahidol University 	Convention Hall A & B
19.30 – 21.00	Welcome Reception	Convention Hall Foyer

Wednesday 12 November 2014

8.30 – 10.00	Plenary 1	Convention Hall A & B
	Chairs: Dr. Joseph I Harwell (Hong Kong) Prof. Yonghong Xiao (China)	
	Global Initiative of Elimination of Mother-to-Child Transmission of Syphilis and HIV: An Attainable Maternal and Child Health Goal - Dr. Lori Newman (WHO)	PL-01
	HIV/STI Epidemiology in Asia & Pacific: Updates & Perspectives - Dr. Ying-Ru Jacqueline Lo (WHO)	PL-02

10.30 - 12.00	Symposium 01 Gonorrhea Resistance	Convention Hall A & B
	Chairs: Prof. David Lewis (Australia) Dr. Surachet Arunothong (Thailand)	
	Treatment Strategies in the MDR NG era (overview, current and potential) - Prof. Dr. David Lewis (Australia)	S-01-01
	Persistence of Neisseria gonorrhoeae DNA Following Treatment for Pharyngeal and Rectal Gonorrhea is Influenced by Antibiotic Susceptibility and Re-infection - Marcus Chen (Australia)	S-01-02
	National Antibiotic Regulating System and Its Application in China - Yonghong Xiao (China)	S-01-03

10.30 – 12.00	Free oral session 01 Microbial Resistance	Garden 3
	Chairs: Asst. Prof. Rattana Lawung PhD. (Thailand) Dr. Akechitra Sukkul (Thailand)	
	In Vitro Synergy Testing of 21 Different Dual Antimicrobial Combinations for Treatment of Gonorrhoea in Future Era - Vikram Singh (India)	O-01-01
	Circulating Moxifloxacin Resistant Mycoplasma genitalium in an Australian Sexual Health Clinic - Jimmy Twin (Australia)	O-01-02
	Diversity of the Penicillin and Tetracycline Resistance Plasmids among Neisseria gonorrhoeae Isolated in Bangkok, Thailand - Ratana Lawung (Thailand)	O-01-03
	Prediction of Extended-spectrum Cephalosporin Resistance in Gonococci by Proteochemometric Modeling - Sunanta Nabu (Thailand)	O-01-04

10.30 – 12.00	Free oral session 02 Men Who Have Sex with Men: Key Population	Garden 2
	Chairs: Asst. Prof. Sara LeGrand (USA) Dr. Nittaya Phanuphak (Thailand)	
	Factors Associated with Loss-to-follow-up During Behavioral Interventions and HIV Testing among Men Who Have Sex with Men Attending a Sexually Transmitted Infection Clinic in Nanjing, China - Shujie Huang (China)	O-02-01
	Acceptability and Client Engagement at a Community-based and Peer-led Rapid HIV Testing Service for Men Who Have Sex with Men - Mark Stoove (Australia)	O-02-02
	Unchanging Sexual Risk Behaviour of Men Who Have Sex With Men: A Latent Transition Analysis - Anna Wilkinson (Australia)	O-02-03
	Thai MSM and Sex workers' Antibiotics Usage Pattern and Sexual Risk Taking - Kai J Jonas (Netherlands)	O-02-04
	High Level of UAI among Chinese Men Who Have Sex with Men - Ye Zhang (China)	O-02-05

10.30 – 12.00	Free oral session 03 Clinical Sexually Transmitted Infection Research	Garden1
	Chairs: Dr. Veerakathy Harindra (UK) Dr. Chenchit Chayachinda (Thailand)	
	Is Repeat Rectal Chlamydia Infection among Men Who Have Sex with Men an Issue? - Fabian Kong (Australia)	O-03-01
	Risk of Pelvic Inflammatory Disease From Sexually Transmitted Infections in an Urban Australian Sexual Health Clinic Setting - Jane Louise Goller (Australia)	O-03-02
	The Epidemiology of Gonorrhoea in the Middle East and North Africa: Systematic Review and Meta-Analysis - Alex Smolak (Qatar)	O-03-03
	Why are We not Screening for Anal Cancer Routinely? HIV Physicians' Perspectives on Anal Cancer and Its Screening in HIV - Positive Men Who Have Sex with Men: A Qualitative Study - Jason Ong (Australia)	O-03-04

	Ratio of Anogenital Warts between Different Anatomical Sites among Homosexual and Heterosexual Individuals in Australia, 2002-2013: Implications for Susceptibility of Different Anatomical Sites to Genital Wart - Eric Chow (Australia)	O-03-05
	The Epidemiology of Chlamydia in the Middle East and North Africa: Systematic Review and Meta-analysis - Laith Abu-Raddad (Qatar)	O-03-06

10.30 – 12.00	Free oral session 04 STI Epidemiology	Peony 6 & 7
	Chairs: Asst. Prof. Susan L. Cassels (USA) Dr. Taweessap Siraprapasiri (Thailand)	
	Rise in Gonorrhoea Notifications from Nucleic Acid Amplification Test (NAAT) among Very Low Prevalence Women without Changes in Proportion Positive by Culture - Eric Chow (Australia)	O-04-01
	Effect of Nursing Interventions on Quality of Life (QOL) among Non-disclosed Persons Living HIV (NPLWH) in Thailand - Pratuma Rithpho (Thailand)	O-04-02
	Association of Human Mannose Receptor (hMR) Underlying Sexual Transmission and Pathogenesis of HIV in Serodiscordants - Shivaji Jadhav (India)	O-04-03
	Hypertriglyceridemia and Other Selected Cardiovascular Diseases (CVDs) Risk Factors in HIV-Infected Patients: Effects of Antiretroviral Therapy (ART) - Nazisa Hejazi (Malaysia)	O-04-04
	Factors Associated with Participation and Attrition in a Longitudinal Study of Bacterial Vaginosis in Australian Women who Have Sex with Women - Sandra Walker (Australia)	O-04-05

12.00 – 13.00	IUSTI Asia Pacific Executive Committee & General Assembly Meeting	Garden 1
---------------	------------------------------------------------------------------------------	----------

13.00 – 14.30	Symposium 02 Bacterial vaginosis	Peony 6 & 7
	Chairs: Assoc. Prof. Catriona Bradshaw (Australia) Dr. Pachara Sirivongrangson (Thailand)	
	Incident BV in Women Who Have Sex with Women is Associated with Behaviours that Suggest Sexual Transmission of BV - Catriona Bradshaw (Australia)	S-02-01
	More Than Meets the Eye: Molecular Insights into Bacterial Vaginosis (BV) and the Genital Microbiota - Assoc. Prof. Dr. David Fredricks (USA)	S-02-03

	The Temporal Relationship between Vaginal Bacterial Communities and Sexual Debut Dr. Jimmy Twin (Australia)	S-02-04
--	-----------------------------------------------------------------------------------------------------------------------	---------

13.00 – 14.30	Symposium 03 Partner notification	Garden 1
	Chairs: Assoc. Prof. Dr. Marcus Chen (Australia) Dr. Pahsuvadn Kongsin (Thailand)	
	Opt Out Referral of Men Who Have Sex with Men Newly Diagnosed with HIV to Partner Notification Officers Result in a Higher Yield of Sexual Partners Being Contacted - Marcus Chen (Australia)	S-03-01
	Partner Notification for Syphilis - Prof. Dr. Basil Donovan (Australia)	S-03-02
	Partner Notification in Asia-Pacific - Results from an Informal Survey - Prof. Dr. Roy Chan (Singapore)	S-03-03
	- Assoc. Prof. Jane Tomnay (Australia)	S-03-04

13.00 – 14.30	Free oral session 05 Social Science of STIs	Garden 2
	Chairs: Dr. Ruth Taylor (UK) Asst. Prof. Manopchai Thamkhantho (Thailand)	
	The Social Meaning of Curing HIV: A Qualitative Study of People Who Inject Drugs in Guangzhou, China - Qingyan Ma (China)	O-05-01
	Boomerang Effects of “Safe Sex Zone” Prevention Measures among MSM - Kai Jonas (Netherlands)	O-05-02
	Human Immunodeficiency Virus (HIV) Risk Behaviors among Inmates in Kerobokan Prison, Bali-Indonesia; Comparison on Interview and Self Administered Questionnaire (SAQ) Results - Septarini NW (Indonesia)	O-05-03
	The Relationship between HIV-related Stigma and Discrimination with Mental Health and High Risk Sexual Practices among the Group of HIV Positive men in Shiraz, Iran - Atiyyeh Mirzazadeh (Iran)	O-05-04
	Attitudes of health care providers towards HIV/AIDS patients in Bandar Abbas, Iran - Teamur Aghamolaei (Iran)	O-05-05
	Misconceptions on Sexuality among the Bangladeshi Males - Prithish Barua (Bangladesh)	O-05-06

13.00 – 14.30	Free oral session 06 Operational Research and Partner Services	Garden 3
	Chairs: Dr. Darren Russell (Australia) Dr. Wanna Hanshaoworakul (Thailand)	
	Efficacy of an Integrated STIs Contact Tracing: Cases Tried Out in Rainbow Clinic - Sairung Chantharaprasat (Thailand)	O-06-01
	The Development of STIs Contact Tracing Guideline and Tools - Kittipoom Chinhiran (Thailand)	O-06-02
	Estimating the Critical Population Immunity Threshold for Hepatitis a in MSM Populations - David Regan (Australia)	O-06-03
	Is Telephone-based Partner Notification for STIs Cost-effective? A Case Study from Louisiana, USA - Mohammad Rahman (USA)	O-06-04
	Facilitating Factors for HIV among Older Orphaned and Vulnerable Children in Senior Secondary Schools in Ogbomoso, Nigeria - Oyebode Oyenike (Nigeria)	O-06-05

15.00 - 16.30	Symposium 04 Mycoplasma genitalium resistance	Peony 6 & 7
	Chairs: Assoc. Prof. Catriona Bradshaw (Australia) Asst. Prof. Rattana Lawung PhD. (Thailand)	
	Macrolide resistance and azithromycin failure in a Mycoplasma genitalium-infected cohort, and response of azithromycin failures to alternative antibiotic regimens - Catriona Bradshaw	S-04-01
	How Important is Mycoplasma genitalium in Pelvic Inflammatory Disease? - Prof Dr.Jonathan Ross (UK)	S-04-02
	Emerging Multidrug Resistance in Mycoplasma genitalium - Dr. Jørgen Jensen (Denmark)	S-04-03
	Can screening control chlamydia? - Jane Hocking (Australia)	S-04-04

15.00 - 16.30	Symposium 05 Syphilis	Garden 1
	Chairs: Dr. Ligang Yang (China) Dr. Angkana Charoenwatanachokchai (Thailand)	
	Syphilis and MSM in Asia - Prof. Dr. Roy Chan (Singapore)	S-05-01
	Syphilis in Hong Kong - William Wong (Hong Kong)	S-05-02

15.00 - 16.30	Symposium 06 Modelling	Convention Hall A & B
	Chairs: Prof. David Wilson (UK) Dr. Pachara Sirivongrangson (Thailand)	
	The Impact of Sexual Networks on the Spread of STIs and Public Health Implications - Mirjam Kretzschmar (Netherland)	S-06-01
	How important is migration, mobility and sexual networks on STI transmission? - Susan Cassels (USA)	S-06-02
	How do results from STI interventions clinical trials translate to broader implementations? - Prof. Marie-Claude Boily (UK)	S-06-03
	How to bridge the interface between model consumers, data custodians and model makers - Dr. Timothy Brown (Thailand)	S-06-04

15.00 - 16.30	Free oral session 07 Female Sex Workers: Key Population	Garden 2
	Chairs: Dr. Chenchit Chayachinda (Thailand) Dr. Nisit Kongkerkiat (Thailand)	
	Drug and Alcohol Consumption and Condom Use among Female Sex Workers in Vanuatu, 2011 - Mark Stooze (Australia)	O-07-01
	Improving Health Seeking Behaviors of Female Sex Workers in Ibadan, Nigeria: A Face to Referral - Taiwo Iyabo Oluwayemisi (Nigeria)	O-07-02
	Young People as Female Sex Workers: Implications for Sexually Transmitted Infections - Ademola Adelekan (Nigeria)	O-07-03
	Condom Used among Female Sexual Worker in Jayapura City, Papua Province, Indonesia - Antonius Oktavian (Indonesia)	O-07-04
	Factors Associated with HIV Prevalence among Sex Workers and Truckers in the Border Towns of Busia and Malaba – Uganda - Stephen Okoboi (Uganda)	O-07-05

19.00 –22.00	Dinner, Thank you Party (invitation only) Executive member IUSTI, IUSTI AP, plenary and symposium speakers, scientific and local organizing committee	Room Salathai, 3 rd Floor
--------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------

Thursday 13 November 2014

8.30 – 10.00	Plenary 2	Convention Hall A & B
	Chairs: Dr. Zheng Heping (China) Dr. Pachara Sirivongrangson (Thailand)	
	STI diagnosis in resource poor settings - Prof. Magnus Unemo (WHO CC)	PL-03
	Social entrepreneurship for sexual health: Crowdsourcing HIV testing promotion - Prof. Dr. Joseph Tucker (USA)	PL-04

10.30 – 12.00	Free oral session 08 Basic Science of Sexually Transmitted Infections	Garden 1
	Chairs: Asst. Prof. Mark Stoove (Australia) Dr. Sakchai Chaiyamahapruk (Thailand)	
	Trichomonas vaginalis Infection and Spermatogenesis in Men - Smagul Aibek (Kazakhstan)	O-08-01
	HIV1- HSV2 interaction: Development of an In-vitro T-cell Line Model - Dipen Desai (India)	O-08-02
	Association of Chlamydia trachomatis with mRNA Expression of Proinflammatory Cytokines and COX-2 Genes in Spontaneous Aborters - Namita Singh (India)	O-08-03
	Designing A Genome-based HIV Incidence Assay and Field Applications in Areas With High HIV Prevalence - Chuanyi Ning (China)	O-08-04
	Receptor-based Design and Discovery of Novel Pyrazole and Pyrimidine Scaffolds as Novel Class of Non-Nucleoside Reverse Transcriptase Inhibitors (NNRTIs) - Udaya P. Singh (India)	O-08-05

10.30 – 12.00	Free oral session 09 Clinical and Diagnostic STI Research	Garden 2
	Chairs: Prof. Jonathan Ross (UK) Dr. Pachara Sirivongrangson (Thailand)	
	Efficacy of Diagnostic Methods for Detection of Chlamydia trachomatis Persistent Infection in Reactive Arthritis - Praveen Kumar (India)	O-09-01
	Thai Health Care Personnel's Knowledge, Opinions and Perceptions of the Benefits of Neonatal Male Circumcision's in Reducing Transmission of HIV and Other STIs - Richard Grimes (USA)	O-09-02

	A Pre-HIV Counseling and Testing Survey of Sexual Behaviors of High School Learners in Gauteng and North West Provinces, South Africa - Mathilda Mokgatle (South Africa)	O-09-03
	Genital ulcer disease in India: Accuracy of clinical diagnosis and validation of syndromic approach - Sumit Sethi (India)	O-09-04
	Risk Factors for HIV Transmission and Correlation of Periodontal Status with CD4 Cell Count of Infected Patients - Ashna Kaipatti (India)	O-09-05
	Chlamydia trachomatis as an Etiological Agent for Prostatitis - Smagul Aibek (Kazakhstan)	O-09-06

10.30 - 12.00	Free oral session 10 STI pathogen and STI-associated conditions	Garden 3
	Chairs: Dr. Julia Brotherton (Australia) Dr. Surachet Arunothong (Thailand)	
	Women's Knowledge Regarding Human Papillomavirus Infection, Cervical Cancer and its Prevention: A Cross-Sectional Analysis - Assoc. Prof. Ranjitha Shetty (India)	O-10-01
	Single-nucleotide Polymorphism of Toll-like Receptor 4 in Response to Interferon Based Therapy in Chronic Hepatitis C Egyptian Patients - Olfat Shaker (Egypt)	O-10-02
	Interleukins 10 and 12 Polymorphisms and Their Association with Treatment Outcome of Patients with Chronic Hepatitis C Infection - Olfat Shaker (Egypt)	O-10-03
	Survey the Frequency of Mycoplasma hominis, Mycoplasma genitalium and Ureaplasma urealyticum in Women with Cervicitis - Aliska Akya (Iran)	O-10-04
	Genetic Susceptibility to Cervical Cancer: Role of XRCC1 - Bajpai D. (India)	O-10-05

10.30 - 12.00	Free oral session 11 Information technology, social media, and public health	Peony 6 & 7
	Chairs: Prof. Mirjam Kretzschmar (Netherlands) Asst. Prof. Sara LeGrand (USA)	
	Availability and Quality of Online HIV/STD Self-Test Kits in the United States and China: Implications for Expanding Self-Testing Platforms - Liu Fengying (China)	O-11-01

	Couple HIV Counseling and Testing (CHCT) among High Risk Population versus General Population in Bali, Indonesia “Acceptability among High Risk Couples, Pregnant Women and Their Partners” - Septarini NW (Indonesia)	O-11-02
	Beliefs, Attitudes and Practice of Male Condom among University Students in Ethiopia: A Call for Tailored Intervention to Prevent HIV/AIDS and Other STDs - Melkie Tilahun (South Africa)	O-11-03
	Effectiveness of Mobile Internet Technology toward Enhancing Early Initiation of Children on Art in Rural Communities in Iwo, Osun State, Nigeria - Ademola Adelekan (Nigeria)	O-11-04
	Effectiveness of Peer Education Approach for Capacity Building among Female Sex Workers in Ibadan, Nigeria - Taiwo Iyabo Oluwayemisi (Nigeria)	O-11-05

11.30 – 13.00	Lunch Symposium “Time to Act: Dual Elimination of HIV and Syphilis” Supported by Standard Diagnostics Inc.	Convention Hall A & B
	Agenda: Performance of Duo test Cost-effectiveness Procurement Implementation	
	Chairperson : Prof. Dr. Jeffrey D. Klausner (University of California Los Angeles, USA)	
	Speaker 1 Prof. David A. Lewis (Western Sydney Sexual Health Center, University of Sydney, from UK) Syphilis rapid and dual rapid syphilis/HIV test: an overview of test performance in various settings	
	Speaker 2 Dr. Ligang Yang (Guangdong Provincial STD Control Center, China) Syphilis screening among pregnant women in Guangdong Province, South China	
	Speaker 3 Prof. Dr. Jeffrey D. Klausner (University of California Los Angeles, USA) Cost-effectiveness of dual rapid testing for HIV and syphilis in pregnant women	
12.00 – 13.00	Poster session	Convention Hall Foyer

13.00 - 14.30	Symposium 07 STIs in Thailand	Garden 1
	Chairs: Dr. Angkana Chareonwatanachokchai (Thailand) Dr. Zheng Heping (China)	
	Quality Improvement in STI Cluster/Thailand - Dr. Angkana Chareonwatanachokchai	S-07-01
	Where should Sexually Transmitted Infection Programs be heading? Performance Measurement and Program Improvement - Michale Martin (GAP Thailand)	S-07-02
	STIs Screening among Key populations: Innovative Interventions to Increase Screening and HIV testing Coverage - Dr. Nittaya Phanupak (Thailand)	S-07-03
	Uptake of VCT and STI Screening among MSM and FSW and Scaling up of Integrated STI/HIV Services in Northeastern Thailand - Prapaporn Kijwattanachai (Thailand)	S-07-04

13.00 - 14.30	Symposium 08 Regional challenges in control of STI in Asia Pacific	Garden 2
	Chairs: Dr. Somesh Gupta (India) Dr. Kaushal Verma (India)	
	Recent trend of STI incidence in Japan - Dr. Soichi Arakawa (Japan)	S-08-01
	- Dr. Sunil Sethi (India)	S-08-02
	Re-emergence of Syphilis – A Challenge to STI Control in Asia-Pacific! - Dr. Kaushal Verma (India)	S-08-03
	Sexual Health Policy in Aotearoa New Zealand - Dr. Anne Robertson (New Zealand)	S-08-04

13.00 - 14.30	Symposium 09 Female sex worker health	Peony 6 & 7
	Chairs: Prof. William Wong (Hong Kong) Dr. Surachet Arunothong (Thailand)	
	Review of current approach in HIV prevention amongst female sex workers and problems in this approach - Prof. William Wong	S-09-01
	The role of agency and rights as well as psychological health in prevention of HIV - Prof. Eleanor Holroyd (Australia)	S-09-02
	The first-hand experience contact with sex workers and views from the women's perspective - Kendy Kim (Hong Kong)	S-09-03

	The results of recent RCT on using resilience approach and positive psychology in promoting mental health and preventing HIV - Winnle Yuen (Hong Kong)	S-09-04
--	------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------

13.00 - 14.30	Free oral session 12 STI Behavioral Science	Garden 3
	Chairs: Dr. Joseph I Harwell (Hong Kong) Dr. Darren Russell (Australia)	
	Effectiveness of Counseling to Promote consistent condom use among Female Adolescents in Drugstore Setting - Nattanan Chiewchalakorn (Thailand)	O-12-01
	Knowledge and Awareness of Modes of Transmission of Sexually Transmitted Infections (STIs) Among a High Risk Group in a Nigerian University - Sabitu Muhammad Zainu (Nigeria)	O-12-02
	Implementing HIV Counselling and Testing at School in South Africa: A Formative Evaluation of Learners' Opinions and Acceptability in Gauteng and North West Provinces - Sphiwe Madiba (South Africa)	O-12-03
	Male Clients among Men Who Have Sex with Men in China: An Unexplored World - Lei Chen (China)	O-12-04
	Redefining the Perceived Quality of Life of PLHIV through Counseling Programs: A Case Study of Pinoy Plus Members - Enrico Antonio P. Arevalo Jr (Philippines)	O-12-05

15.00 - 16.30	Symposium 10 Social media and sexual health	Garden 3
	Chairs: Assist. Prof. Kate Muessig (USA) Dr. Angkana Charoenwatanachokchai (Thailand)	
	Using social media principles to enhance HIV medication adherence, a case study from "Epic Allies" a gaming and social support-based HIV medication mobile phone application - Assist. Prof. Sara LeGrand (USA)	S-10-01
	Use of a Social Media-based Intervention to Address Stigma Related to Sexual Orientation, Race/Ethnicity, and HIV among Men Who Have Sex with Men - Kate Muessig (USA)	S-10-02
	Gay Mobile Applications for Partner Seeking in Men Who Have Sex with Men - Best John (UNC project, China)	S-10-03

15.00 - 16.30	Symposium 11 Chlamydia	Garden 2
	Chairs: Prof. Jane Hocking (Australia) Dr. Zheng Heping (China)	

	Is Chlamydia Screening Doing More Harm Than Good? - Nicola Low	S-11-01
	Do we have effective treatment for chlamydia? - Fabian Kong (Australia)	S-11-02
	Is an Effective Vaccine for Chlamydia trachomatis Possible? - Prof. Peter Timms (Australia)	S-11-03

15.00 - 16.30	Symposium 12 HIV Test and Treat	Garden 1
	Chairs: Dr. Nicholas Medland (Australia) Dr. Montinee Vasantiuppapokakorn (Thailand)	
	Ending the HIV Epidemic with Antiretrovirals: Is It Possible? - Nicholas Medland	S-12-01
	The HIV Treatment and Care Continuum: A Waterfall of Drugs over a Leaky Cascade - Frits Van Griensven (USA)	S-12-02
	Community Perspectives and Priorities for Test and Treat - Chris Connelly (AFAO)	S-12-03
	Investing in an End to AIDS: Priorities for Programming - Michael Cassel (USAID)	S-12-04

15.00 - 16.30	Symposium 13 Asia Pacific: Regional Guidelines for management of STI	Convention Hall A & B
	Chairs: Dr. Somesh Gupta (India) Prof. Mirjam Kretzschmar (Netherland)	
	Strategy for diagnosis of STIs - Prof. Seung-Ju Lee (Korea)	S-13-01
	Chlamydial urethritis - Prof. Satoshi Takahashi (Japan)	S-13-02
	Nongonococcal urethritis - Prof. Ryoichi Hamasuna (Japan)	S-13-03

18.30 – 22.00	Farewell Dinner	Convention Hall A & B
---------------	------------------------	-----------------------

Friday 14 November 2014

8.30 – 10.00	Plenary 3	Convention Hall A & B
	Chairs: Asst. Prof. Mark Stoove (Australia) Dr. Darren Russell (Australia)	
	Cluster randomised trials to control sexually transmitted infection: What have we learned? - Prof. John Kaldor (Australia)	PL-05
	Gonorrhoea resistance - Prof. Dr. David Lewis (Australia)	PL-06

10.30 - 12.00	Symposium 14 Pharyngeal STI	Peony 6 & 7
	Chairs: Prof. Tetsuro Matsumoto (Japan) Prof. Yong Hyun Cho (Korea)	
	Sexual Behaviors and Pharyngeal Infection - Prof. Ryoichi Hamasuna (Japan)	S-14-01
	Chlamydial infection in the pharynx: detection and treatment - Prof. Seung-Ju-Lee (Korea)	S-14-02
	The relationship between pharyngeal infection and antimicrobial resistance - Prof. Makoto Ohnishi (Japan)	S-14-03

10.30 - 12.00	Symposium 15 HPV	Convention Hall A & B
	Chairs: Prof. Christopher Fairley (Australia) Dr. Chenchit Chayachinda (Thailand)	
	International Genital Wart Reductions - Prof. Dr. Basil Donovan (Australia)	S-15-01
	Cytological Changes in Australia Post the HPV Vaccine - Dr. Julia Brotherton (Australia)	S-15-02
	HPV Vaccination in MSM - Prof. Dr. Christopher Fairley (Australia)	S-15-03

10.30 - 12.00	Free oral session 13 Women's Health, Prenatal and Antenatal STI Services, and Primary Care	Garden 3
	Chairs: Dr. Imtyaz Ahmed-Jushuf (UK) Asst. Prof. Vanatpreeya Pongsamart (Thailand)	
	Barriers to Integrating Couple HIV Counselling and Testing (CHCT) in Mother and Child Health (MCH) Program at Community Health Centres in Bali Province, Indonesia - Sutarsa Nyoman (Indonesia)	O-13-01
	Breast Feeding as a Risk Factor of Perinatal HIV Transmission - Khudaykulova Gulnara (Uzbekistan)	O-13-02

	Evaluating Knowledge for Sexually Transmitted Infections among Primary Care Doctors Working in Government Township Medical Offices, Hospitals and Clinics in Yangon Region, Myanmar - Koji Wada (Myanmar)	O-13-03
	Sexual Contact is the Trigger! Women's Views and Experience of the Causes and Triggers of Bacterial Vaginosis - Sandra Walker (Australia)	O-13-04
	Barriers to Antenatal Syphilis Screening in Burkina Faso - Fadima Yata Bocoum (South Africa)	O-13-05

10.30 - 12.00	Free oral session 14 HIV prevention, care, and testing	Garden 2
	Chairs: Dr. Veerakathy Harindra (UK) Dr. Montinee Vasantiuppapokakorn (Thailand)	
	Risk Factors of HIV and other Sexually Transmitted Infections in China: A Systematic Review of Reviews - Yanping Zhao (Hong Kong)	O-14-01
	Sexual Behaviors and HIV/syphilis Testing History of Trans-gender Population in China: Implications for Expanding HIV Testing Services - Weiming Tang (China)	O-14-02
	Testing for human immunodeficiency virus needs paradigm shift in Australia given minimal increase between 2003 and 2013 in Melbourne, Australia. - Eric Chow (Australia)	O-14-03
	A 2-year Follow-up of Infants Diagnosed with HIV in Osun State, Nigeria - Oyebode Oyenike (Nigeria)	O-14-04
	HIV Positive Cases Finding on TB-HIV Collaboration Program in Denpasar, Bali, Indonesia 2011-2013 - IWG Artawan Eka Putra (Indonesia)	O-14-05
	High CD4 Count Level as Risk Factor of Hyperglycemia among Malaysian HIV Patients on Highly-Active Antiretroviral Therapy (HAART) - Nazisa Hejazi (Malaysia)	O-14-06

12.00 – 12.20	Closing session - Prize giving & Invitation to next 19th IUSTI Asia Pacific 2016 - Closing Remark Dr.Chavalit Mangkalaviraj Chairman of the Organizing Committee	Convention Hall A & B
---------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------



18th IUSTI Asia-Pacific Conference
11th-14th November 2014

Legend to Abstracts

Workshop	WS
Plenary lecture	PL
Symposium	S
Oral Presentation	O
Poster Presentation	P

Workshop (WS)

WS-02-01 Managing Vaginal Discharge

Dr. Verapol Chandeying

Professor, Faculty of Medicine, University of Phayao, Thailand

E-mail: verapol.c@gmail.com

The term vaginal discharge has been used synonymously with leucorrhoea. It has been defined as whitish discharge, which is not associated with menstruation. When used by the client, it is considered a symptom; the clinician uses it to describe a sign, and sometimes a diagnosis. As the pathophysiology is becoming more clearly understood, it is apparent that the term "leucorrhoea" is ambiguous. The symptoms and signs of vaginal discharge are found in diverse physiological to pathological conditions, both local and systemic. Abnormal vaginal discharge (AVD) is defined as anyone of the three presentations: (i) excessive vaginal discharge not associated with menstruation, pre-, mid-, and post-period; (ii) offensive or malodorous discharge; and (iii) yellowish discharge.

Vaginal discharge is the most common presenting complaint in women attending gynecology clinics, general practitioners and health clinic for women. Discordance between the degrees of AVD as described by the patient and examination findings may occasionally be encountered. Some clients can tolerate persistent discharge without complaint, and eventually deny its presence, although speculum examination shows heavy discharge. On the other hand, many clients complain of profuse discharge, however speculum examination reveals no odor or discharge. Patients that need to be investigated include those presenting with symptoms of AVD, with or without concurrent urogenital symptoms. The diagnosis and management will be discussed.

Workshop (WS)

WS-03 Dermatology for Non-dermatologist

Dr. Gilbert Yang

Fellow, Philippine Dermatological Society, Diploma in Venereology (Liverpool, UK), International Fellow, American Academy of Dermatology

E-mail: goshyang@yahoo.com

This workshop provides a refresher course in dermatology to the health-care provider who encounters patients with sexually transmitted infections in the clinical or community setting. The first part deals with the systematic approach to dermatologic diagnosis, which tackles history taking and physical examination of the skin. A comprehensive review of the different skin lesions will also be tackled. The second part of the workshop presents different dermatoses on the genital area that are nonvenereal in nature. This is relevant to clinicians, as they realize that not all skin lesions on the genital area are sexually transmitted.

Plenary Session (PL)

PL-01 Global Initiative of Elimination of Mother-to-Child Transmission of Syphilis and HIV: An Attainable Maternal and Child Health Goal

Lori Newman¹, Ying-Ru Lo²

¹ Medical Officer, Department of Reproductive Health and Research, World Health Organization, 20 Avenue Appia, 1211 Geneva, Switzerland, E-mail newmanl@who.int

² Coordinator HIV, Hepatitis and STI, WHO Regional Office for the Western Pacific, P.O. Box 2932 (United Nations Avenue), 1000 Manila, Philippines, E-mail loy@wpro.who.int

In addition to congenital disease in newborns, syphilis in pregnancy is the leading cause of stillbirth, and an important cause of neonatal death and low birth weight infants, affecting nearly 1,000,000 pregnant women in 2012. In 2013 there were approximately 1,400,000 births to women living with HIV, with an estimated 241,000 children newly infected with HIV. Addressing elimination of mother-to-child transmission (EMTCT) of syphilis and HIV through strengthening of maternal and child health systems may improve not only these infections, but also a broad range of maternal and child health outcomes prioritized by the UN Secretary General's Strategy on Women and Children's Health.

In 2007 the global initiative for the elimination of congenital syphilis was launched by WHO and UN partners to increase access to syphilis testing and treatment in pregnancy. In addition, in 2011 the Global Plan towards the Elimination of New HIV Infections among Children by 2015 and Keeping their Mothers Alive was launched. Regional initiatives for the dual elimination of mother-to-child transmission (EMTCT) of HIV and syphilis have been launched in Asia Pacific, the Americas, Africa, and Europe. As a result, there has been increasing advocacy and commitment for dual EMTCT of HIV and syphilis, and improved maternal health.

The presenters will review what is known about the current burden of syphilis and HIV infection in mothers and their infants globally and in the Asia Pacific region, and describe the key components of the global and regional strategies. The presenters will comment on progress in implementation of the strategies, and next steps planned at the global and regional level, including criteria and processes for validation of EMTCT. Several countries have made great progress towards EMTCT of HIV and syphilis, and it will be important to have common and credible mechanisms to celebrate these successes.

Plenary Session (PL)

PL-02 HIV/STI Epidemiology in Asia & Pacific: Updates & Perspectives

Ying-Ru Lo¹, Lori Newman²

1 Coordinator HIV, Hepatitis and STI, WHO Regional Office for the Western Pacific, P.O. Box 2932 (United Nations Avenue), 1000 Manila, Philippines, E-mail loy@wpro.who.int

2 Medical Officer, Department of Reproductive Health and Research, World Health Organization, 20 Avenue Appia, 1211 Geneva, Switzerland, E-mail newmanl@who.int

In 2012, there were 4.3 billion people living in Asia, which is equal to 60% of the global total of 7.1 billion people. Asia is the most dynamic region in the world in terms of economic growth. The further development of roads, communication systems and other major infrastructure promises to intensify the interchange between China, India and South-East Asia, and the emergence of Myanmar after decades' long isolation will generate new economic activity. Elements such as these may influence the evolution of HIV and STI epidemic patterns, and affect the design of prevention and treatment programmes.

Asia and the Pacific accounted for more than 40% of the total estimated new cases of 498.9 million curable sexually transmitted infections (STIs) worldwide in 2008 (2012 estimates under development). According to 2012 estimates, there were 4.7 million people living with HIV, 260,000 deaths, and 350 000 new HIV infections in Asia and the Pacific, a decline of 26% since 2001, but stagnating since 2008. The majority of new HIV infections are sexually transmitted.

STI are curable and could potentially be eliminated as a public health problem. More people than ever are accessing HIV treatment — 1.25 million in 2012, which may prevent transmission and AIDS deaths. Yet, STI and HIV epidemics are newly emerging among key populations such as men who have sex with men, and remain high among sex workers. Priorities of WHO in Asia and the Pacific are improving HIV and STI diagnosis, linkage of infected individuals to care, and early HIV and STI treatment in particular among key populations.

The authors will present new global STI estimates and discuss local HIV and STI data and service delivery models, with a focus on key populations, to illustrate current strategic priorities for STI and HIV prevention and treatment in Asia and the Pacific.

Plenary Session (PL)

PL-04 Social Entrepreneurship for Sexual Health: Crowdsourcing HIV Testing Promotion

Joseph Tucker

Assistant Professor of Medicine, University of North Carolina at Chapel Hill, UNC Project-China 2 Lujing Road, Guangdong Provincial STD Control Center, Guangzhou, China 510095

E-mail jdtucker@med.unc.edu

In 1907 the crowd at a county fair in England accurately estimated the weight of an ox. The median estimate of the crowd was more accurate than estimates from farmers and other experts. This startling observation demonstrates the wisdom of the crowds or communities in specific contexts. Designing innovative HIV interventions is challenging because groupthink, defined as the inclination to produce similar concepts insulated from outside influences, leads to homogenous campaigns with minimal input from key populations. The conventional approach to designing and implementing HIV testing promotion campaigns can be enhanced through crowdsourcing. Crowdsourcing is the process of taking a task performed by an individual and outsourcing it to a large group in the form of a contest or open call, often enabled by the Internet. Crowdsourcing has been used extensively in the private sector and championed by many as a cost-effective tool to generate creative, new ideas. Similarly, crowdsourcing can be applied to enhance HIV testing and linkage programs by generating diverse ideas and increasing key population engagement. This talk describes the process and evaluation of a crowdsourcing video contest to promote HIV testing in China. One minute videos were solicited through an open contest and judged by a panel. Open contests may provide a cost-effective, structured mechanism to promote innovation in global health. Our contest generated greater interest in HIV testing programs, built capacity for HIV media interventions, and forged new linkages between social media/technology partners and community-based organizations (CBOs). Technical (e.g., online forums) and substantive (e.g., monetary incentives or vouchers) adjustments may further catalyze the process of crowdsourcing. Implementation research is necessary to measure the benefits of this approach and compare it to other standard campaign development tools.

Plenary Session (PL)

PL-05 Cluster randomised trials to control sexually transmitted infection: What have we learned?

John M Kaldor, Skye McGregor, Rebecca Guy

Kirby Institute, University of New South Wales

E-mail jkaldor@kirby.unsw.edu.au

Background: Control of sexually transmitted infections (STIs) can only be achieved through implementation of multiple strategies, operating at the community and clinical, ideally with laboratory support. While some specific elements of STI control, such as specific therapeutic regimens, are best evaluated via individually randomised trials, some key components can only be assessed through the assignment of interventions at a population level. The cluster or community randomised trial was developed as the ideal methodology for this purpose, but has been used relatively infrequently for STI interventions, largely because of high cost and logistic challenges. We examined the processes and outcomes of published cluster randomised trials in STI control.

Methods: We conducted a literature search of all trials which assigned interventions aimed at the control of one or more STIs, other than HIV, to clusters defined by geography, and evaluated the prevalence or incidence of one or more STIs as one of the outcomes. For each trial, we extracted information on the type and characteristics of the population, the type and assignment of the intervention(s), the way in which the outcome was assessed, and the overall finding of the trial. We then carried out a descriptive analysis of these features.

Results: There were 11 trials which met the inclusion criteria, of which all but two were conducted in African countries. For 8 trials, the clusters were geographically separated (non-contiguous) while for the other three, this aspect was not specified. The target group for intervention was the whole population in designated age groups (generally young adults or adolescents), apart from one trial that focused on small groups of women engaged in sex work and another that recruited small groups of young women of high school age. Interventions were community based awareness (3 studies), clinical upskilling and support (2), a combination of the two strategies (2), mass drug administration (2), screening (1) and cash transfers (1). Two studies measured STI incidence (HSV-2 in both and syphilis in one) while the remainder used prevalence, generally of chlamydia, gonorrhoea and syphilis, as well as some other infections. Testing for STIs was undertaken at multiple time points in virtually all studies, with 5 relying on end of study comparisons to evaluate the outcome, and 6 using comparisons between baseline and subsequent measurements. Of the 11 trials, 6 found no reduction in STI occurrence in intervention clusters; significant reductions in STI occurrence were found in the 2 trials that combined community and clinical interventions, in 1 that investigated awareness, and 2 involving mass drug administration. Effect sizes were in the range 1.2 to 1.5.

Conclusion: Cluster randomised trials of STI control strategies have involved considerable methodological challenges, particularly in the assessment of outcomes. Some have found that the interventions under evaluation had benefit in the time frame of the study. The strongest findings have been from studies involving mass treatment.

Symposium Session (S)

S-01-02 Persistence of *Neisseria gonorrhoeae* DNA Following Treatment for Pharyngeal and Rectal Gonorrhea is Influenced by Antibiotic Susceptibility and Re-infection

Bissessor M^{1,2}, Whiley DM^{3,4}, Fairley CK^{1,5}, Bradshaw CS^{1,5}, Lee DM¹, Snow AS¹, Lahra M^{6,7}, Hocking JS², Chen MY^{1,5}

¹ Melbourne Sexual Health Centre, Melbourne, Victoria, Australia,

² Melbourne School of Population and Global Health, University of Melbourne, Melbourne, Victoria, Australia,

³ The University of Queensland, St Lucia, Queensland Australia,

⁴ Queensland Paediatric Infectious Diseases Laboratory, Royal Children's Hospital, Brisbane, Herston, Queensland Australia,

⁵ Central Clinical School, Monash University, Melbourne, Victoria, Australia,

⁶ WHO Collaborating Centre for Sexually Transmitted Diseases, SEALS Microbiology, The Prince of Wales Hospital, Randwick, New South Wales Australia, University of New South Wales, Kensington, New South Wales Australia.

E-mail: mchen@mshc.org.au

Introduction: To guide interpretation of gonorrhea tests of cure using nucleic acid amplification testing (NAAT), this study examined the persistence of *N. gonorrhoeae* DNA following treatment for pharyngeal and rectal gonorrhea.

Method: Men who had sex with men diagnosed with pharyngeal or rectal gonorrhea underwent swabbing from the pharynx or rectum 7 and 14 days following treatment. Repeat testing for *N. gonorrhoeae* was undertaken using real-time PCR assays targeting the *opa* gene and *porA* pseudogene. Re-infection was ascertained by questionnaire and *Neisseria gonorrhoeae* multi-antigen sequence typing (NG-MAST).

Results: 100 pharyngeal and 100 rectal gonorrhea infections in 190 men were included. For pharyngeal gonorrhea, positivity of *N. gonorrhoeae* DNA on both PCR assays was present at days 7 or 14 in 13% (95%CI: 6.4%-19.6%) and 8% (95% CI: 2.7%-13.3%) respectively. For rectal gonorrhea DNA positivity was present in 6% (95%CI: 1.4%-10.7%) and 8% (95% CI: 2.7%-13.3%) respectively. Among 200 baseline pharyngeal and rectal isolates, there were 10 with ceftriaxone MIC \geq 0.06 mg/L and azithromycin MIC \geq 0.5 mg/L, of which 3 (30%) had DNA detected at day 14: among the 190 isolates with lower ceftriaxone and azithromycin MICs, only 13 (7%) had persistent DNA (OR=5.8, 95%CI: 1.3-25.4; p=0.019). One man initially infected with NG-MAST type 2400 had type 4244 infection at day 14 indicating reinfection.

Conclusion: Pharyngeal and rectal gonorrhea DNA persisted in 8% of men 14 days after treatment. Persistence was associated with elevated ceftriaxone and azithromycin MICs. Persistence can also reflect reinfection.

Symposium Session (S)

S-01-03 National Antibiotic Regulating System and Its Application in China

Yonghong Xiao

State Key Lab for Diagnosis & Treatment of Infectious Diseases, 1st Affiliated Hospital, School of Medicine, Zhejiang University, China

Bacterial resistance is a serious problem in China. Following the announcement of the World Health Organization's global strategy to control antimicrobial resistance (AMR), the Chinese government launched a series of actions during the past decade to promote the rational use of antibiotics, including administrative policies, establishment of technical infrastructure and conducting several rounds of a national education and training program. In 2011, the government began a three-year special campaign for rational antibiotic use centered on the "Administrative Regulations of Clinical Use of Antibiotics," which integrated successful domestic and international experiences and defined all aspects of antibiotic use in hospitals. The regulations outline the roles, responsibilities and liabilities of health administrative authorities, medical institutions, hospital task forces and all categories of healthcare professionals in detail. It also proposed antibiotic stewardship as a basic management concept and asked medical institutions to build professional teams, implement staff training, and establish and improve the technological systems supporting rational antibiotics use. Some indicators were defined and targets set for institutions. Surveillance from tertiary hospitals between 2010 and 2012 showed that the proportion of outpatients receiving prescriptions for antibiotics decreased from 22% to 14.7%, and that of inpatients decreased from 68.9% to 54%, and use of antibiotic prophylaxis in surgical procedures decreased from 95% to 44.6%. Massive governmental effort and regulatory support show that it is possible to improve antibiotic use in a very large country like China in a relatively short time.

Symposium Session (S)

S-02-01 Incident BV in Women Who Have Sex with Women is Associated with Behaviours that Suggest Sexual Transmission of BV

Bradshaw Catriona⁴, Lenka A Vodstrcil^{1,2}, Sandra M Walker^{1,2}, Jane S Hocking², Matthew Law³, Dana S Forcey^{1,2}, Glenda Fehler¹, Jade E Bilardi^{1,4}, Marcus Y Chen^{1,2,4}, Katherine A Fethers², Christopher K Fairley^{1,4*},

¹ Melbourne Sexual Health Centre, The Alfred Hospital, Melbourne, Victoria, Australia

² Centre for Epidemiology and Biostatistics, Melbourne School of Population Health, University of Melbourne, Parkville, Victoria, Australia

³ The Kirby Institute, University of New South Wales, Darlinghurst, New South Wales, Australia

⁴ Central Clinical School, Monash University, Melbourne, Victoria Australia

Background: Female same-sex partnerships provide a unique opportunity to study the pathogenesis and transmissibility of bacterial vaginosis (BV) because it can be diagnosed in both members of the partnership. We conducted a nationwide community-enrolled cohort study of women who have sex with women (WSW), including women co-enrolled with their regular female sexual partner (FSP), to investigate the BV incidence rate and factors associated with incident BV.

Method: WSW, without prevalent BV in a cross-sectional study, were enrolled in a 24-month cohort study involving 3-monthly questionnaires and self-collected vaginal swabs that were scored by the Nugent method. We assessed the BV incidence rate/100 woman-years (WY) and used univariate and multivariable Cox regression analysis to establish factors associated with BV acquisition.

Results: 298 participants enrolled in the cohort; 122 were co-enrolled with their regular FSP. There were 51 incident cases of BV (rate 9.75/100 WY (95% confidence interval [CI]:7.41, 12.83)). Incident BV was associated with exposure to a new sexual partner (adjusted hazard ratio [AHR] = 2.16;95% CI=1.12,4.17), a partner with BV symptoms (AHR=3.95;1.50,10.40), receptive oral sex (AHR=3.66;1.45,9.20) and onset of BV symptoms (AHR=2.95;1.50,5.80). Women co-enrolled with their BV-negative partner had a greatly reduced risk of incident BV (AHR=0.13; 0.04, 0.38), and high concordance of Nugent category, which was predominantly normal vaginal flora throughout follow-up.

Conclusion: These data highlight the strong influence of sexual relationships and behaviours on BV acquisition and the vaginal microbiota. They provide epidemiological evidence to support exchange of vaginal bacterial species between women and support for the concept that BV is sexually transmitted.

Symposium Session (S)

S-02-02 Bacterial Vaginosis and Hormonal Contraception

Rebecca Brotman

Assistant Professor, University of Maryland School of Medicine, Institute for Genome Sciences

E-mail: rbrotman@som.umaryland.edu

Over 300 million women worldwide use some form of hormonal contraception (HC). Despite more than 50 years of widespread use, the effect of HC on mucosal responses or on the vaginal microbiota are still incompletely understood and have not been widely studied. Animal studies suggest that HC effects on mucosal environments and immune responses may be dependent on the duration of HC use. We are currently following a large cohort of women who initiated HC, and are carefully following these women over 2 years to define how the duration of HC use influences measures of mucosal immune function and the composition of the vaginal microbiota. Vaginal bacterial communities play an important role in preventing colonization by pathogenic organisms, including those responsible for sexually transmitted infections (STIs) and urinary tract infections. Fundamental differences exist in the vaginal microbiota of reproductive age women, and each bacterial state may have varying capacities to fend off pathogens. Sequencing and analysis of bacterial 16S rRNA genes provide an in-depth view of each type of vaginal microbiota before and after HC initiation. Data from our group and others suggest that the use of certain types of HC decreases the risk of disruptions in the vaginal microbiota and of frank bacterial vaginosis (BV). Our data demonstrate that women can be grouped into distinct vaginal microbial community groups and that an association exists between HC use and the bacterial community state. Describing the interactions between vaginal microbiota, HC type, and duration of HC use, will help identify which women are likely to benefit from HC use and the type of HC that would provide the most benefit. In an era of personalized medicine, this could be used to help guide clinicians when trying to choose the right HC for the right woman.

Symposium Session (S)

S-02-03 More Than Meets the Eye: Molecular Insights into Bacterial Vaginosis (BV) and the Genital Microbiota

David N. Fredricks, M.D.

Fred Hutchinson Cancer Research Center, University of Washington, Seattle, Washington, USA

E-mail: dfredric@fhcrc.org

Tools in molecular microbiology have expanded our understanding of bacterial diversity in the human vagina, and facilitated studies exploring the connections between genital bacterial communities and conditions such as BV and sexually transmitted infections. We used broad-range 16S rRNA gene PCR coupled with high-throughput sequencing to assess the relative abundances of vaginal bacteria in women with and without BV, demonstrating the heterogeneous composition of the vaginal microbiota in BV. We examined the relationships between abundances of bacterial sequence reads and the clinical elements used to define the presence of BV (Amsel criteria). These results suggest that particular bacterial species may be drivers of the individual clinical characteristics indicative of BV, such as elevated vaginal pH, presence of clue cells, vaginal discharge, and amine odor. Accordingly, heterogeneity in the bacterial communities of women with BV may result in differences in clinical presentation. We also explored the relationships between abundances of bacterial 16S rRNA gene sequence reads and the presence of particular bacterial morphotypes visible on Gram stain of vaginal fluid that are used to assess for BV (e.g. Nugent method). Surprisingly, these results suggested that *Mobiluncus* morphotypes were not associated with *Mobiluncus* sequence reads. *Mobiluncus* morphotypes on Gram stain were highly associated with sequence reads from bacterial vaginosis bacterium 1 (BVAB1), a fastidious, curved Gram-negative rod in the Clostridiales order that resembles *Mobiluncus*. Species-specific quantitative PCR and fluorescence in situ hybridization assays confirmed that “*Mobiluncus*” morphotypes seen on Gram stain of vaginal fluid from women with BV more likely represent BVAB1 than *Mobiluncus*. These findings have implications for studies attempting to link bacterial morphotypes to clinical outcomes, such as antibiotic failure in BV. Finally, we make the connection between a fastidious vaginal bacterium found in women with BV, and the condition non-gonococcal urethritis in men.

Symposium Session (S)

S-02-04 The Temporal Relationship between Vaginal Bacterial Communities and Sexual Debut

Jimmy Twin¹, Lenka Vodstrcil², Suzanne Garland³, Christopher Fairley⁴, Jane Hocking², Eric Chen⁴, Sepehr Tabrizi³, Catriona Bradshaw⁴

Royal Women's Hospital, Locked Bag 300, Parkville, 3052, Australia

¹ Murdoch Childrens Research Institute, Victoria, Australia

² University of Melbourne, Victoria, Australia

³ Royal Women's Hospital, Victoria, Australia

⁴ Melbourne Sexual Health Centre, Alfred Hospital, Victoria, Australia

E-mail: Jimmy.Twin@mcri.edu.au

Introduction: Sexual practices have the potential to introduce new bacterial species that in turn can impact upon vaginal health. This study aimed to assess stability of bacterial communities prior to any sexual experience as well as the effect of sexual debut on the vaginal microbiota.

Method: Female university students from Melbourne, Australia, aged 17-21 provided 4-5 longitudinal samples over a 12 month period with accompanying demographic and behavioural data, as well as Nugent scoring and self-reported symptoms. Overall, 55 (171 samples) women representing varying levels of sexual experience were evaluated comprising those who were virginal throughout the study (10 women; 45 samples), who experienced sexual debut during the study (10 women; 37 samples), those with sexual activity throughout (30 women; 64 samples) as well as incident cases of bacterial vaginosis (5 women; 25 samples). Samples were analysed using Roche 454 16S rRNA gene amplicon sequencing and confirmatory qPCR screening.

Results: No significant or lasting change in bacterial diversity was observed with respect to sexual debut and there was no association between any sexual practice (digital, oral, vaginal) and bacterial species identified. Healthy women who possessed a bacterial community dominated by *Lactobacillus crispatus* had the most stable bacterial community over time, and those that possessed a non-*Lactobacillus* dominated community were the most variable. Women from an Asian country were less likely to possess a dominant *L. crispatus* community than those born in Australia ($p=0.004$). In the 5 incident cases of bacterial vaginosis analysed, either *L. crispatus* or *L. iners* were the dominant bacteria beforehand.

Conclusion: This study suggests the protective role *L. crispatus* in the stability of a healthy vaginal bacterial community. Sexual activity does not significantly disturb the vaginal bacterial community structure.

Symposium Session (S)

S-03-01 Opt Out Referral of Men Who Have Sex with Men Newly Diagnosed with HIV to Partner Notification Officers Result in a Higher Yield of Sexual Partners Being Contacted

Rane V¹, Tomnay J³, Fairley CK^{1,2}, Read TRH¹, Bradshaw CS^{1,2}, Chen MY^{1,2}

¹ Melbourne Sexual Health Centre, Alfred Hospital, Australia

² Central Clinical School, Monash University, Australia

³ Centre for Excellence in Rural Sexual Health, Melbourne Medical School, University of Melbourne, Australia

E-mail: mchen@mshc.org.au

Background: Given its potential for reducing the proportion of people with HIV unaware of their diagnosis, partner notification for HIV has been underutilized. This study aimed to determine if the implementation of opt-out referral of men who have sex with men, newly diagnosed with HIV, to partner notification officers (PNOs) increased the proportion of sexual partners notified.

Method: In April 2013 all individuals newly diagnosed with HIV at the Melbourne Sexual Health Centre, Australia were referred to department of health PNOs for formal assistance with partner notification. The number of sexual partners identified by men and the proportion contacted in the 12 months before (opt-in period) and after (opt-out period) this policy change was determined through review of the clinical records, and where PNOs were involved, via direct or telephone interview and email contact.

Results: The 111 men diagnosed with HIV had a median CD4 count of 487. The median HIV viral load among the 25 men who were seroconverting was 100000 (IQR 4993-409,500). Compared to men in the opt-in period (n=51) men in the opt-out period (n=60) were significantly more likely to accept assistance from the PNOs [24% vs 85%, OR 17.9 (95%CI: 6.9-46.9)]. A significantly higher proportion of identified partners were notified with opt out referral (85/185, 46.0%; 95%CI: 38.6-53.4) compared to opt in referral (31/252, 12.3%; 95%CI: 8.5-17.0).

Discussion: Opt-out referral to PNOs resulted in a substantially higher proportion of partners at risk of HIV being contacted.

Symposium Session (S)

S-03-02 Partner Notification for Syphilis

Basil Donovan

Professor and Program Head, Kirby Institute, UNSW Australia

E-mail: bdonovan@kirby.unsw.edu.au

As a major STI capable of causing fetal loss or severe congenital disease, or enhancing the sexual transmission of HIV, case-finding is crucial to the management and control of syphilis. Many people with infectious syphilis are asymptomatic but they remain capable of ongoing transmission to others for several months, and occasionally years; yet they are easily cured with a single injection of penicillin. Case-finding relies on: (a) educating people to recognize symptoms and seek medical care; (b) educating doctors to recognize symptoms and signs, and test accordingly; (c) increasing the coverage and frequency of syphilis testing among those at highest risk; (d) implementing rapid point-of-care testing for pregnant women in high incidence settings; and (e) ensuring that the sexual partners of people with syphilis are promptly and properly managed ('partner notification').

Partner notification is most effective within relationships and is performed at least as much for clinical (avoiding re-infection of the index case) and medico-legal reasons as for public health reasons. However, outside of relationships the public health effectiveness of partner notification is probably limited. Mathematical modeling of syphilis epidemics among gay males suggests that even large improvements in notifying casual partners may only have modest benefits for syphilis control, such that limited resources may be better spent on increasing targeted testing.

Symposium Session (S)

S-03-03 Partner Notification in Asia-Pacific - Results from an Informal Survey

Roy Chan

Professor, National Skin Centre, Mandalay Road, Singapore 308205

E-mail_roychan@nsc.com.sg

Partner notification (PN) is an accepted pillar of STI control programmes. The practice of PN in the region however has not received much attention. An informal survey among STI practitioners was carried out to understand the practice of partner notification in countries in the Asia Pacific region

A questionnaire was drafted and pre-tested in Singapore. It was sent via email to 61 STI professionals in early 2012. These comprised of members of IUSTI Asia-Pacific branch as well as personal contacts of the author.

A total of 24 replies involving 29 clinics were received from 17 countries, 19 of which were from public STI clinics, and 9 were from Australia. PN was offered by over 95% of replies for HIV infection and cases of syphilis, gonorrhoea and chlamydia infection. Patient referral protocols were practiced by 79%. Over 70% of respondents reported that over 75% of cases of HIV, syphilis, gonorrhoea and chlamydia were interviewed their clinics. Far fewer reported successful notification of greater than 75% of contacts – 35% for HIV and syphilis, 24 % for gonorrhoea and 22% for chlamydia. The top 3 client-reported barriers were - difficulty in locating the partner, fear of marital/family conflict, and embarrassment/loss of respect. The top 3 structural barriers were mobile populations, lack of funding, and lack of dedicated network of GPs who can work closely with their clinic. Among newer PN strategies PDPT was reportedly used by 12 of the 24 respondents.

PN for HIV and the major bacterial STIs is practiced to a significant degree by clinics surveyed in the region. Successful contact tracing was more difficult to measure or demonstrate. Newer strategies should be introduced to improve the effectiveness of these services.

Symposium Session (S)

S-04-01 Macrolide resistance and azithromycin failure in a *Mycoplasma genitalium*-infected cohort, and response of azithromycin failures to alternative antibiotic regimens

Bradshaw Catriona⁶, Bissessor M^{1,2}, Tabrizi SN^{3,4}, Twin J⁴ ; Abdo H⁴ , Fairley CK^{1,5}, Chen MY^{1,5}, Vodstrcil LA^{1,2,4}, Jensen JS⁶, Hocking JS²,

1 Melbourne Sexual Health Centre, Alfred Hospital, Victoria,

2 Melbourne School of Population and Global Health, University of Melbourne, 3 Melbourne, Victoria, Australia,

4 Department of Obstetrics and Gynaecology, University of Melbourne, Victoria,

5 Department of Microbiology, Infectious Diseases, The Royal Women's Hospital, Murdoch Childrens Research Institute,

6 Central Clinical School, Monash University, Melbourne, Victoria, Australia,

Statens Serum Institut, Copenhagen, Denmark

Background: To determine the efficacy of azithromycin 1g and alternative antibiotic regimens in a prospective cohort of *Mycoplasma genitalium*-infected participants, and to examine factors associated with azithromycin failure.

Method: Consecutive eligible *M. genitalium*-infected men and women attending Melbourne Sexual Health Centre between July 2012 & June 2013 were treated with azithromycin 1g and retested by PCR on days 14 and 28. Cure was defined as PCR negative on day 28. Cases failing azithromycin were treated with moxifloxacin, and those failing moxifloxacin with pristinamycin. Pre- and post-treatment samples were assessed for macrolide resistance mutations (MRM) by high resolution melt analysis. Samples from cases failing moxifloxacin were sequenced for fluoroquinolone resistance mutations. Multivariable analysis was used to examine associations with azithromycin failure.

Results: Of 155 participants treated with azithromycin 1g, 95(61%; 95% CIs: 53-69%) were cured. Pre-treatment MRM was detected in 55 (35%; 28-43%) participants, and strongly associated with treatment failure (87%; 76-94%, Adjusted Odds Ratio=47.0; 17.1-129.0). Twelve participants had MRM detected only in post-treatment samples, all failed azithromycin. Moxifloxacin was effective in 53 (88% (95% CI: 78-94%)) of 60 cases failing azithromycin, with GyrA and ParC mutations detected in all pre-treatment samples. Six of seven moxifloxacin failures received pristinamycin and all were PCR negative 28 days after pristinamycin.

Conclusion: We report a high azithromycin failure rate (39%) in an *M. genitalium*-infected cohort predominantly due to pre-treatment MRM. Moxifloxacin failure occurred in 12% of cases requiring moxifloxacin; all had pre-treatment fluoroquinolone mutations detected. Pristinamycin was highly effective in treating macrolide and quinolone resistant strains.

Symposium Session (S)

S-04-02 How Important is Mycoplasma genitalium in Pelvic Inflammatory Disease?

Jonathan Ross, Professor, Dr

Birmingham University Hospital NHS Trust, Birmingham, UK

E-mail: jonathan.ross@uhb.nhs.uk

Based on a large number of clinical studies Mycoplasma genitalium is recognised as a common cause of urethritis in men, but its role as a pathogen in the female genital tract is less certain and this presentation will briefly review the evidence linking M. genitalium to cervicitis, endometritis and salpingitis. Our understanding of the pathogenic mechanisms involved in cell entry and cytokine activation is becoming clearer, and these will be explored in the context of female genital infection.

Information on the prevalence of M. genitalium in women can be estimated both from national and local population studies, and this information, combined with a small number of natural history studies, allows an estimate to be made of the relative importance of the organism in causing pelvic infection.

The utility of macrolide antibiotics and tetracyclines in the treatment of M. genitalium has been the subject of three randomised controlled trials in men but there are no similar trials in women. The current guidelines for the treatment of PID will be reviewed and recommendations made for the management of women with pelvic infection secondary to M. genitalium.

Symposium Session (S)

S-04-03 Emerging Multidrug Resistance in *Mycoplasma genitalium*

Jørgen Skov Jensen, MD, PhD & DMedSci

Microbiology and Infection Control, STI Research and Development, Statens Serum Institut, Copenhagen, Denmark

E-mail jsj@ssi.dk

M. genitalium is an established cause of sexually transmitted urethritis and cervicitis, and may cause upper tract disease in women. Detection by nucleic acid amplification tests is currently the only diagnostic method available, but no FDA approved assays are available, and the CE marked tests suffer from limited clinical evaluation.

In most settings, *M. genitalium* infections explain 15-25% of symptomatic non-gonococcal urethritis, but treatment will usually be syndromic, as diagnosis of the infection is not routinely carried out.

Only three randomized trials have evaluated treatment of *M. genitalium*, and compared only doxycycline 200 mg daily for 7 days with a 1 g single dose of azithromycin. Together with results from open trials, it is obvious that doxycycline is inefficient in eradicating *M. genitalium* showing eradication rates around 35%. The eradication rate after azithromycin 1 g single dose is significantly better, but differs greatly between studies. Thus, older studies appear to have higher eradication rates than recent ones and a lower eradication rate is reported in studies from centres where azithromycin has been used as the primary treatment for chlamydial and idiopathic urethritis and cervicitis.

At present, the only second line antibiotic that has been shown to have a high activity against macrolide resistant *M. genitalium* is moxifloxacin. However, this drug is significantly more expensive and has a less favourable safety profile than macrolides, and multidrug resistant infections have emerged, primarily in South East Asia. Consequently, there is an urgent need for clinical trials with possible alternative drugs. Such trials should preferably also address the treatment efficacy in chlamydial and idiopathic urethritis and cervicitis as a single treatment covering these conditions would be advantageous.

New data correlating the moxifloxacin in-vitro susceptibility of cultured *M. genitalium* strains and the molecular basis of resistance will be presented

Symposium Session (S)

S-04-04 Can screening control chlamydia?

Jane Hocking

Centre for Epidemiology and Biostatistics, Melbourne School of Population and Global Health, University of Melbourne, Australia

E-mail: jhocking@unimelb.edu.au.

There is still considerable debate about the effectiveness of annual chlamydia testing on chlamydia burden in the population. Mathematical modelling suggests that testing rates need to exceed 30% per year if there is any chance of reducing chlamydia. General practice clinics play an important role in the prevention and management of chlamydia in Australia. Most chlamydia infections in Australia are diagnosed in general practice and about 80% of young adults attend general practice each year for their own health, presenting with the opportunity to have an annual chlamydia test. Yet despite the central role of general practice in chlamydia management in Australia, chlamydia testing rates remain low. The Australian Chlamydia Control Effectiveness Pilot (ACCEPt) is a randomised controlled trial that aims to evaluate whether annual chlamydia testing for 16 to 29 year old men and women in general practice can reduce the prevalence of chlamydia in the population. A multifaceted intervention designed to facilitate increased chlamydia testing has been implemented in ACCEPt intervention clinics and comprises computer alerts, incentive payments to GPs for each chlamydia test conducted, quarterly audit and feedback on testing performance to each individual GP, practice nurse training and incentive payments, recall and reminders for follow up testing and education. ACCEPt has drawn on Normalisation Process Theory (NPT) to guide the design and implementation of this intervention and the experience to date has shown that a whole systems wide approach which engages with all clinic staff including general practitioners, practice managers and practice nurses is needed to embed chlamydia testing in routine clinical practice. Chlamydia testing rates will not increase over night, but a gradual increase over time can be expected as testing becomes more embedded in routine practice. Final results of ACCEPt will help determine whether annual testing can control chlamydia.

Symposium Session (S)

S-05 -01 Syphilis and MSM in Asia

Roy Chan

Professor, National Skin Centre, Mandalay Road, Singapore 308205

The incidence of syphilis is increasing among MSM in countries all over the region. Population based studies on syphilis are however lacking, incidence and prevalence statistics are incomplete and not representative, compared to much better quality HIV surveillance. Most surveys are based on intervention projects, convenience samples, or from STI/HIV treatment centres, thus making comparing data between countries of little value. In China a cross sectional study in 61 cities in 2008/2009 estimated prevalence of syphilis to be 11.8%, in Hong Kong it was 20% among STI clinic attendees, in Taiwan in 2012 the estimate was 2.2 % among pub and sauna patrons. A 2013 report from Malaysia reported 16.2% of men in a VCT site were positive for syphilis. In Japan the number of reported cases of syphilis is highest among MSM, with over 450 cases in 2013. In the Thai MSM/TG Test and Treat Study (2012/2013) the prevalence of syphilis was 5.8% among HIV-uninfected and 27.1 in HIV-infected men. Among MSM patients attending the STI Clinic in Singapore 11.9% had infectious syphilis and 20.8% had syphilis of all stages.

A multitude of factors are driving the resurgence of syphilis among MSM populations, these include the growth of the sexual marketplace, changing group cultural environments that facilitate high-risk sexual behaviour, changing individual level attitudes and behaviours, biomedical factors and structural realities that impact on effective disease prevention and control.

Symposium Session (S)

S-06-01 The Impact of Sexual Networks on the Spread of STIs and Public Health Implications

Mirjam Kretzschmar

*Professor Dynamics of Infectious Diseases, Julius Center for Health Sciences and Primary Care,
University Medical Center Utrecht, Utrecht, The Netherlands
Center for Infectious Disease Control, National Institute of Public Health and the Environment (RIVM), Bilthoven, The Netherlands*

E-mail mirjam.kretzschmar@rivm.nl

Sexual networks are the substrate on which STIs spread through populations. Sexual networks are dynamic and highly heterogeneous in time and structure. Understanding the relationship between network structure and transmission dynamics of STI is instrumental for assessing the impact of public health interventions for STIs. Mathematical models that capture essential features of those networks are an important tool for investigating the impact of sexual partnerships and networks on STI transmission dynamics. In dynamic network models, the duration of partnerships between pairs of individuals is explicitly taken into account. This implies that possibly many sexual contacts take place between the same pair of individuals, reinfection within partnerships can occur, and partnerships can overlap in time. These models are useful for studying sexually transmitted infections, where the duration of infectiousness is long, possibly in the order of the lifetime of individuals, and where partnership duration is similarly long. Dynamic network models have been used to model the transmission of HIV in various populations. For HIV a pertinent question is what proportion of onward transmissions are produced during the highly infectious early HIV infection. This depends on partner change rates and therefore on partnership duration, overlaps and gaps. For curable STIs long term partnerships may be a source of reinfection for an individual who has previously cleared the infection or has been treated. The impact of reinfection within partnerships on prevalence is relevant in the context of screening for chlamydia infections, where a large proportion of infections are asymptomatic. Effectiveness of screening may be reduced by reinfection within partnerships, thus emphasizing the importance of partner notification and treatment. I will discuss implications of sexual network structure on public health interventions like treatment as prevention, screening and partner notification.

Symposium Session (S)

S-06-02 How important is migration, mobility and sexual networks on STI transmission?

Susan Cassels

Assistant Professor, University of California Santa Barbara, CA 93106-4060, USA

E-mail: scassels@geog.ucsb.edu

STI transmission occurs over structured sexual networks. Migration can significantly change the structure of sexual networks, enabling pathogens to spread more rapidly throughout populations and connect otherwise separate populations. Whether STI prevention strategies should target migrant populations depends on whether migrants are disproportionately affected by STI or continue to drive ongoing STI transmission. Therefore, innovative methods are needed to study the impact of migration on sexual network structure and STI diffusion.

Understanding the impact of migration on STI transmission at the individual level is very different from understanding its impact at the population level. Additionally, STI prevention interventions targeted to highly mobile populations may have far-reaching and long-term implications. Thus, mathematical models of STI transmission dynamics are an important tool in this research agenda. They serve as a tool for testing and revising theories in what turns out to be a fairly complex system of interacting behavioral and biological components.

I propose a network-dyadic model to frame the conceptualization, design, measurement, and analysis of the role of migration on STI transmission. This model theorizes a disease transmission process occurring within a sexual dyad drawn from a network of potential partners, and entrance and exit from that network through migration. STI transmission is driven by risk behaviors of migrants that emerges and is enabled by mobility, the bridging of sub-epidemics across space and time, and the displacement effects on the primary residential sending community for migrants.

Mathematical models may help gain insight into the complex relationships between migration and STI at the levels of individuals, dyads, networks, and populations. We will review some of the mathematical models of migration and STI transmission, and discuss some potential ways to move this field forward.

Symposium Session (S)

S-07-01 Quality Improvement in STI Cluster/Thailand

Angkana Charoenwatanachokchai

Medical doctor, Chief of STI cluster, Bureau of AIDS, TB and STI, Department of Disease Control, Ministry of Public Health, Thailand

Before 2002, each province in Thailand had at least one STI clinic conducting outreach activities, and providing STI screening for key populations and STI care and treatment for all populations. Health care providers in these clinics were well-trained for STI care and treatment. However, due to Thailand health care reform, the clinics at the provincial health offices were closed down; STI services were provided at general hospitals where staff has no STI care-specific training. The number of STI outreach and screening activities declined; key populations were unable to access screening, prevention and care. Prevalence of STI increases and quality of services are unsatisfied. Capacity building trainings for staff were conducted 2 consecutive years after the reform but STI prevention and control activities improved very slowly.

In 2007, STI Cluster, Bureau of AIDS, TB and STIs, started a 5-year STI assessment project (2007-2011); the policy advocacy on STI special clinic was driven. Twenty-eight indicators were set to measure the policy response, STI screening, diagnosis, treatment and care, outreach work and information system. The tools used for measurement were manually-operated questionnaires and interview forms. In 2009, STI quality program was developed to improve the performance of health care staff. The implementation of the program was expanded in 2012-2013. With the national policy of free ART to all eligible Thai citizen with HIV infection, in 2013 better indicators were developed to measure the linkage between outreach work and STI and HIV screening, and between HIV positive cases and treatment and care. In 2014 STI performance assessment tools were developed; they are well-accepted by regional and provincial STI program managers. Forty-one hospitals/health care centers were assessed. Supervising, monitoring and providing technical support for the improvement of STI performance that keep balance of inspiration, motivation and pressure are a challenge.

Symposium Session (S)

S-07-02 Where should Sexually Transmitted Infection Programs be heading? Performance Measurement and Program Improvement

Michael Martin, M.D.

GAP Thailand/Asia Regional Office

Since Thailand reformed health care services in 2001, many stand-alone Sexually Transmitted Infection (STI) clinics have been closed and STI services integrated into general out-patient hospital services; only a few STI clinics remain open. The number of reported STI cases decreased from 518,305 in 2002 to 252,889 in 2008, more than 50%, but STI incidence remains high but has not been systematically reported. STI prevention activities include partner tracing, condom promotion, case registration and report, and program monitoring. Provider-initiated HIV counseling and testing (PICT) is a challenge; only 22% of STI cases received HIV testing in 2009.

In 2009, the STI Care and Treatment Quality Improvement (STIQUAL) model was implemented in an effort to improve the quality of STI care. STIQUAL was piloted in 5 provinces and expanded to 39 provinces in 2013. We will describe some of the challenges we encountered implementing STIQUAL and future plans to improve the quality of STI programs.

We analyzed data from key populations with no STI symptoms from 10 hospitals in Thailand: 2152 cases in 2009 and 2485 cases in 2013; 31.0% received HIV testing in 2009 and 65.8% in 2013, 48.6% received syphilis testing in 2009 and 82.2% in 2013. An STI was diagnosed in 2.5% of cases in 2009 and 1.9% of cases in 2013. HIV testing performance result among 1,432 and 1,603 STI diagnosed cases was 20.6% and 27.1%, respectively.

The session will focus on:

- Highlight progress and gaps in expanding access to performance measurement and program Improvement
- Highlight critical roles hospitals can play in using STIQUAL for performance measurement
- Discuss the contribution STI performance measurement can make to improving access to HIV testing and ending the AIDS epidemic

Symposium Session (S)

S-07-04 Uptake of VCT and STI Screening among MSM and FSW and Scaling up of Integrated STI/HIV Services in Northeastern Thailand

Prapaporn Kijwattanachai

Udonthani hospital, Udonthani 41000 Thailand

E-mail: kijwattanachaip@yahoo.com

Background: The low uptake of facility-based VCT and STI screening in Thailand, particularly among high-risk groups such as men who have sex with men (MSM) and female sex workers (FSW), has hindered attempts to increase access to effective treatment and prevention. Many barriers to HIV testing and STI screening have been described including long waiting time, fear of lack of confidentiality, and health system factors such as unavailability of HIV and STI testing with same day result. Voluntary counseling and testing provides an entry point for the prevention as well as treatment and care of HIV and AIDS.

Method: The new health insurance scheme and health care reform in Thailand in 2003 has increased general care accessibility and weakened public health interventions especially STI services, resulting in no STI-specific infrastructure for STI control and prevention, and barriers to access to STI services for target risk groups. Udonthani Hospital, a 900-bed regional hospital in Northeastern Thailand has established NAPHA clinic (integrated HIV/STI services) by allocating the national health security office (NHSO) budget for the expenses focused on quality HIV care and active STI prevention and treatment, active outreach and mobile services for VCT and STI approach.

Results: There is a high demand for VCT and STI services. 2,629, 2,272 and 2,218 clients have received VCT (2012-2013) among MSM and FSW (MSM 10-15% and FSW 35-40%).

Conclusion: Active outreach and mobile VCT has the potential to enhance VCT uptake among high-risk group such as MSM and FSW. The integrated STI/HIV model has strength in using one expertise team for dual responses, increasing accessibility for most-at-risk populations, and avoiding client stigma.

Symposium Session (S)

S-08-01 Recent trend of STI incidence in Japan

Soichi Arakawa, Dr., Ph.D.

Department of Infection Prevention and Control, Kobe University Hospital, Japan

- Introduction:** The trend of sexually transmitted infections (STI) incidence in Japan will be presented.
- Method:** We grasp the annual occurrence trend of Gonococcal infections (GI), Chlamydial infections (CI), Genital herpes (GH) and Condyloma acuminatum (CA) from the reports by fixed point observation of Infectious Disease Surveillance Center (IDSC) in National Institute of Infectious Diseases (NIID) and also comprehend the total number of patients with Syphilis. In parallel, the study group of STI granted by Ministry of Health, Labour and Welfare performs sentinel surveillance of GI, CI, GH, CA and Syphilis in representative 7 prefectures among whole 47 prefectures of Japan and estimates the incidence of these 5 STIs in whole of Japan per annum by calculating these STI patient's number with categorization of age by every 5 years old such as 15-19 or 20-24 years old per 100,000 population..
- Results:** The results by the fixed point observation show the increase of CI and GI in 15-24 years old between 2012 and 2013. Syphilis increased in both MSM (men who have sex with men) of 30-49 years old and women of 15-24 years old. In sentinel surveillance, male CI increased between 2012 and 2013 and male GI was stable in these 2 years. In 2013 the peak age of male CI and male GI was 5 years younger than those in 2012, respectively. In 2013, CI was most often seen in 20-24 years old male (220/100,000) and also in 20-24 years old female (630/100,000) in all the generations. GI was most often seen in 20-24 years old male (150/100,000) and also in 15-19 years old female (60/100,000).
- Conclusion:** In Japan, the occurrence of GI and CI tended to decrease from 2002 to 2009 annually, however, these STIs tended to increase slightly especially in younger generations in the recent 4 years. That of syphilis tended to increase in the recent 3 years. Therefore, it needs to educate the prevention of these STIs for young population constantly.

Symposium Session (S)

S-08-03 Re-emergence of Syphilis – A Challenge to STI Control in Asia-Pacific!

Kaushal Verma

All India Institute of Medical Sciences, New Delhi, India

Syphilis is an important ulcerative STI world over which accounts for nearly 12 million cases, of about 340 million cases of curable STIs occurring globally every year. The prevalence of syphilis had decreased significantly till 90s, however in the last decade the disease has re-emerged with alarming intensity, especially in developing countries. In China, the syphilis has risen from 5.7/100,000 cases in 2005 to 24/100,000 cases in 2009 and in high risk groups like CSWs, drug users and MSMs it was found to be as high as 7-15%. Congenital syphilis also increased from 19.7/100,000 live births in 2005 to 139/100,000 live births in 2009, an alarmingly high average annual increase. Increasing migrant workers and prostitutes, more extramarital sex, low condom use and poor control measures were the key factors incriminated in its increase. Syphilis cases among MSMs increased from 5% in 2005 to 12.5% in 2011 in Bangkok. An Australian study has shown an increase in infectious syphilis from 3.1/100,000 in 2004 to 7.7/100,000 in 2013. Malaysia had an incidence of 3.2/100,000 cases of syphilis in 2007. Syphilis has been reported to be the commonest ulcerative STI in a study from India. There is increased sero-prevalence of syphilis in blood donors. Similarly, syphilis has accounted for 37% of cases in transsexuals in Karachi, Pakistan in 1999 and a prevalence of 23% has been found in HIV drug users in Bangladesh. Southeast Asian countries also had an increase in syphilis. This indicates that syphilis is on rise in most Asian countries which has posed a serious challenge to STI control in this region.

Symposium Session (S)

S-08-04 Sexual Health Policy in Aotearoa New Zealand

Anne Robertson

Medical Head, Sexual health Service, MidCentral Health, Palmerston North, NZ

Despite its clean green image Aotearoa New Zealand (a country of 4.5 million populations) has relatively high rates of sexually transmitted infections. Laboratory surveillance in 2013 gave an estimated rate of 633 per 100 000 population for chlamydia and 78/100 000 for gonorrhoea (ESRa). The gonorrhoea rate in males was marginally higher at 82/100 000 compared to 72/100 000 in females. There were 180 notifications of HIV in 2013, 114 of whom were men who had sex with men (AIDS Epidemiology Group). There were 81 cases of infectious syphilis notified through specialist sexual health clinics, 90.1% of cases in men (ESRb).

A national sexual and reproductive health strategy released by the then Labour government in 2001 was never fully implemented (Ministry of Health). Epidemiological surveillance has improved since that time to include national laboratory surveillance. Access to testing has been made available through the funding of consultations in primary care, family planning and youth health clinics and school based services in addition to hospital based specialist services for referred and self-referred patients. As a result of the lack of prioritisation of sexual and reproductive health services this has occurred in an un-coordinated fashion. Recent grants from the Ministry of Health have enabled the NZ Sexual Health Society to develop online best practice guidelines and patient information resources. A value for money review of sexual and reproductive services in NZ was undertaken by KPMG in 2012/2013 (King)(Treasury) although the findings have not been formally released pending further work to be undertaken by the Ministry of Health to address findings of the review. A national advisor in sexual and reproductive health has subsequently been appointed.

HIV prevention strategies have included strong condom promotion through a national "Get It On!" campaign and early adoption of rapid testing in non-clinical settings but limited use of post-exposure prophylaxis. The CD4 threshold for commencing antiretroviral therapy increased from less than 350 to 500 cells/mm³ in 2013.

Current government health policy is focussed on shifting more self-referral consultations to primary care in integrated family medical centres with concerns that hospital based services will have difficulty in maintaining sufficient critical mass to undertake specialist functions. At a regional level, specialists are involved in education to primary care and other providers and in the development of localised clinical pathways.

- AIDS New Zealand Newsletter, <http://www.health.govt.nz/our-work/diseases-and-conditions/hiv-and-aids/aids-new-zealand-newsletter>*
- ESRa, (Environmental Science and Research), STIs in New Zealand – Annual Surveillance Report 2013, https://surv.esr.cri.nz/PDF_surveillance/STISurvRpt/2013/2013AnnualSTIReportFINAL.pdf*
- ESRb, (Environmental Science and Research), Enhanced Surveillance of Syphilis in NZ Sexual Health Clinics, 2013, https://surv.esr.cri.nz/PDF_surveillance/STIEnhancedsyphilis/EnhancedSyphilis2013.pdf*
- King Manaia, ministry of Health Update, NZSHS Conference, http://www.nzshs.org/auckland/M.King_Fri_8.50.pdf*
- Ministry of Health, Sexual and Reproductive Health Strategy, Phase One, <http://www.health.govt.nz/publication/sexual-and-reproductive-health-strategy-phase-one>*
- Treasury, Measuring and Managing Agency Performance, <http://www.treasury.govt.nz/government/investmentstatements/pdfs/agencyperformance-sep13.pdf>*

Symposium Session (S)

S-10-01 Using social media principles to enhance HIV medication adherence, a case study from “Epic Allies” a gaming and social support-based HIV medication mobile phone application

Sara LeGrand, PhD

Assistant Research Professor, Duke Global Health Institute, Duke University, Durham, NC 27710, USA

Globally, nearly 10 million people infected with HIV are receiving antiretroviral therapy (ART) but many struggle to adhere to treatment regimens. In the United States, men who have sex with men (MSM) account for two-thirds of all new HIV infections and young MSM (YMSM) are the only risk group experiencing an increase in HIV incidence. Many YMSM who are diagnosed with HIV do not get prescribed ART, adhere to ART regimens or achieve viral suppression. Once diagnosed with HIV, YMSM must adjust to living with a highly stigmatized health condition that requires lifelong medical management. For YMSM who may already be ostracized from families and friends because of their sexual identity, receiving an HIV diagnosis can increase social isolation, depression and anxiety.

Novel theory-based interventions that optimize engagement in care, ART uptake and ART adherence for HIV+ YMSM are needed. Improving ART adherence will result in better individual health outcomes and reduce the likelihood of onward transmission of HIV. Research studies and interventions that take advantage of technology-based platforms have great potential to encourage health promotion behaviors.

In response to the HIV treatment needs of YMSM, our research team developed Epic Allies, a mobile phone application (app) that utilizes game mechanics and social networking features to improve engagement in care, ART uptake and adherence among HIV+ YMSM. Social networking technologies enhance support and reduce social isolation, while game mechanics engage users to motivate and sustain daily medication adherence.

The presenter will discuss the theoretical framework that guided intervention app development, provide an overview of the app components, and describe how these components are designed to change HIV treatment behavior. Finally, the presenter will discuss how the intervention can be adapted for use with MSM and other populations in global settings to improve HIV medication adherence.

Symposium Session (S)

S-10-02 Use of a Social Media-based Intervention to Address Stigma Related to Sexual Orientation, Race/Ethnicity, and HIV among Men Who Have Sex with Men

Kate Muessig¹, Lisa B. Hightow-Weidman², Nina B. Baltierra², Emily C. Pike², Sara LeGrand³

¹ Assistant Professor, Gillings School of Global Public Health, The University of North Carolina at Chapel Hill

² Department of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, USA.

³ Center for Health Policy and Inequalities Research, Duke Global Health Institute, Duke University, Durham, North Carolina, USA.

Worldwide, stigma impedes efforts to combat the HIV epidemic by negatively impacting preventive behaviors such as condom use, HIV testing, and engagement in care. In many cases, those affected by HIV face stigma and discrimination which increases stress and depression and decreases quality of life. In the United States, young Black men who have sex with men (YBMSM) are the only risk group experiencing an increase in HIV/AIDS. Regardless of their HIV status, these men face multiple forms of stigma related to their sexuality, race, and HIV. No interventions have been designed to address the effects of these multiple stigmas among HIV-infected and uninfected YBMSM. Our research analyzes experiences of multiple stigmas as discussed by 99 YBMSM on an online intervention platform – HealthMpowerment.org (HMP). HMP is an electronic Health (eHealth) intervention to reduce risky sexual behaviors, promote health, and provide social support among YBMSM and transgender women (TW). HMP is an interactive, user-driven, multi-feature intervention available as a traditional website or mobile phone-optimized website. HMP underwent multiple iterations of development and evaluation among more than 130 YBMSM/TW and is currently being tested in a randomized controlled trial. In this presentation we will introduce the HMP intervention, describe the qualitative analysis used to characterize the contributions of multiple stigmas to HIV risk mediators, behaviors, and engagement in care and propose ways through which this mode of online social support could mitigate the impact of multiple stigmas on HIV-related outcomes. This form of social support to address stigma via online interventions can readily be scaled up for broader dissemination to provide support, reduce HIV transmission, and improve care. Due to MSM/TW high access to and use of social networking sites on the internet and on mobile phones worldwide, we discuss the relevance of using these technologies for interventions in other global settings.

Symposium Session (S)

S-10-03 Gay Mobile Applications for Partner Seeking in Men Who Have Sex with Men

Best John¹, Cedric H. Bien^{1,2}, Kathryn E. Muessig^{1,3,5}, Chongyi Wei⁴, Larry Han¹, Joseph D. Tucker^{1,5}

¹ University of North Carolina-Project-China, Guangzhou, China

² Montefiore Medical Center – Bronx, NY, USA

³ Department of Health Behavior, The Gillings School of Global Public Health at the University of North Carolina at Chapel Hill, Chapel Hill, NC, USA

⁴ University of California San Francisco Department of Epidemiology and Biostatistics, San Francisco, CA, USA

⁵ Institute for Global Health and Infectious Diseases, UNC Chapel Hill, NC, USA

E-mail: john.best@ucsf.edu

As is the case in many countries, Chinese men who have sex with men (MSM) are disproportionately affected by HIV and other sexually transmitted diseases. Compared to the general population, MSM in China have a significantly higher national prevalence of HIV (6.5%) and syphilis (11.2%).

Stigma associated with MSM behaviors and a harsh local environment in many low and middle-income countries encourage MSM-specific online social networking. In China, the country with the largest number of smartphone and internet users worldwide, these technologies have surpassed traditional locations such as gay saunas and bars as the preferred site for MSM to find sex partners. For example, the leading gay networking mobile application (app) in Asia, Blued, has accrued over 3 million users since its launch in 2012. We examined associations between gay app use and sexual behaviors among Chinese MSM. Our findings suggest app users differ from non-app users in demographics, sexual health behaviors and HIV testing behaviors. These results have significant public health consequences considering the rate at which MSM are adopting these applications across the nation.

The presenter will discuss the use of gay apps by MSM to find new sex partners, sexual health correlates, and how gay apps might be leveraged for health-positive public health interventions.

Symposium Session (S)

S-11-01 Is Chlamydia Screening Doing More Harm Than Good?

Nicola Low

Professor, Institute of Social and Preventive Medicine, University of Bern, Bern, Switzerland

E-mail: low@ispm.unibe.ch

Chlamydia screening has harms as well as benefits. Screening means offering a test for chlamydia to someone who has no symptoms and does not know that they might be infected. They might benefit from the test by having the infection treated and this might prevent pelvic inflammatory disease. But the test could also have unwanted effects, for the individual and at the population level.

I will discuss, in particular, the theory and evidence behind the “arrested immunity hypothesis,” which Brunham proposed. The hypothesis proposes that chlamydia infection rates fall after a screening programme is introduced in a population, then increase because early antibiotic treatment interferes with the development of protective immune responses. A population with no immunity to chlamydia is then susceptible to repeated infection, so infection rates rise.

Weighing up the balance of benefits and harms is one of the essential steps in the process of deciding whether or not to introduce a screening programme. In this talk, I will also discuss other possible adverse effects of being screened for chlamydia. I will then try to quantify them and try to work out if the balance of bad effects outweighs the beneficial effects of screening.

Symposium Session (S)

S-11-02 Do we have effective treatment for chlamydia?

Fabian Kong

PhD candidate, University of Melbourne, Carlton South 3053 Victoria, Australia

E-mail kongf@unimelb.edu.au

Treatment of uncomplicated *Chlamydia trachomatis* currently includes 1g single dose azithromycin or 7 days doxycycline (100mg twice daily). A recent meta-analysis of randomised controlled trials (RCTs) comparing azithromycin 1g single dose with doxycycline 100mg twice daily for 7 days for the treatment of urogenital chlamydia infections showed up to a 3% efficacy difference between these treatments in favour of doxycycline (azithromycin and doxycycline treatment efficacy of 94.3% and 97.1% respectively). However, there were limitations in the available evidence with only 4 of the 23 trials included in the meta-analysis were double-blinded. A similar meta-analysis was undertaken to investigate treatment efficacy for rectal chlamydia infection. This meta-analysis found that doxycycline had greater efficacy than azithromycin (99.0% and 83.6% respectively), but the quality of studies included was also very poor with no RCTs comparing the two treatments. The available pharmacokinetic data for azithromycin in cervical tissue suggest that azithromycin should remain at high enough levels to kill chlamydia for up to 14 days following a single 1 gram dose. However, there are no pharmacokinetic data available for azithromycin in rectal tissue and given that the microbiome and immune response in the rectal mucosa may be weaker than that observed in the cervix and vagina and there are increasing concerns about treatment efficacy for rectal chlamydia, it is possible that azithromycin may have different antimicrobial actions in the rectum.

Chlamydia treatment failures could also occur as a result of the induction of chlamydia persistence through exposure to β -lactam antibiotics, interferon- γ , deprivation of iron or amino acids or coinfection with herpes simplex virus, with animal and human studies suggesting persistent or recurrent infections respond better to azithromycin, and doxycycline being superior in treating acute infections. Animal studies also suggest that extended courses of azithromycin can overcome persistent infections.

The presenter will discuss the evidence for the treatment of urethral, cervical and rectal infection including discussion of potential chlamydia persistence and its role in treatment failure.

Symposium Session (S)

S-11-03 Is an Effective Vaccine for *Chlamydia trachomatis* Possible?

Peter Timms

Professor of Microbiology, University of the Sunshine Coast, Australia

E-mail: ptimms@usc.edu.au

Background: *Chlamydia trachomatis* continues to be the most commonly reported sexually transmitted bacterial infection with more than 100 million new cases diagnosed annually. These acute infections translate into significant downstream health care costs, particularly for women, where infertility and pelvic inflammatory disease are the most serious sequelae. While it is accepted that a successful vaccine should preferably reduce infection levels to below that required for transmission, a vaccine that can prevent the adverse pathology is also required.

Method: We have used the mouse model of *Chlamydia muridarum* to investigate routes of immunization, adjuvants and candidate antigens for both reducing infectious load as well as preventing adverse pathology outcomes.

Results and Conclusion: The mouse / *C. muridarum* model shows that, using the major outer membrane protein, MOMP as the vaccine candidate, subcutaneous, transcutaneous, intranasal, oral and even sublingual routes of administration all result in significantly reduced infection burdens, reduced length of infection and most importantly, reduced pathology in the upper genital tract. Recent results however are showing that the vaccine preparation that produces the best reduction in infectious load does not necessarily result in the best reduction in pathology score. The key cytokine responses that underpin each type of protection are now beginning to be elucidated. While MOMP is highly immunogenic, it suffers from strain diversity. We have therefore evaluated conserved components of the chlamydial Type-3-Secretion System and have generated good levels of protection against both infection and disease. The mouse / *C. muridarum* model has a weakness in that it is not a natural infection model. Overall, while still remaining a major challenge, the development of a successful *C. trachomatis* vaccine is starting to look more likely.

Symposium Session (S)

S-12-01 Ending the HIV Epidemic with Antiretrovirals: Is It Possible?

Nicholas Medland

Central Clinical School Monash University, Melbourne, Australia. Melbourne Sexual Health Centre, Alfred Health, Melbourne Australia

E-mail: NMEDLAND@MSHC.ORG.AU

At AIDS 2014, UNAIDS director Michel Sidebe announced new global targets for the scale-up of antiretroviral treatment (ART) access which include 90% of infected individuals having received a diagnosis, of whom 90% would be on ART, of whom 90% would have maximally suppressed viral load. This represents an overall ART coverage of approximated 73%. Botswana and the United Kingdom appear to have the highest coverage to date, although significantly below this target. Thailand and Australia also report levels which are somewhat higher than countries like USA or South Africa. Indeed the ways that health systems have responded in resource limited settings may be more amenable to achieving high level of coverage than in the richer countries.

In addition to being very difficult to achieve anywhere in the world, these targets are likely to represent the minimum required to substantially reduce secondary transmission and incidence at a population level. Scale up of services, in resource limited and resource plenty settings alike have previously focused on infrastructure development and service accessibility. Patients are often identified and receive treatment on the basis of clinical disease progression, long after the period when it is suspected that secondary transmission of HIV predominantly occurs.

A point where the overwhelming majority of the most-at-risk populations are actually accessing services while be both difficult to achieve and to measure given that these communities are often characterized by under-representation of health care systems and invisibility within them.

This presentation will review the current models for measuring effective HIV coverage and compare them to available data on the population protective benefit of high antiretroviral coverage. Areas where service delivery, research focus and community collaboration must shift to produce the possibility of treating through the HIV epidemic will be identified and the available data at some of these points presented.

Symposium Session (S)

S-12-02 The HIV Treatment and Care Continuum: A Waterfall of Drugs over a Leaky Cascade

Frits van Griensven^{1,2}, Philippe Girault³, Donn Colby¹, Stephen Wignall³.

¹ Thai Red Cross AIDS Research Center, Bangkok, Thailand

² Division of Preventive Medicine and Public Health, University of California, San Francisco, CA, USA

³ Bali Medica Clinic, Yayasan Bali Peduli and Kasih Suwitno Foundation, Bali and Jakarta, Indonesia.

E-mail: fritsvg@trcarc.org

During the past two decades, the prophylactic and therapeutic use of antiretroviral (ARV) drugs has been shown efficacious in preventing and treating human immunodeficiency virus (HIV) infection. Despite these successes and ensuing expectations about achieving HIV epidemic control, the uptake of these agents in HIV prevention and care for key populations has been slow and their impact limited. A cascading waterfall model linking HIV testing, care and treatment as a process of sequential stages (also known as the “Cascade”) has been proposed to conceptualize and evaluate the delivery of these services and their outcomes. Recent studies have shown that even in the most affluent countries, limited uptake followed by sequential leakage of at risk individuals from the cascade, reduced the anticipated impact of effective ARV drugs on the overall course of the HIV epidemic to a minimum. Alternative and innovate HIV service delivery models and approaches are therefore needed to improve uptake, engagement and retention in the cascade. This presentation will review the spectrum of currently available effective HIV prevention, treatment and care services with a focus on men who have sex with men (MSM) and transgender (TG) individuals. An overview of quantitative information regarding the success of these services in achieving desired outcomes will be presented. Alternative delivery models and approaches and how they may help to increase the potential impact of ARV based HIV prevention and treatment services for MSM and TG will be discussed.

Symposium Session (S)

S-12-03 Community Perspectives and Priorities for Test and Treat

Chris Connelly

International Program Manager, Australian Federation of AIDS Organisations (AFAO), 23/6 Soi Napasab 2, Sukhumvit 36, Klongton, Klongtoei, Bangkok 10110, Thailand

TasP and community based testing offers great opportunities as well as risks for key populations in the fights against HIV. The roll out of TasP and community based testing offers space for greater community involvement in leading service delivery and providing the link between health systems and the communities. However barriers such as human rights violations, punitive laws, stigma and discrimination are still areas which need to be addressed, and a purely biomedical approach will not achieve the UNAIDS goals of 90-90-90. Community leadership is vital in these areas, but requires adequate funding, capacity building and investment. These areas will be discussed drawing on experiences from Australia, Asia and the Pacific.

Symposium Session (S)

S-12-04 Investing in an End to AIDS: Priorities for Programming

Michael M Cassell

Regional HIV and TB Advisor, U.S. Agency for International Development, Regional Development Mission Asia, Athenee Tower, 25th Floor, 63 Wireless Road, Lumpini, Patumwan Bangkok, 10330 Thailand

E-mail: mcassell@usaid.gov

Advances in science have equipped us with an ambitious vision to end the AIDS epidemic by 2030 through the expansion of antiretroviral program financing, coverage, and quality by 2020. Overcoming substantial gaps in each of these areas is contingent on the realization of both enhanced value for money in HIV investments and sustainable resource mobilization. Across the Asia-Pacific region, total HIV investments from domestic resources have now outpaced those from international sources, but only about one-third of HIV-infected individuals are receiving treatment. Estimates suggest that an annual gap of between \$2 to \$5 billion globally in antiretroviral medication and lab costs alone may challenge the achievement of the new vision. Nevertheless, per-patient treatment costs have declined precipitously in the past decade, and many opportunities exist to improve program efficiency. Priorities to further drive down unit costs while improving program performance include: a) forging and incentivizing clinical and community partnerships to more efficiently reach and retain in services key populations facing the greatest HIV infection risks; b) taking full advantage of point-of-care diagnostic technologies to enhance case finding and improve patient outcomes; c) integrating and strategically decentralizing services; and, d) optimizing procurement and supply-chain systems. Mobilization of the resources needed to end AIDS will require: 1) greater focus on the economic benefits of early treatment; 2) broader opportunities for profitable private sector investment; 3) innovations in public-sector health financing; and, 4) expanded civil-society engagement.

Symposium Session (S)

S-13-01 Strategy for diagnosis of STIs

Prof. Seung-Ju Lee

Department of Urology, St. Vincent's Hospital, The Catholic University of Korea, Suwon, Korea

The strategies for diagnosis of sexually transmitted infections (STIs) in Asian countries are very important for the following reasons: curable STIs are frequently found in Asians; STIs can result in serious physical complications in some patients; and deplete a developing nation's economic reservoir for controlling the infections. Practically, untreated early syphilis will result in a stillbirth rate of 25% and be responsible for 14% of neonatal deaths. Untreated gonococcal and chlamydia infections in women will result in pelvic inflammatory disease in up to 40% of cases. One in four of these cases will result in infertility. STIs are not only medical problems, but also social, political, behavioral and economical problems. To solve these complicated and entangled problems, we must explore more comprehensive approaches as follows; international cooperation, national supports or international supports, and governmental or community supports. Furthermore, the strategies for detection of STIs should be designed within one's national ability or budget. To establish a good Asian STIs guideline, we must consider the heterogeneous characteristics of Asian countries, and the draft must be reviewed by wide spectrums of national specialists to adjust their performance. In near future, we should set up regional or international central laboratories to support the diagnosis and treatment of STIs.

Symposium Session (S)

S-13-03 UAA/AAUS guideline-preliminary recommendation for treatment of urethritis

Ryoichi Hamasuna Dr.

Department of Urology, University of Occupational and Environmental Health, Japan

E-mail: hamaryo@med.uoeh-u.ac.jp

Urological Association of Asia (UAA) requested us, Asian Association of UTI and STI (AAUS), to make the guideline of sexually transmitted infections (STIs) for Asian urologists. In some Asian countries, urologists commonly examine patients with STIs especially urethritis. Asia has a lot of countries with different cultures, religions, economies or medical systems. Available antimicrobials or examination are varied and it has been difficult to make consensus opinion available for all countries.

The prevalence of antimicrobial-resistant strains are very high in Asian countries, especially to penicillin, fluoroquinolone, oral cephalosporin or macrolide. After emerging ceftriaxone-resistant *N. gonorrhoeae* strains in Japan or Europe, the recommended regimens for gonococcal infection are based on ceftriaxone. The recommended dosage of ceftriaxone has been discussed, but we now recommend a transvenously single 1g-dose ceftriaxone. The clinical study and PK/PD theory showed that the high-dose ceftriaxone was effective for both genital and pharyngeal gonococcal infection. Spectinomycin is effective for urethritis, but not pharyngeal infection.

The non-gonococcal urethritis can be classified as chlamydial urethritis and non-chlamydial non-gonococcal urethritis. *Chlamydia trachomatis*, *Mycoplasma genitalium* and *Trichomonas vaginitis* are conformed as pathogens for male urethritis. For Chlamydial urethritis, single 1g-dose azithromycin or doxycycline 200mg per day for 7 days are recommended. Fluoroquinolone such as ofloxacin or levofloxacin regimens for 7 days can be available. For *M. genitalium* urethritis, single 1g-dose wit azithromycin is still recommended. However, azithromycin-resistant *M. genitalium* strains emerged and spreading in the world. If the treatment with azithromycin are failed, moxifloxacin is available. Sitafloxacin is also effective, but the use of this agent is restricted in some countries. For trichomonal urethritis, metronidazole should be used.

Antimicrobials or dosage should be selected according to the situation of any countries in Asia. More discussion are necessary for the final decision of the guideline.

Symposium Session (S)

S-14-01 Sexual Behaviors and Pharyngeal Infection

Ryoichi Hamasuna, Tetsuro Matsumoto Dr.

Department of Urology, University of Occupational and Environmental Health, Japan

E-mail: hamaryo@med.uoeh-u.ac.jp

Oral sex is a common sexual practice between homosexual and heterosexual couples or commercial sex workers (CSW) and their clients. It is not a new or special behavior but it has an impact to all peoples because the oro-genital or oro-anal contacts are recognized as important routes of transmission for sexually transmitted infections (STI) pathogens. In addition, the pharyngeal infection of STI pathogens can be important reservoir for STI and the pharynx can be the site where antimicrobial resistant strains were produced. The detection of *N. gonorrhoeae* from the pharynx has been reported from 1960s and the ceftriaxone-resistant *N. gonorrhoeae* strain was discovered from the pharynx of female CSW in Japan at 2011. The detection of *C. trachomatis* from the throat has been also reported from 1970s. Other bacteria such as *T. pallidum*, *N. meningitidis*, *H. influenzae*, *M. pneumoniae* or others were reported as transmissible pathogens by oro-genital contacts. Viral STIs are also transmissible by oral sex. The transmission risk of HIV by oral sex is much less than by anal or vaginal sex, but it is not zero. The risk increases when men or women with oral ulcer, bleeding gums or oral STIs have oral sex or when HIV-infected men ejaculate in the mouth. Historically, genital herpes was predominantly caused by HSV2, but the increase in isolation of HSV1 has been predominantly in the lesions of the primary genital-herpes among women who received cunnilingus. Some cases of oral warts with HPV were reported and the relationship between oral sex and oral HPV infection was reported. Hepatitis viruses can be transmissible by oro-anal contacts. Some enteropathogens such as *Strongyloides stercoralis* are infected by oro-anal contacts, especially among MSM. In this symposium, we discuss about risk of STI transmission and oral sex.

Symposium Session (S)

S-14-02 Chlamydial infection in the pharynx: detection and treatment

Prof. Seung-Ju Lee

Department of Urology, St. Vincent's Hospital, The Catholic University of Korea, Suwon, Korea

Oral sex is considered an important route for the transmission of sexually transmitted infections (STIs). *Neisseria gonorrhoeae* (NG) and *Chlamydia trachomatis* (CT) are common bacterial causes of pharyngeal STIs and mostly are asymptomatic. Asymptomatic CT infection in the pharynx can rarely be seen grossly. Traditionally, specimens have been collected by swabs from the pharynx. However, a contradiction is considered to exist because we sampled the swabs from the pharynx where it looked normal and the prevalence rate of CT infection can be underestimated. Recently, oral wash fluid specimens with pharyngeal swab specimens using a nucleic acid amplification tests (NAATs) has been introduced as a more effective detection of pharyngeal CT. Because of poor evidences in literature, the effective treatment of pharyngeal CT is still unclear. When a single 1-g dose of azithromycin was administered, CT remained positive in 4.3% of MSM in Canada, but all were eradicated in a women's study in Japan. Eradication rates of CT in the pharynx were 82% by clarithromycin (400 mg per day, 7 days) or 79% by tosufloxacin (300 mg per day, 7 days). When urologists treat male urethritis, we should care for the pharyngeal infection of NG or CT. When patients with urethritis complain of some symptoms of pharyngitis such as sore throat or when the patients or their partners have recurrent urethritis or cervicitis, tests for NG and CT in the pharynx would be recommended.

Symposium Session (S)

S-15-01 International Genital Wart Reductions

Basil Donovan

Professor and Program Head, Kirby Institute, UNSW Australia

E-mail: bdonovan@kirby.unsw.edu.au

The quadrivalent human papillomavirus (qHPV) vaccine targets HPV types 6 and 11 – the pathogens responsible for >95% of genital warts – as well as HPV types 16 and 18 – the causes of most ano-genital cancers. As the median incubation period, from HPV infection to the appearance of lesions is only 3 months, rapid declines in the incidence of genital warts can be expected to occur after the introduction of a HPV vaccination program provided the population coverage is high enough. In high-income countries qHPV vaccine coverage for girls has ranged between 50% and 90% - highest in the countries with school-based programs, resulting in a 93% decline in genital warts in young women in the most vaccinated country (Australia), and smaller declines where the coverage is lower. Countries with high vaccine coverage of girls have also documented herd protection benefits for young heterosexual men but not for men who have sex with men. An Australian HPV prevalence study has even documented a herd protection effect for unvaccinated women. Two countries have begun to vaccinate schoolboys as well as schoolgirls. With time, vaccinating boys is expected to result in the near elimination of genital warts.

Symposium Session (S)

S-15-02 Cytological Changes in Australia Post the HPV Vaccine

Julia Brotherton

Medical Director, National HPV Vaccination Program Register, VCS, East Melbourne VIC 3002 Australia

E-mail: jbrother@vcs.org.au

In 2007 Australia became the first country in the world to commence a government funded HPV vaccination program using the quadrivalent HPV vaccine. Females aged 12-26 years were offered vaccination until the end of 2009, with an ongoing program for 12-13 year olds since then. Over half of Australia's young females were vaccinated, with 3 dose coverage of 70% achieved for those vaccinated at age 12-17 years (chiefly through school programs). Because Australia also has comprehensive cervical screening registers and commences screening at a young age, Australia is ideally placed to monitor changes in cervical pathology following population based HPV vaccination.

By the end of 2009, data from the Victorian Cervical Cytology Registry demonstrated declining rates of high grade cervical lesions amongst very young women. Since that time declines have continued, with pronounced declines in high grade abnormality rates occurring in women <20 years of age and in those aged 20-24 years. Rates of high grade abnormalities are no longer highest in 20-24 year olds in Australia, but now peak in the 25-29 year old age group. Two data linkage projects have linked vaccination registry data with screening registry data to demonstrate that vaccinated women have lower rates of high grade and low grade abnormalities than unvaccinated women. A summary of these findings, and new analyses of the impact of less than three vaccine doses, will be presented.

Symposium Session (S)

S-15-03 HPV vaccination in MSM

Christopher Fairley

Professor, Melbourne Sexual Health Centre, Monash University, Australia

E-mail: cfairley@mshc.org.au

The consequences of HPV infection in gay and other men who have sex with men (MSM) is substantial. Genital and anal warts, anal and genital HPV infection, abnormal anal cytological changes and anal cancer is much more common than the general community. MSM with HIV are at particularly high risk.

The dramatic reductions in genital warts, pre-cancer lesions and high grade HPV types seen in young Australian women with vaccine coverage of around 70% could initially suggest that similar dramatic reductions will be seen in young MSM with the introduction of free HPV vaccine. Boys in Australian schools have received HPV vaccine free from 2013. However the vaccine coverage required to generate these same dramatic reductions in genital warts, anal cytological abnormalities and HPV infection will depend on the reproductive rate of HPV infection in MSM. The reproductive rate is determined by the probability of transmission per partnership, the rate of partner change and the duration of infection. There is strong evidence to suggest that the reproductive rate may be substantially higher in MSM than in heterosexuals and therefore if the same changes are to occur in MSM that occurred in heterosexual a significantly higher vaccination coverage will be required.

The presenter will discuss the options for obtaining high vaccine coverage in MSM including the evidence for school based programs and for strategies based on selective vaccination of MSM after they begin sexual activity.

O-01-01 In Vitro Synergy Testing of 21 Different Dual Antimicrobial Combinations for Treatment of Gonorrhoea in Future Era

Vikram Singh^{1,2}, Manju Bala¹, Aradhana Bhargava¹, Ravi Bhatnagar²

¹ Apex Regional STD Teaching, Training & Research Centre, VMMC & Safdarjung Hospital, New Delhi, India

² SunRise University, Alwar, Rajasthan, India

E-mail: vikram290@gmail.com

Background: Emergence of resistance to last available treatment options of third generation cephalosporin's for gonorrhoea highlights the need to consider alternatives for future therapeutic use. Combination therapy may control the spread and impact of antibiotic resistance. Therefore, we evaluated in vitro activities of 21 different antimicrobial combinations in multidrug resistant or extensively drug resistant *Neisseria gonorrhoeae* strains.

Method: Minimum Inhibitory Concentration of 26 *N. gonorrhoeae* isolates including WHO reference strains were determined for cefixime (IX), ceftriaxone (TX), spectinomycin (SH), azithromycin (AZ), gentamicin (GM), moxifloxacin (MX) and ertapenem (ETP) individually and in combination by Etest method. To evaluate the synergistic, additive, indifference or antagonistic effect of the combination, the fractional inhibitory concentration (FIC) index was calculated for each antibiotic in each combination. Synergism was defined as an FIC index of ≤ 0.5 , additivity as > 0.5 to ≤ 1.0 , indifference as > 1.0 to ≤ 4.0 and antagonism as an FIC index of > 4.0 .

Results: Synergistic and additive effects respectively for different combinations were as follow: GM+ETP (25%, 56.3%), MX+ETP (18.8%, 50%), TX+GM (15.4%, 50%), TX+SH (15.4%, 46.1%), AZ+ETP (12.5%, 25%), AZ+MX (12%, 44%), IX+GM (8%, 84%), IX+AZ (8%, 40%). No antagonistic effects were observed for these combinations. Rates of antagonism were highest for SH+AZ and GM+MX (8% each). Rates of indifference varied from 8% (IX+GM) to 76.9% (TX+IX).

Conclusion: The results highlight that cefixime and gentamicin combination was most effective with synergy or additivity in 92% and no antagonistic effect. This is an ongoing study. Further investigations on more number of isolates and clinical studies will provide more options for successful antibiotic therapy in the clinical setting.

O-01-02 Circulating Moxifloxacin Resistant *Mycoplasma genitalium* in an Australian Sexual Health Clinic

Jimmy Twin,

Department of Microbiology and Infectious Diseases, The Royal Women's Hospital, Melbourne, Australia

E-mail: jimmy.twin@mcri.edu.au

Introduction: The rate of azithromycin treatment failure in Melbourne Sexual Health Centre has risen to over 30% among men and women with *Mycoplasma genitalium* infection, with 80% having 23S rRNA macrolide resistance mutations on pre-treatment samples. The second line agent, moxifloxacin, was utilised and among those treated, 12% were subsequently positive after treatment, indicating failure to moxifloxacin. Our aim in this study was to assess mutations present associated with moxifloxacin resistance.

Methods: DNA sequencing of *parC* and *gyrA* gene regions associated with fluoroquinolone resistance, and *M. genitalium* bacterial load using qPCR, was correlated to treatment failure with moxifloxacin. Overall, 145 *M. genitalium* positive pre-treatment samples were available for analysis. These consisted of 93 samples (64.1%) that were subsequently cured with 1g azithromycin, 46 (31.7%) that failed azithromycin but were cured with moxifloxacin, and 6 (4.1%) that failed both azithromycin and moxifloxacin treatment.

Results: Either one of two *parC* mutations (A247C, G248T) were present in 21 (14.5%) of 145 *M. genitalium* pre-treatment samples tested. A *parC* mutation was detected in all six cases failing moxifloxacin but was also detected in three (6.5%) pre-treatment samples from those appeared to be cured with moxifloxacin, however these had lower *M. genitalium* loads as compared to those who failed. Of those possessing pre-existing moxifloxacin resistance markers, 7/21 (33.3%) also carried pre-existing macrolide resistance. No significant association was found with *gyrA* mutations in pre-treatment samples.

Conclusion: Two *parC* mutations appear to be commonly circulating with a prevalence of 15% in this cohort, with a third of these cases also carrying macrolide resistance markers. A *parC* mutation was detected in all six cases experiencing moxifloxacin failure however was also found in three lower load infections which appeared to respond to moxifloxacin.

O-01-03 Diversity of the Penicillin and Tetracycline Resistance Plasmids among *Neisseria gonorrhoeae* Isolated in Bangkok, Thailand

Ratana Lawung^{1,2}, Panupong Unruangnam¹, Watcharapol Keratiwibul¹, Rungrot Cherdtrakulkiat¹, Angkana Charoenwatanachokchai³, Malai khamhaeng³, Busaba Thaipitakpong³, Virapong Prachayasittikul¹

¹ Department of Clinical Microbiology and Applied Technology, Faculty of Medical Technology, Mahidol University, Bangkok, Thailand

² Center of Medical Laboratory Service, Faculty of Medical Technology, Mahidol University, Bangkok, Thailand

³ Thai Bureau of AIDS, TB and STD, Department of Communicable Disease Control, Ministry of Public Health, Bangkok, Thailand.

E-mail: ratana.law@mahidol.ac.th

Background: The global health problem of gonorrhoea is associated with the high prevalence rates and the development of antimicrobial resistances. Many antibiotic resistance genes reside on plasmids, facilitating their transfer and dissemination of the resistance constructs became widespread. We aimed to investigate the prevalence rates of antimicrobial resistance and distribution of antimicrobial resistance plasmids in gonococci isolated from Bangkok, Thailand in every 5 year periods.

Method: We used our multiplex PCR to identify gonococci and to differentiate beta-lactamase plasmid types (Asia, Africa and Toronto) in penicillinase producing *N. gonorrhoeae* (PPNG), tetM plasmid types (American and Dutch) in high level tetracycline resistant *N. gonorrhoeae* (TRNG) and the decreased susceptibility to ciprofloxacin (Ser-91 mutation) of gonococci isolated from Bangkok, Thailand in 2002, 2007, and 2012, respectively. Results: All 93 gonococci isolated in 2012 were ciprofloxacin resistance and showed only double or multiple drug resistance phenotypes. TRNG showed highly spread from 77.3% (68/88) in 2002 to 97.8% (91/93) in 2012. Diversity of drug resistance plasmids was observed in 3 time periods. The prevalent rates of the Africa- and the Toronto-type plasmids were similar whereas the prevalent rate of the Asia-type plasmid changed from 10.2% (9/88) in 2002 to 5.3% (8/151) in 2007 and 6.5% (6/93) in 2012. Furthermore, most TRNG carried the American-type plasmid; however, the Dutch-type plasmid was significantly disseminated from 10.2% in 2002 to 41.9% in 2012 ($p < 0.001$).

Conclusion: Although penicillin, tetracycline and ciprofloxacin have not been recommended for the treatment of gonorrhoea for several decades in Thailand, an increase of resistant isolates to these agents were observed. In addition, plasmid mobility was also noticed. This information is benefit to better understand emerging trends in gonococcal antimicrobial resistance and surveillance program is needed.

O-01-04 Prediction of Extended-spectrum Cephalosporin Resistance in Gonococci by Proteochemometric Modeling

Sunanta Nabu^{1,2,5}, Chanin Nantasenamat^{1,2}, Wiwat Owasirikul^{1,3}, Ratana Lawung^{2,4}, Chartchalerm Isarankura-Na-Ayudhya², Maris Lapins⁵, Jarl E. S. Wikberg⁵, Virapong Prachayasittikul²

¹ Center of Data Mining and Biomedical Informatics, Faculty of Medical Technology, Mahidol University, Bangkok, Thailand

² Department of Clinical Microbiology and Applied Technology, Faculty of Medical Technology, Mahidol University, Bangkok, Thailand

³ Department of Radiological Technology, Faculty of Medical Technology, Mahidol University, Bangkok, Thailand

⁴ Center of Medical Laboratory Service, Faculty of Medical Technology, Mahidol University, Bangkok Thailand

⁵ Department of Pharmaceutical Biosciences, Uppsala University, Uppsala, Sweden

E-mail: nanta.buna@gmail.com

Background: Ceftriaxone and cefixime, the extended-spectrum cephalosporins (ESCs), are the last remaining option for first-line treatment of gonorrhoea. Unfortunately, *N. gonorrhoeae* strains displaying reduced susceptibility and resistance to the ESCs have been reported in many countries. Hence, *N. gonorrhoeae* is worrisome to become a superbug and may become untreatable gonorrhoea in the near future. Alteration of the penA gene, encoding penicillin-binding protein 2 (PBP2), is known as the main mechanism of reduced susceptibility and resistance to ESCs. In this study, we predicted and investigated putative amino acid mutations in PBP2 causing ESCs resistance using proteochemometric modeling.

Method: Antimicrobial susceptibility data for penicillin-G, cefixime and ceftriaxone of wild-type and mutant PBP2 *N. gonorrhoeae* strains were collected from available literatures. PBP2 amino acid sequences were described by binary or z-scale descriptors while β -lactams were described by chemical descriptors. Then, the correlation of susceptibility data and descriptors was performed by partial least-squares projections to latent structures.

Results: Our model showed that mutations of PBP2 at position Asp285, Val316, Leu328, Pro343, Asp345, Gly375, Ala376, Glu385, Ala501, Phe504, Ala510, Ala516, His541, Gly542, Pro551, Ile566, Asn573 and Ala574 had the significant impact on minimum inhibitory concentration (MIC) levels. Additionally, study of protein-drug interactions that had the highest impact on MIC levels presented that mutated position 501 showed an important direct interaction with β -lactams while mutated position 541 showed important indirect interaction with β -lactams.

Conclusion: The data provided insight into critical mutated positions of PBP2 affecting susceptibility to ESCs suggesting its use for development of detection tools for amino acid mutations conferring β -lactam resistance and monitoring gonococcal antimicrobial resistance in surveillance system.

O-02-01 Factors Associated with Loss-to-follow-up During Behavioral Interventions and HIV Testing among Men Who Have Sex with Men Attending a Sexually Transmitted Infection Clinic in Nanjing, China

Shujie Huang¹, Bin Yang¹, Heping Zheng¹, Weiming Tang^{1,2}

¹ Guangdong Provincial Center Provincial Center for Skin Disease and STI Control, Guangzhou, China

² University of North Carolina Project-China, Guangzhou, China

E-mail: huangshj_jm@126.com

Background: Behavioral interventions (BIs) remained the cornerstone of HIV prevention in resource-limited settings. One of the major concerns for such efforts is the loss-to-follow-up (LTFU) that threatens almost every HIV control program involving high-risk population groups.

Method: To evaluate the factors associated with LTFU during BIs and HIV testing among men who have sex with men (MSM), 410 HIV sero-negative MSM were recruited using respondent driven sampling (RDS) in Nanjing, China during 2008 and followed for 18 months. At the baseline and follow-up visits during 6th, 12th and 18th months, each participant was counseled about various HIV risk-reductions BIs at a designated sexually transmitted infection (STI) clinic.

Results: Among 410 subjects recruited at baseline, altogether 221 (53.9%) were LTFU at the 18-month follow-up visit. Overall, 46 participants were found to be positive for syphilis infection at baseline while 13 subjects were sero-converted for HIV infection during the follow-up period. Increasing age was less (Adjusted Odds Ratio: OR=0.90, 95% confidence Interval =0.86-0.94) and official residency of provinces other than Nanjing (AOR=2.49, 95%CI=1.32-4.71), lower level of education (AOR=2.01, 95%CI=1.10-3.66) and small social network size (AOR=1.75, 95%CI=1.09-2.80) were more likely to be associated with higher odds of LTFU.

Conclusion: To improve retention in the programs for HIV control, counseling and testing among MSM in Nanjing, focused intensified intervention targeting those who were more likely to be LTFU, especially the young, less educated, unofficial residents of Nanjing who had smaller social network size, might be helpful.

Free Oral Session (FOS)

O-02-02 Acceptability and Client Engagement at a Community-based and Peer-led Rapid HIV Testing Service for Men Who Have Sex with Men

Leitinger D^{1,2}, Ryan K^{1,3}, Wilkinson A^{1,3}, Powell S², Brown G⁴, Pedrana A^{1,3}, Stoové M^{1,3}

¹ Centre for Population Health, Burnet Institute, Melbourne, Australia

² Victorian AIDS Council, Melbourne, Australia

³ Department of Epidemiology and Preventive Medicine, Monash University, Melbourne, Australia

⁴ Australian Research Centre in Sex Health and Society, LaTrobe University, Melbourne, Australia

E-mail: stoove@burnet.edu.au

Background: Rapid HIV testing technologies allow testing in non-clinical settings by peer staff, which can reduce barriers to testing among at-risk populations. In Australia, those most at-risk of HIV are men who have sex with men (MSM). PRONTO! is one of Australia's first community-based and MSM peer-staffed rapid HIV testing services. We characterise MSM attending PRONTO! during its first six months of operations and explore service acceptability and client engagement with the peer-led model.

Method: The characteristics of MSM testing at PRONTO! were compared with corresponding data from local high HIV caseload clinics. Service acceptability and engagement were examined in a survey of clients and focus group discussions.

Results: In the first six months, 646 HIV tests were conducted among 571 MSM. Compared with MSM testing at high HIV caseload clinics, PRONTO! clients were younger ($P<0.01$) and more likely to report unprotected sex with casual partners ($P<0.01$), never previously testing for HIV ($P<0.01$) and testing less than six months previously (if ever tested) ($P<0.01$). Survey participants reported high service acceptability; 86% indicated intentions to test more frequently now PRONTO! is open and 77% preferred testing with peers than clinicians. Preferring peers was associated with reporting: fewer gay friends ($P<0.01$); no unprotected sex with regular partners ($P=0.029$); choosing PRONTO! because it is gay-friendly ($P<0.01$) and offers finger-prick testing ($P<0.01$); and learning new HIV risk-reduction strategies at PRONTO! ($P=0.045$). Focus group discussions revealed the rapid test incubation period provided opportunities for in-depth conversations about HIV, including risk reduction, that clients reported being unavailable in clinical settings. These conversations were facilitated by levels of engagement and comfort with peer staff that clients reported not experiencing with clinicians.

Conclusion: Experiences of MSM testing at PRONTO! suggest community-based and peer-led rapid HIV testing offers opportunities for HIV prevention beyond encouraging more frequent testing.

Free Oral Session (FOS)

O-02-03 Unchanging Sexual Risk Behaviour of Men Who Have Sex With Men: A Latent Transition Analysis

Anna Wilkinson, Burnet Institute,

85 Commercial Road, Melbourne Victoria 3004, Australia

E-mail: awilkinson@burnet.edu.au

Background: Sexually transmitted infection (STI) and HIV transmission remains concerning in Australia, with men who have sex with men (MSM) most at-risk. Prevention efforts include strategies to reduce sexual risk behaviour; however few analyses of individual sexual behaviour trajectories exist. We used longitudinal data and characterised risk profiles and quantified changes in behaviour over time.

Method: Individually linked data from sexual behaviour questionnaires from MSM aged ≥ 16 years, tested ≥ 3 times for *Neisseria gonorrhoea* between 2007 to 2013 were included. MSM were tested at a sexual health clinic or General Practices specialising in gay men's health. Latent transition analyses a) identified latent statuses based on response probabilities from two items (number of partners and condom use) and b) described status transitions, reported as percentage transition probabilities between tests one [t1], two [t2], and three [t3].

Results: Among 4,228 MSM, four latent statuses were identified: Monogamous (likely to report one partner and never using condoms), Risk Minimiser (likely to report moderate partner turnover [20 in 12 months] and consistent condom use), and Risk Taker (likely to report moderate partner turnover and inconsistent [$<50\%$] condom use). The most common latent status at t1 was Risk Minimiser (34%), Risk Taker (31%) and Risk Potential (26%) with few Monogamous (0.09%). Between t1-t2 and t2-t3, Risk Potential and Risk Minimisers ($\sim 90\%$ unchanged) and Risk Takers ($\sim 80\%$ unchanged) remained mostly unchanged. Monogamous MSM were most likely to move, and move to Risk Taker ($\sim 50\%$ transitioning).

Conclusion: Despite repeated presentations for STI testing that assumes a degree of self-perceived risk, reported sexual behaviour among MSM changed little. The lack of change among high risk, and the transitioning into a higher risk suggest a potential need for new STI/HIV prevention education strategies within clinical testing environment

Free Oral Session (FOS)

O-02-04 Thai MSM and Sex workers' Antibiotics Usage Pattern and Sexual Risk Taking

Kai J. Jonas,

University of Amsterdam, Weesperplein 4, Social psychology, 1018XA Amsterdam, Netherlands

E-mail: k.j.jonas@uva.nl

Background: Thai MSM, and those engaging in sex work, allegedly use antibiotics to prevent and treat STI/HIV. Little data is available that documents these dysfunctional medication patterns, its determinants, and their relation to sexual risk taking.

Method: A questionnaire study was conducted with Thai MSM (N=355), solicited via a large MSM peer-to-peer dating-app. Logistic regression, chi², ANOVA and regression were used to analyze the data. We assessed antibiotic medications patterns, treatment effect assumptions (prevention of STI/HIV), sexual risk taking, and risk attitudes determined by engagement in sex work, drug consumption and sex-drug exchange patterns.

Results: Engagement in sex work, sex-drug exchange and partner trust all negatively predicted condom use during anal intercourse ($R^2=.402$, all betas $> -.124 < -.248$, all $ps < .022$). Sex work engagement also predicted assessing practicing anal sex without a condom and without internal ejaculation as relatively safe (beta=.139, $p=.011$). Most importantly, sex work predicted unfinished antibiotic cures (Wald=4.39, $p=.036$). Furthermore, sex work predicted intentions taking antibiotics as prevention (beta=.126, $p=.026$), as well as believing that antibiotics prevent HIV (beta=.185, $p=.001$). Unfinished antibiotic cures are more common among those who induced self-medication instead of consulting a physician (chi²=16.93, $p=.0001$). Self-medication decisions significantly predicts sexual risk taking (no use of condoms during anal intercourse, $F=4.46$, $p=.036$, $\eta^2p=.02$).

Conclusions: Our data show for the first time how Thai MSM, who also engage in sex work and sex-drug exchange, intend to utilize self-prescribed antibiotic cures to prevent and treat STI and HIV infections. Self-medication, and treatment adherence is a field of STI and HIV prevention that deserves a deeper integration into health messages in contexts where antibiotics are freely available, also to avoid the further spread of multi-resistant STI bacteria, such as *Neisseria gonorrhoea*.

Free Oral Session (FOS)

O-02-05 High Level of UAI among Chinese Men Who Have Sex with Men

Ye Zhang,

Coordinator University of North Carolina Project-China, South China STIs Training Center, Guangzhou Dermatology Hospital, China

E-mail: cetacean.413@hotmail.com

Background: Unprotected anal intercourse (UAI) has been well known as a major risk factor of STIs among men who have sex with men (MSM), however, the correlates of UAI are still not very clear to us. In order to know the rate of UAI and its correlates among MSM in China, we conducted this multi-center cross-sectional study in China.

Method: In this multi-center cross-sectional study, respondent-driven-sampling (RDS) and snow-ball sampling methods were used to recruit participants. RDS was used in Nanjing, Harbin, Chongqing, Guangzhou and Jinan, and snow-ball sampling was used in Suzhou and Yangzhou, respectively. The eligible criteria in our study included 1) male, 2) 18 years old or elder, and 3) having had anal sex with men in the past 12 months. Descriptive analysis was used to describe the characteristics and behaviors of the participants. Logistic regression was used to analyze factors associated with UAI, while the age, sampling city and resident were adjusted in the multivariate logistic regression model.

Results: A total of 2958 participants were recruited, with the prevalence of HIV and syphilis of 7.71 and 14.27%. In our study, 1441 participants engaged in UAI in the past six months, with an UAI rate of 48.72%. After adjusted for potential confounders, HIV positive (OR 1.39, 95%CI 1.04-1.86), syphilis positive (1.35, 1.09-1.69), UVI (1.45, 1.16-1.82), larger network size (1.50 for network size \geq 10, 1.15-1.96) were positively associated with UAI. In addition, high coverage of STIs related services (0.76, 0.64-0.89) was negatively associated with UAI.

Conclusion: MSM in China has a higher rate of UAI, and in order to control the epidemics of STIs among MSM, strategies to bring down UAI are urgently needed. In addition, this method should take consideration of network size, treatment of STIs, and increase the coverage of STIs related services.

O-03-01 Is Repeat Rectal Chlamydia Infection among Men Who Have Sex with Men an Issue?

Kong FYS¹, Tabrizi S², Fairley CK³, Phillips S², Huston W⁴, Vodstrcil LA^{1,3}, Fehler G³, Chen M³, Bradshaw CS³, Hocking JS¹

¹ Melbourne School of Population and Global Health, University of Melbourne, Victoria, Australia.

² Royal Women's Hospital, Victoria, Australia.

³ Melbourne Sexual Health Centre, University of Melbourne, Victoria, Australia.

⁴ Queensland University Technology, Queensland, Australia.

⁵ Kirby Institute, University of New South Wales, New South Wales, Australia

E-mail: kongf@unimelb.edu.au

Background: There is increasing concern about azithromycin treatment failure for rectal chlamydia. Higher organism loads have been reported at the rectal site compared to other sites (genital/oral) and higher organism load may be associated with treatment failure in women, but little data are available among men who have sex with men (MSM). This study examined the association between organism load and repeat rectal chlamydia infection in order to investigate possible mechanisms for treatment failure.

Method: Stored rectal chlamydia positive samples from men attending Melbourne Sexual Health Centre, between July 2008 to October 2013, were analysed for organism load and chlamydia serovar. Men were included if they had a follow-up test within 100 days of the index infection.

Results: There were 292 chlamydia positive index rectal swabs available for analysis. Organism load and serovar were assessable for 284 swabs – 44 cases had one repeat positive result, 5 cases had two repeat positives and 181 MSM had a negative result within 100 days of their index positive result. Among the 230 index infections, 33% were serovar G, 30% were D, 15% were J, 9% were E, 7% were L2, 3% were B and 2% were F. The cumulative incidence of repeat rectal chlamydia within 100 days was 21%. Among those men who had a repeat positive result, all but three (3%) were the same serovar. Organism load was higher in index cases of men who had a repeat infection compared with those who did not ($p < 0.01$).

Conclusion: Repeat rectal chlamydia is common within 100 days among MSM attending MSHC. Most repeat infections were of the same serovar suggesting these infections were either treatment failure or re-infection from an infected partner. High organism load was associated with repeat infection suggesting a possible role in treatment failure.

O-03-02 Risk of Pelvic Inflammatory Disease From Sexually Transmitted Infections in an Urban Australian Sexual Health Clinic Setting

Goller JL¹, Fairley CK², Guy R³, Bradshaw C², Chen M², De Livera AM¹, Hocking JS¹

¹ Melbourne School of Population and Global Health, University of Melbourne

² Melbourne Sexual Health Centre, Alfred Health

³ Kirby Institute, University of NSW

E-mail: jane.goller@unimelb.edu.au

Background: Pelvic inflammatory disease (PID) commonly develops as sequelae of sexually transmitted infections (STIs). However few studies have quantified the contribution of different pathogens to PID. We assessed the relationship between PID and a range of STIs and bacterial vaginosis (BV) at individual and population level using data from females attending a large urban sexual health clinic in Melbourne.

Method: Data were extracted from the clinic's electronic patient database for all females aged 16-49 at first clinic visit between Jan2006-Jun2013. STI/BV tests were based on clinical and risk assessment; STI diagnoses on strand displacement amplification/polymerase chain reaction from urine, vaginal and/or cervical samples and BV diagnosis on Nugent's score and >20% clue cells. PID diagnosis was based on clinical examination findings. Univariable and multivariable logistic regression was conducted to identify factors associated with PID. The PID population attributable risk (PAR) from STIs/BV was calculated.

Results: Between 2006-2013, a total of 22,415 new female clients visited the clinic, with 511 (2.3%;95%CI:2.1-2.5) diagnosed with PID and no observed trend by year ($p=0.134$). Among PID cases, 39% had evidence of an STI/BV; chlamydia 15.5%(95%CI:12.4-18.9), BV 13.3% (95%CI:10.5-16.6), Mycoplasma genitalium (MG) 2.4%(95%CI:1.2-4.1), gonorrhoea 0.8%(95%CI:0.2-2.0), trichomoniasis 0.4% (95%CI:0.05-1.4), and chlamydia/BV co-infection (4.3%, 95%CI:2.7-6.4). After adjustment, factors associated with a PID diagnosis were a current diagnosis of chlamydia (OR:4.2,95%CI:3.3-5.3), gonorrhoea (OR:3.4,95%CI:1.6-7.0), MG (OR:7.2,95%CI:4.2-12.6) being aged

Conclusion: Chlamydia, gonorrhoea and MG were most strongly associated with a PID diagnosis at an individual level. However at population level due to low gonorrhoea prevalence in this urban population, efforts to control chlamydia would have the greatest impact on reducing PID compared with other STIs.

Disclosure of Interest Statement: Jane Goller is supported by an Australian Postgraduate Award at the University of Melbourne.

O-03-03 The Epidemiology of Gonorrhoea in the Middle East and North Africa: Systematic Review and Meta-Analysis

Alex Smolak¹, Yousra A. Mohamoud¹, Laith J. Abu-Raddad^{1, 2, 3}

¹ Infectious Disease Epidemiology Group, Weill Cornell Medical College – Qatar, Cornell University, Qatar Foundation – Education City, Doha, Qatar

² Department of Public Health, Weill Cornell Medical College, Cornell University, New York, New York, USA

³ Vaccine and Infectious Disease Division, Fred Hutchinson Cancer Research Center, Seattle, Washington, USA

E-mail: as3234@columbia.edu

Objective: To systematically review and synthesize all epidemiological data on gonorrhoea prevalence in the Middle East and North Africa (MENA), and to assess the population-level gonorrhoea prevalence across MENA countries.

Method: We conducted a systematic literature review following PRISMA guidelines. Data sources included PubMed, Embase, country-level reports, and conference abstracts. Meta-analyses were conducted incorporating inverse variance weighting and using DerSimonian-Laird random-effect models to pool summary estimates of gonorrhoea prevalence among general, symptomatic, and high-risk populations. Multivariate meta-regression was used to examine possible moderators such as population group, assay, and country.

Results: Sixty-six studies contributing 97 prevalence measures were included in the review. The pooled regional prevalence in the general populations was 0.6% (95% confidence interval (CI): 0.3, 1.1). The pooled prevalence in symptomatic populations was 11.7% (CI: 7.7, 16.3). The pooled prevalence in high-risk populations was 6.0% (CI: 3.3, 9.5). The I-squared ranged from 92.7% to 99.1% indicating large heterogeneity within each of the population groups. The total amount of heterogeneity accounted for by the moderators included in the meta-regression of all prevalence measures indicated by the adjusted R-squared was 21%. Specifically, gram stain assay (adjusted odds ratio (AOR): 3.78; CI: 1.11, 12.88; p=0.03); high-risk population (AOR: 5.96; CI: 1.51, 23.45; p=0.01); and symptomatic population (AOR: 4.94; CI: 1.63, 14.99; p=0.01) were significant.

Conclusion: Gonorrhoea prevalence among general populations in MENA is comparable to that in most other regions, suggesting a significant neglected and poorly-recognized disease burden. High prevalence levels were also found among symptomatic and high-risk populations, indicating the existence of active transmission networks. The higher than expected prevalence in MENA may reflect, in part, the limited access to and utilization of gonorrhoea screening and treatment. There is a need to develop targeted, culturally-sensitive and gender-specific programs for sexual health for both women and men in the region.

Disclosure of Interest Statement: This study was made possible by the Qatar National Research Fund (a member of Qatar Foundation). No pharmaceutical grants were received in the development of this study.

Free Oral Session (FOS)

O-03-04 Why are We not Screening for Anal Cancer Routinely? HIV Physicians' Perspectives on Anal Cancer and Its Screening in HIV - Positive Men Who Have Sex with Men: A Qualitative Study

Jason Ong,

Melbourne Sexual Health Centre, 580 Swanston Street, Carlton Victoria 3053, Australia

E-mail: jong@mshc.org.au

Background: Anal cancer is a priority health issue in HIV positive men who have sex with men. Anal cancer screening may be aimed at either detecting the precursor lesion (high grade anal intraepithelial neoplasia(HGAIN)) or early anal cancer. To date no qualitative study has explored the views of HIV physicians regarding anal cancer and its screening.

Method: We conducted semi-structured interviews with 20 HIV physicians (Infectious diseases, Immunology, Sexual health, General practice) in different settings (hospital, sexual health centres, general practice) from around Australia. Framework analysis was used to identify themes.

Results: Although no HIV physicians were regularly screening for anal cancer in HIV-positive MSM, they all viewed anal cancer as a significant health issue and all agreed on the importance of anal cancer screening if a valid screening method was available. Barriers for utilizing anal cytology was based primarily on the theme of insufficient evidence (e.g. no studies demonstrating reduction in mortality following screening or effective treatments for the precursor lesion). Barriers for utilizing DARE for early cancer detection were based on systemic factors (e.g. lack of opportunity, lack of priority, differences in HIV care practices); health provider factors (lack of evidence, difficulty discussing with patients, lack of confidence in DARE) and patient factors (DARE discomfort, low anal cancer risk awareness). Physicians were receptive to the idea of patient self-examination and partner-examination although barriers raised included its reliability and issues regarding the partner's role.

Conclusion: HIV physicians remain ambivalent regarding the most effective means to screen for anal cancer. More research is needed to address the physicians' concerns before anal cancer screening can be implemented into routine HIV care.

O-03-05 Ratio of Anogenital Warts between Different Anatomical Sites among Homosexual and Heterosexual Individuals in Australia, 2002-2013: Implications for Susceptibility of Different Anatomical Sites to Genital Wart

Eric P.F. Chow^{1,2}, An-Chieh Lin¹, Tim R.H. Read^{1,2}, Catriona S. Bradshaw^{1,2}, Marcus Y. Chen^{1,2}, Christopher K. Fairley^{1,2}

¹ Melbourne Sexual Health Centre, Alfred Health, Melbourne, Victoria, Australia

² Central Clinical School, Faculty of Medicine, Nursing and Health Sciences, Monash University, Melbourne, Victoria, Australia

E-mail: echow@mshc.org.au

Background: There is little known in the transmissibility of human papillomavirus (HPV) between different sites in men who have sex with men (MSM) and heterosexual individuals. The aim of this study is to describe the ratio of anogenital wart between different anatomical sites in men and women in order to infer the required HPV vaccine coverage in men who have sex with men (MSM) through mathematical models in future studies.

Method: We conducted a retrospective analysis investigating all new patients attended the Melbourne Sexual Health Centre (MSHC) in Australia between 2002 and 2013. We described the prevalence and ratio of the first episode of anogenital warts among MSM and heterosexual males and females.

Results: The proportion of new MSM clients with anal and penile warts were 4.0% (362/8978) and 1.6% (141/8978), respectively; which gave the ratio of anal to penile warts as 1:2.6. About 13.7% (1656/12112) of heterosexual males had penile warts and 10.0% (1121/11166) of females had vulval warts, which yield a ratio of 1:0.7 from penile to vulval wart.

Conclusion: Transmission from penile-to-anal has a higher ratio than penile-to-vulval, suggesting anal epithelium may be more susceptible to HPV infection than the vulval epithelium in female, and these ratios are important in modelling the control of HPV in MSM.

O-03-06 The Epidemiology of Chlamydia in the Middle East and North Africa: Systematic Review and Meta-analysis

Laith J. Abu-Raddad^{1,2,3}, Alex Smolak¹

¹ Infectious Disease Epidemiology Group, Weill Cornell Medical College – Qatar, Cornell University, Qatar Foundation – Education City, Doha, Qatar

² Department of Public Health, Weill Cornell Medical College, Cornell University, New York, New York, USA

³ Vaccine and Infectious Disease Division, Fred Hutchinson Cancer Research Center, Seattle, Washington, USA

E-mail: lja2002@qatar-med.cornell.edu

Objective: To systematically review and synthesize all epidemiological data on chlamydia prevalence in the Middle East and North Africa (MENA), and to assess the population-level chlamydia prevalence across MENA countries.

Method: We conducted a systematic review following PRISMA guidelines. Data sources included PubMed, Embase, country-level reports, and conference abstracts. Meta-analyses were conducted incorporating inverse variance weighting and using DerSimonian-Laird random-effect models to pool summary estimates of chlamydia prevalence among general population groups, symptomatic, infertile, and high-risk populations. Multivariate meta-regression was used to examine possible moderators such as assay, country, and population group.

Results: One hundred three studies contributing 134 prevalence measures were included in the review. The pooled regional prevalence in the general populations was 3.3% (95% confidence interval (CI): 1.9, 5.0). The pooled prevalence in symptomatic populations was 11.7% (CI: 9.0, 14.7). The pooled prevalence in infertile populations was 18.3% (CI: 12.9, 24.4). The pooled prevalence in high-risk populations was 10.7% (CI: 5.2, 17.7). The I-squared heterogeneity metric ranged from 94.2% to 97.9% indicating large heterogeneity within each of the four groups. Meta-regression of all prevalence measures found several possible moderators to be significant: ELISA assay (odds ratio (OR): 1.905; 95% CI: 1.030, 3.521; p=0.040); other assay (OR: 2.483; 95% CI: 1.343, 4.591; p=0.004); symptomatic population (OR: 2.236; 95% CI: 1.204, 4.150; p=0.011); and infertile population (OR: 3.500; 95% CI: 1.478, 8.288; p=0.005).

Conclusion: Higher than expected chlamydia prevalence was found in MENA. A significant disease burden and active transmission networks appear to be present in the region. High prevalence is found among infertile persons, suggesting a potentially significant role for chlamydia as a cause of infertility in MENA. There is a need to develop targeted, culturally-sensitive and gender-specific programs for sexual health and sexually transmitted infections for both women and men in the region.

Disclosure of Interest Statement: This study was made possible by the Qatar National Research Fund (a member of Qatar Foundation). No pharmaceutical grants were received in the development of this study.

Free Oral Session (FOS)

O-04-01 Rise in Gonorrhoea Notifications from Nucleic Acid Amplification Test (NAAT) among Very Low Prevalence Women without Changes in Proportion Positive by Culture

Eric P.F. Chow^{1,2}, Glenda Fehler¹, Tim R.H. Read^{1,2}, Sepehr N. Tabrizi³, Ian Denham¹, Catriona S. Bradshaw^{1,2}, Marcus Y. Chen^{1,2}, Christopher K. Fairley^{1,2}

¹ Melbourne Sexual Health Centre, Alfred Health, Melbourne, Victoria, Australia

² Central Clinical School, Faculty of Medicine, Nursing and Health Sciences, Monash University, Melbourne, Victoria, Australia

³ Department of Microbiology and Infectious Diseases, The Royal Women's Hospital, Melbourne, Victoria, Australia

E-mail: echow@mshc.org.au

Background: There has been a rapid increase in the number of *Neisseria gonorrhoeae* (gonorrhoea) notifications in women in Victoria over the last decade. This study aimed to examine whether the rapid increase of gonorrhoea identified by nucleic acid amplification test (NAAT) is supported by similar changes in culture and to determine the proportion of tests positive among women tested.

Method: Three data sources were used from 2008 to 2013. The Medicare Item Reports were used to examine the change in the number of NAATs performed. The number of gonorrhoea notifications was obtained from the Victorian Department of Health. We also examined the results of gonococcal culture testing of women who attended the Melbourne Sexual Health Centre (MSHC).

Results: Gonorrhoea cases identified by NAAT in women increased from 98 to 343 cases from 2008 to 2013; however, notifications by culture alone decreased from 19 to 5 in the same period. The proportion of NAAT positive for gonorrhoea in Victoria was low (0.2-0.3%) and did not change over time (ptrend=0.66). Similarly the portion of women tested at MSHC for gonorrhoea who were positive (0.4%) did not change over time (ptrend=0.70). Of the untreated women who had a positive NAAT result for gonorrhoea and referred to MSHC, only 40% were confirmed by culture.

Conclusion: A substantial proportion and rising number of notifications of gonorrhoea in women from NAAT are likely to be false positives. Practitioners and laboratories should adhere to the product inserts that warn against the use of NAAT testing for gonorrhoea in low prevalence populations when the test can have substantially reduced positive predictive values. Testing should be restricted symptomatic women and screening restricted to individuals at significant risk of gonorrhoea.

Free Oral Session (FOS)

O-04-02 Effect of Nursing Interventions on Quality of Life (QOL) among MNon-disclosed Persons Living HIV (NPLWH) in Thailand

Pratuma Rithpho,

Faculty of Nursing, Naresuan University, Phitsanulok, Thailand

E-mail: rpratuma@gmail.com

Background: NPLWH who are aware of their status do not enter care and must rely on their own abilities to maintain their health. This study shows how these individuals can be reached through NGOs and assisted to improve their QOL through an intensive nursing intervention in NPLWH who live in Chiang Mai, Thailand.

Method: This longitudinal study based on technical collaborative action research had four distinct steps including locating NPLWH, assessing NPLWH levels of QOL at entry to the study, working with the NPLWH for 6 months to enhance QOL, and monitoring changes of QOL. The QOL were assessed using a 26-item WHOQOL-BREF-THAI-Version at baseline and monthly for 6 months.

Results: The reflective questioning as a technique was applied to identify; problems in relation to living with HIV; possible changes in QOL as well as strategies to enhance QOL; and consequences of enhancing QOL. The nurse researcher focused on six strategies to enhance QOL of the participants including ; managing emotional problems and mental illness, managing physical illness, promoting participants' efforts to live positively with HIV, managing changing life situations, ensuring the quality of health practices, and collaborating with significant others in the participants' lives.

There was a large improvement in QOL after the first months of the nursing intervention with the mean score increasing from 69.55, 91.00, 96.63, 101.77, 101.86 and 107.06 respectively (Figure 1). The Kolmogorov-Smirnov test indicated normal distribution; therefore, ANOVA was used to compare the difference in score of QOL within participants ($F = 2622.64$; $p < 0.001$; Table 1).

Conclusion: The greatest improvement of QOL included eight categories; preserving dignity and prestige, coping with emotional and mental problems, maintaining a sense of control, developing skills in problem solving, maintaining health and well-being, seeking care and treatment, managing problems of daily living, and maintaining a sense of self-worth.

Free Oral Session (FOS)

O-04-03 Association of Human Mannose Receptor (hMR) Underlying Sexual Transmission and Pathogenesis of HIV in Serodiscordants

Shivaji K Jadhav^{1,2,3}, Prabhakar Kore^{3,4}

¹ National Institute for Research in Reproductive Health [NIRRH], Indian Council of Medical Research [ICMR], J M Street, Parel, Mumbai 400 012, India

² ART Center, Grant Medical College and Sir J. J. Group of Hospitals, Mumbai 400 008, India

³ Basic Science Research Centre V K Institute of Dental Sciences, Campus KLE University, Nehru Nagar Belgaum -590010, Karnataka, India

⁴ Dr.Prabhakar Kore Basic Science Research Centre , KLE University, Belgaum, Karnataka, 590010, India

E-mail: shiv_jk@yahoo.co.in

Introduction: HIV binds specifically to human Mannose Receptor (hMR) on vaginal epithelial cells which are devoid of conventional CD4 receptor. HIV binding to hMR on vaginal epithelial cells induces the production of Matrix Metalloproteinase 9 (MMP9) leading to degradation of extracellular matrix which may increase the risk of sexual transmission of HIV.

Method: PCR amplification of DNA from PBMCs of the serodiscordant females for CCR5 gene flanking for CCR5-delta 32 region. Translated amino acid sequence of C2-V3 region of env gene of HIV PBMCs and sperm of the infected male partners of the Serodiscordant couples was determined. The localization of hMR on vaginal epithelial cells of the seronegative females from general population and seronegative females from Serodiscordant couples was studied using FITC labelled antibodies to hMR (FITC AbhMR).

Results: Translated amino acid sequence of C2-V3 region of env gene of HIV1C in PBMCs (n=9) and sperm (n=5) of the male partners showed the presence of distinct variants and the variation in PBMCs and sperm of serodiscordant males was almost similar to that of infected males from concordant couples. The Presence of hMR on 0-11 % of the vaginal epithelial cells of seronegative females (n=39) from serodiscordant couples and 90-95% that of control group of females.

Conclusion: The study suggests the association of hMR in sexual transmission of HIV. Presence of hMR in lower number of vaginal epithelial cells of Serodiscordant females prevented binding and HIV entry into these cells.

O-04-04 Hypertriglyceridemia and Other Selected Cardiovascular Diseases (CVDs) Risk Factors in HIV-Infected Patients: Effects of Antiretroviral Therapy (ART)

Nazisa Hejazi¹, Mary Huang Soo Lee¹, Khor Geok Li¹, Christopher Lee Kwok Choong²

¹ Department of Nutrition and Dietetic, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, 43400, Serdang, Selangor, Malaysia

² Jabatan Perubatan Am, Hospital Sungai Buloh, Jalan Hospital Sungai Buloh, Selangor, Darul Ehsan, 47000, Malaysia

E-mail: Nazisa_hejazi@yahoo.com

Background: There are evidences on the increased cardiovascular diseases among HIV positive individuals. Elevated serum triglyceride (TG) is the most prevalent lipid abnormality in HIV/AIDS era specific after introduction of antiretroviral therapy (ART). This cross-sectional study designed to investigate the well-known CVDs risk elements among 340 HIV patients in Malaysia.

Method: Fasting blood was taken to evaluate the lipid, CD4 cell count, RNA viral load. Demographic and medication information were recruited from medical records database. Also dietary and anthropometric data were obtained to determine the risk factors exclusively. Risk factors were determined for the most prevalent abnormalities including elevated TG and low high-density lipoprotein (HDL). The odd ratios (OR) were used to calculate the risk factors using SPSS (20).

Results: Overall 268 (78.80%) of the respondents were male. Most of HIV patients were Chinese (63.8%), followed by Malays (25.9%) and Indian (10.3%). The mean age was 41.89 years. Half of patients were employed. Overweight/obesity was prevalent among 17% of subjects and 36% had abdominal obesity. Duration of HIV infection was estimated by a mean of 5.89 years. The mean CD4 cell counts was 403.06 (cells/mm³) and 54.0% had low immunosuppression with CD4 cell count 200-449. The mean duration of ARV medication was 43.28 months and 60.7% had been treated with ARV > 24 months. Almost half (49.4%) were on second line regimen while 3% and 26% of first and second line ART receivers treated with protease inhibitors (PIs). Hypertriglyceridemia (TG > 1.69 mmol/L) and Low HDL level (HDL < 1.03 mmol/L) were predominant among 60% of population. Overall 66% of individuals had higher than 30 % of energy intake from dietary fat which is more than recommended levels. In this study exposure to PIs agents (OR = 3.827, CI = 1.730-8.467), having BMI > 25.00 (Kg/m²) (OR = 2.636, CI = 1.289-5.389), higher CD4 cell count (OR = 1.001, CI = 1.000-1.002) and higher duration of ART (OR = 1.010, CI = 1.003-1.017) increased the risk for hypertriglyceridemia significantly. Being unemployed (OR = 1.786, CI = 1.117-2.858) and high waist-hip ratio (OR = 1.063, CI = 1.028-1.100) were significant risk factors for low blood HDL-C levels.

Conclusion: Exposure to PI and obesity were the main risk for hypertriglyceridemia while abdominal obesity was accounted as risk factor for Low-HDL. Lifestyle modifications and switching from PI to other antiretroviral agents are optional to prevent the CVDs incidence in future.

Free Oral Session (FOS)

O-04-05 Factors Associated with Participation and Attrition in a Longitudinal Study of Bacterial Vaginosis in Australian Women who Have Sex with Women

Sandra Walker

Melbourne Sexual Health Centre, Alfred Health, 580 Swanston Street, Carlton 3053, Victoria, AUSTRALIA; Melbourne School of Population and Global Health, Level 5, 207 Bouverie Street, The University of Melbourne, Parkville 3010, Victoria, Australia

E-mail: swalker@mshc.org.au

Objective: A number of social and sexual risk factors for bacterial vaginosis (BV) have been described. It is important to understand whether these factors are associated with non-participation or attrition of participants from longitudinal studies in order to examine potential for recruitment or attrition bias. We describe factors associated with participation and attrition in a 24-month prospective cohort study, investigating incident BV among Australian women who have sex with women.

Method: Participants negative for prevalent BV were offered enrolment in a longitudinal cohort study. Participants self-collected vaginal samples and completed questionnaires 3-monthly to endpoint (BV-positive/BV-negative by 24 months). Factors associated with participation in the cohort study were examined by logistic regression and factors associated with attrition from the cohort were examined by Cox regression.

Results: The cross-sectional study recruited 458 women. 334 BV-negative women were eligible for the cohort and 298 (89%, 95%CI 85, 92) enrolled. Lower educational levels (aOR 2.72, 95%CI 1.09, 6.83), smoking (aOR 2.44, 95%CI 1.13, 5.27), past BV symptoms (aOR 3.42, 95%CI 1.16, 10.10) and prior genital warts (aOR 2.71, 95%CI 1.14, 6.46) were associated with non-participation; a partner co-enrolling increased participation (aOR 3.73, 95%CI 1.43, 9.70). 248 participants (83%, 95%CI 78, 87) were retained to study endpoint (BV-negative at 24 months or BV-positive at any stage). Attrition was associated with age

Conclusion: We achieved high participation and retention levels in a prospective cohort study and report factors influencing participation and retention of participants over a 24-month study period, which will assist in the design and implementation of future cohort studies in sexual health and disease.

O-05-01 The Social Meaning of Curing HIV: A Qualitative Study of People Who Inject Drugs in Guangzhou, China

Carissa E. Chu^{1,2}, Feng Wu³, Xi He⁴, Qingyan Ma², Yu Cheng³, Weiping Cai⁴, Paul Volberding¹, Joseph D. Tucker^{2,5}

¹ School of Medicine, University of California at San Francisco, San Francisco, California, USA

² UNC-Project China, Guangzhou, China

³ Department of Anthropology, Sun Yat-sen University, Guangzhou, China

⁴ Guangzhou Eighth People's Hospital, Guangzhou, China

⁵ Institute of Global Health and Infectious Diseases, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, USA

E-mail: maqy1999@gmail.com

Background: The study objective was to investigate the social meaning of HIV and perceptions of an HIV cure among people who inject drugs (PWID) in Guangzhou, China.

Method: We conducted a qualitative research study using in-depth interviews. We analyzed interview transcripts from 29 PWID, eight physicians, and three social workers from an outpatient HIV clinic and two methadone maintenance treatment centers in Guangzhou, China.

Results: The meaning of HIV infection and perception of an HIV cure reflected patients' relationships with society, health systems, and physicians. First, HIV infection decreased perceived social worth and disrupted peer relationships. The possibility of being cured renewed patients' hope for regaining physical wellbeing and achieving social mobility. However, the existence of a cure may not alter HIV-associated stigma due to its association with stigmatized behaviors and marginalized groups. Secondly, while stigma was a significant barrier to engagement in health care, hope for a cure may outweigh fears of stigma and enhance linkage to HIV testing and treatment as well as methadone services. On the other hand, a cure may exacerbate perceived health disparities if inaccessible to key affected populations such as PWID. Lastly, HIV infection strengthened patient relationships with HIV specialists, and these physicians perceived their role as important decision makers for their patients.

Conclusion: The social implications of an HIV cure among this key affected population may inform the design and implementation of HIV cure clinical trials. Careful management of patient expectations, focusing research on key affected populations, expanding HIV testing and treatment systems, improving access to harm reduction and treatment programs, and ensuring post-trial access are important considerations for HIV cure research.

O-05-02 Boomerang Effects of “Safe Sex Zone” Prevention Measures among MSM

Skyler T. Hawk¹, Kai J. Jonas²

¹ Chinese University HongKong,

² University of Amsterdam, E-mail: k.j.jonas@uva.nl

E-mail: s.t.hawk@cuhk.edu.hk

Background: Endorsing “safe sex” in bars, sex clubs and sauna frequented by MSM has become a ubiquitous prevention measure in urban contexts worldwide. This message is often being furnished by providing free condoms and lubricant, and communication messages targeted at the visitor. Although this prevention approach may see common sense, evaluation research corroborating this assumption is lacking. In contrast, risk equilibration and diffusion of responsibility perspectives suggest that these prevention efforts promote a perceived lower local HIV/STI risk, which could therefore increase risk-taking.

Method: We conducted three questionnaire-based studies with MSM (n=538) frequenting bars, sex clubs and saunas. Regression analyses to establish mediation processes, odds ratios, and ANOVAs were used to examine safe sex intentions, prevention responsibility and reasons for condom (non)-use.

Results: Study 1 showed that a perceived greater HIV/STI risk difference between “safe sex zone” venues and normal venues (less perceived risks in “safe sex zones”) decreased safe sex intentions (beta= -0.33, $p < 0.01$), but was mediated by the conscious choice to attend such a venue (beta= -.65, $p < .001$). Study 2 revealed that an individual and collective responsibility message included in the prevention communication increased the diffusion of the HIV/STI prevention responsibility to the sex partner more in the “safe sex zone” venues compared to normal venues, $F(1,98) = 6.12$, $p = 0.015$. Study 3 replicated the findings of Study 2 and also revealed additional determinants of condom non-use, such as inconvenience, forgetting and lack of demand by partners.

Conclusion: HIV/STI prevention measures that create the notion of lesser HIV/STI risks due to “safe sex” norms and local specification (zones) might backfire and actually increase risk taking. MSM prevention measures in globalized urban scenes, such as in Bangkok, Hong Kong, New York, or Amsterdam should be revisited as to their specificity and the creation of “zones of induced” carelessness.

O-05-03 Human Immunodeficiency Virus (HIV) Risk Behaviors among Inmates in Kerobokan Prison, Bali-Indonesia; Comparison on Interview and Self Administered Questionnaire (SAQ) Results

Septarini NW¹, SawitriAAS², Hartawan AAG³

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

² School of Medicine, Faculty of Medicine, Udayana University Bali Indonesia

³ Kerobokan Prison Clinic Bali, Indonesia

E-mail: septa_rn@yahoo.com

Background: The transmission of HIV through high risk behaviors can occur in closed settings like prisons. Kerobokan Prison is the biggest prison in Bali. Bali AIDS Commission estimated that 50 people were infected in prison in 2006 which contribute to 1.2% of total infected people during that year. The prevalence of HIV in the prison in 2008 was 7% based on a sero-survey conducted by the Provincial Health Office. The aim of this study was to determine HIV risk behaviors among inmates which may contribute to the prevalence of HIV in Kerobokan using two different data collection methods.

Method: A cross-sectional survey was conducted from June 2009-January 2010 in Kerobokan Prison,. Interviews were conducted June-October, the self-administered questionnaire (SAQ) was administered November-December. Respondents included 95 male and female inmates, while 200 male inmates participated the self-administered questionnaire. All were selected using systematic random sampling. Information included demographic characteristics; HIV risk behaviors and related factors. The Kerti Praja Foundation IRB approved this study. Before the interview, informed consent was given and inmates were free to participate or not.

Results: The respondents in both methods had similar demographic characteristics. Mean age (SD) was 31.2 years (8.7); most graduated from junior high school; were originally from Bali and Java; and were serving for both drug- and non-drug-related crime. Three point two percent (95%CI: -0.36-6.68) of inmates injected drugs in prison based on interviews, compared to 3.1% (95%CI: 0.64-5.36) in SAQ, while 1.1% (95%CI: 1-3.1) vs 1% (95%CI: -0.38-2.38) had unprotected sex based on interview and SAQ, respectively. The HIV risk behaviors based on interviews and SAQ among inmates who injected drugs included sharing needles, not cleaning needles before use, and sharing injecting equipment.

Conclusion: Both methods resulting in similar findings on the prevalence of HIV risk behavior among inmates in Kerobokan Prison. While self-reported risk behavior was low, HIV transmission could still occur in prison through sharing needles and injecting equipment, not cleaning needles before use and unprotected sex.

Free Oral Session (FOS)

O-05-04 The Relationship between HIV-related Stigma and Discrimination with Mental Health and High Risk Sexual Practices among the Group of HIV Positive men in Shiraz, Iran

Atiyyeh Mirzazadeh,

Shiraz HIV/AIDS Research Center, Shiraz University of Medical Sciences, Shiraz, Iran__

E-mail: atiyeh.godfift@yahoo.com

Background: Whereas numerous studies have examined associations between HIV-related stigma and mental health, there has been limited investigation of whether HIV-related stigma is associated with HIV transmission risk behaviors among HIV+ patients. The present study aimed to investigate the relationships between perceived HIV-related stigma and mental health, as well as HIV transmission risk behaviors among a group of HIV+ patients in Shiraz, Iran.

Method: This cross-sectional study, conducted from May 2012 to October 2012. Convenience sampling method was used to recruit 120 HIV+ men refer to voluntary counseling center (VCT) affiliated with Shiraz university of medical sciences. After providing informed consent, each participant completed validated questionnaires (Stigma and discrimination index questionnaire, GHQ 28 and HIV related high-risk behaviors).

Results: The mean age of the participants was 36.2 ± 7.3 (range, 28-42), most of them belong to the 30-39 years age group (50%) and were infected with HIV between 1 to 4 years (48.8%). About 68 % (82) participants experienced external stigma and 92% (110) reported internal stigma. There was a significant relationship between being excluded from public places and mental health ($p < 0.05$). There were significant relationships between feeling ashamed, guilty feeling, low self-esteem/ blamed himself or others/ felt suicidal or should be punished with depression and anxiety subscales ($p < 0.001$). In addition, perceiving HIV-related stigma was associated with transmission risk behaviors, including unprotected sex with HIV-seronegative or unknown status partners ($p < 0.05$).

Conclusion: The perceived HIV related stigma and discrimination was high among people living with HIV and may enhance their mental health problem and high risk sexual practices. Some policies should be made in order to target stigma and discrimination among this population in Iran.

O-05-05 Attitudes of health care providers towards HIV/AIDS patients in Bandar Abbas, Iran

Teamur Aghamolaei, Laleh Hasani

Social Determinants in Health Promotion Research Center, Hormozgan University of Medical Sciences, Bandar Abbas, Iran

E-mail: teaghamolaei@gmail.com

Background: HIV/AIDS has emerged much tensions and anxieties among not only in public health but also in health care providers. In reality, the fear of being infected at workplaces has led to irrational and discriminatory treatment of people living with HIV/AIDS. The aim of this study was to investigate the attitudes of healthcare providers towards HIV/AIDS patients in Bandar Abbas, Iran.

Method: This cross-sectional study conducted in educational hospitals affiliated to Hormozgan University of Medical Sciences. A total of 250 health care providers including 48 physicians, 158 nurses and 44 laboratory technicians were selected randomly. Data were collected using a self-administered questionnaire including five subscales as emotions toward people with HIV (6 items); caring of HIV patients (5 items); effectiveness of care (3 items); fear of contagion (3 items); and readiness to care (3 items). All items were measured on a five-point Likert scale ranging from strongly disagree to strongly agree. A higher score indicated more favorable attitude.

Results: The mean age of participants was 31.3 years and 24.4% were male. The mean scores of attitudes in dimensions of emotions towards HIV patients, caring of HIV patients, effectiveness of care, fear of contagion and readiness of care were 22.9, 22.1, 11.9, 7.9 and 8.1 respectively. Men, educated participants and laboratory technicians had more favorable attitude towards HIV/AIDS ($P < 0.05$).

Conclusion: Despite some positive attitudes of health care providers towards HIV/AIDS patients, much concerns existed regarding caring of HIV patients.

O-05-06 Misconceptions on Sexuality among the Bangladeshi Males

Pritish Barua,

Lab One Health Services, Chittagong, Bangladesh

E-mail: dr.pritish@yahoo.com

Introduction: Like other countries in this subcontinent, misconceptions on sexuality abound in our Bangladeshi society. In clinical practice, we often find young and even older males have enormous misconception about their genitalia; their use and normal functions. Misconceptions on sexuality not only create anxiety, depression, sexual dysfunctions, socioeconomic burden and violence, but also high risk behavior and vulnerability to STIs. This study examined the existence of misconceptions on sexuality and the need for sexuality education in Bangladesh.

Method: The study was conducted in two centers of a Skin VD Clinic in Chittagong. It included 80 unmarried males (18-35 yrs), who came with STIs/sexual dysfunctions. Questionnaire based interviews were performed and an analysis was made by summarizing the statistically significant data.

Results: The majority 75 (93.75%) of total 80 respondents believed that any kind of semen loss other than sexual intercourse was bad for health. Out of 80, 72 (90%) believed that nocturnal emission causes physical weakness. 70 (87.5%) of them thought that nocturnal emission creates impotency. 68 (85%) and 75 (93.75%) respondents respectively thought that masturbation was related with penile distortion and reduction in sexual strength. Only 11 (13.75%) of them took advice from registered medical practitioners but significant 50 (62.75%) were consulted with traditional healers. Surprisingly only 2 of them received some scientific explanations from those health personnel. Out of 80 respondents, 60 (75%) admitted intercourse with commercial sex workers. Among them only 4 used condoms. In response to a question for choosing an option to assess their sexual strength, 64 (80%) and 5 (6.25%) of them chose sexual intercourse and sexual thinking respectively.

Conclusion: This study demonstrates that misconceptions on sexuality are very high among the Bangladeshi male population and sexuality education is urgently needed for implementing effective STI prevention and care programs in Bangladesh.

Free Oral Session (FOS)

O-06-01 Efficacy of an Integrated STIs Contact Tracing: Cases Tried Out in Rainbow Clinic

Sairung Chantharaprasat, Cheewith Keekong

Public Health technical Officer, Office of Disease Prevention and Control 8, Nakhon Sawan, Thailand

E-mail: sairungstd@gmail.com

Background: In Nakhon Sawan province although a rising trend of Sexually Transmitted Diseases (STIs) prevalence has been observed during 2008-2011, the proportion of contact traceable cases were only 62.74%. Therefore, it was a challenging situation to develop an appropriate approach in order to reach more contact cases and increase the effectiveness of STIs prevention and control.

Method: A 2-phases operational research was implemented in Rainbow Clinic during February to July, 2012. In the first phrase, a brand new contact tracing algorithms was developed through the relevant literature reviewed and a working group brain-stormed. An integrated STIs contact tracing model, combining client-center counseling approach with disease investigation process, was developed and has been approved for its validity by groups of health expertise. In this model, relationship building is the first priority to create trustworthiness which meant to meet better quality of history taking thereafter, so as to client's sexual activities and the cause of infection even modes of transmission could be drawn from an open-minded client. Each client will then be informed about the importance of partner notification for STIs check up and encouraged to take sex partner(s) for STIs screening and receiving proper treatment and care. After discussing all these solutions, a client will be motivated to make decision on choosing whatever contact tracing techniques he/she felt would affect most and suitable for his/her own contexts: for instance, providing contact slip, phone contact, home visit, and client accompany with the individual sex partner(s). In the success cases; empowering techniques would be applied to increase the clients' adherence on treatment. After the completion of treatment, the contact cases will be followed up within 2 weeks in order to evaluate an effectiveness of the new contact tracing model. In the second phrase, the developed model had been tried out with every STIs clients attending Rainbow Clinic during February to July, 2012.

Results: After the implementation of an integrated STIs contact tracing model, the findings revealed that the success rate of contact tracing was sharply increased from 50.51% (50 out of 99 cases) in 2012 to 87.65% (142 out of 162 cases) in 2013. These rates were much higher than those found as outcomes of the conventional methods used in 2011 which was only 47.61% (60 out of 126 cases). The most popular tool used for contact tracing was to provide contact slip.

Conclusion: Investigation for contact tracing is associated with sexual behavior, vulnerability and confidentiality issues. The variety of contact tracing strategies should be implemented simultaneously, because single strategy may be less effective when using alone. To achieve more effectiveness of contact tracing and STIs prevention, it is essential to develop different strategies based on context of each individual high risk group.

Free Oral Session (FOS)

O-06-02 The Development of STIs Contact Tracing Guideline and Tools

Angkana Charoenwatanachokchai, [Kittipoom Chinhiran](#), Ngamta Rajakrom, Lumpheang Lerthiranwong, Nutthavit Sookrak, Rattiya Luewichana, et al.

Bangrak STIs Cluster, Bureau of AIDS, TB and STIs, Department of Disease Control, MOPH, Thailand

E-mail: x_destiny_war@hotmail.com

Background: Contact tracing is an important step in standard of STIs management guideline due to its benefit on controlling the spread of disease. However, this approach was not succeed in the past as evidenced by data from the Thai STIs control practical report of the department of disease control, MOPH, which found that the percentage of contact traceable cases was sharply decreased from 61.17% in 2002 to 41.44% in 2012. Therefore, the development of new effective tracing system to reach more contact cases and increase the efficacy of STIs prevention and control was a challenging.

Method: This action research was aimed to improve the contact tracing system by developed STIs contact tracing guideline and tools which suitable for current situations and needs of the clients and providers. A development process began with literature reviewed, brainstormed, and conducted a need assessment of contact tracing styles in 63 STIs clients received treatment at Bangrak STIs Cluster during October to December 2013 and 24 STIs providers. After that, existing STIs management guideline and tools were revised and some new tools (consist of contact tracing slip, key messages and booklets) were created. Then the new developed guideline and tools had been tried out with 54 STIs patients attended Bangrak STIs Cluster during March to May 2014.

Results: From need assessment, it was found that the most preferable choice of contact tracing was "inform contact cases by the patients themselves" (68.8% in clients and 58.3% in providers), followed by "examples of how to talk to contact cases" (20.3% in clients and 22.2% in providers), and others approach such as official report, mail, and contact tracing slip (10.9% in clients and 19.4% in providers). Findings from tried out revealed that there were 47 clients (31 from male clinic and 16 from female clinic) who met the inclusion criteria for contact tracing process. The tools that those clients decided to bring back home for their contacts were booklets (31.2%), key messages (29.7%), contact tracing slip (21.9%), and STIs brochures (17.2%). The success rate of this new contact tracing approach was 27.66% (13 contact cases; 10 cases from male clinic and 3 cases from female clinic) and reasons for their decisions to come for STIs screening were based on key messages, STIs brochures, contact tracing slip and booklet, respectively. Those contact cases who did not come for STIs screening may gone to other places for STIs screening.

Conclusion: The needs of contract tracing tools are vary by each individual client, thus different tools should be developed to provide more choices that would serve the needs of clients. In addition, the STIs contact tracing guideline and tools could be adjusted to suit with clients and providers in the context of each STI clinic. Long term outcomes and the effectiveness of new developed STIs contact tracing guideline and tools should be further studied in the future.

O-06-03 Estimating the Critical Population Immunity Threshold for Hepatitis a in MSM Populations

David Regan¹, James Wood¹, Clémence Bénévant², Hammad Ali¹, Lucy Watchirs Smith¹, Peter Robertson³, Mark Ferson^{1,4}, Christopher Fairley^{5,6}, Basil Donovan¹, Matthew Law¹

¹ UNSW Australia, Sydney, New South Wales, Australia

² ENSTA ParisTech, Paris, France

³ South Eastern Area Laboratory Services, Randwick, New South Wales, Australia

⁴ Public Health Unit, South Eastern Sydney Local Health District, Randwick, New South Wales, Australia

⁵ Monash University, Melbourne, Victoria, Australia

⁶ Melbourne Sexual Health Centre, Melbourne, Victoria, Australia

E-mail: dregan@kirby.unsw.edu.au

Background: Improvements in hygiene and public health have led to dramatic declines in hepatitis A (HA) notifications in most developed countries in recent decades. However, several outbreaks of HA in men who have sex with men (MSM) were reported in the 1980s and 1990s in Australia and other countries, perhaps as a result of reduced childhood exposure and population immunity stemming from public health advances. An effective HA vaccine was licensed in Australia in 1994 and is recommended for high-risk groups including MSM. No major HA outbreaks in Australian MSM have been reported since 1996 but a recent report from Victoria, Australia suggests that seropositivity may be declining in young MSM. This study aimed to estimate HA transmissibility in MSM populations and to inform targets for vaccine coverage in such populations.

Method: A deterministic dynamic transmission model of HA in an MSM population was developed and fitted to monthly HA case numbers from an outbreak in MSM in Sydney in 1991/2. The basic reproduction number R_0 was estimated via this process and used in a stochastic analogue of the deterministic model to study the probability of an HA epidemic occurring as a function of the immune proportion.

Results: We estimated a plausible range for R_0 of 2.12 – 3.65 for HA in MSM. Analysis of the attack rate distributions from the stochastic model indicate that sustained epidemics cannot occur once the proportion immune to HA is > 70%.

Conclusion: To our knowledge this is the first estimate of R_0 and critical population immunity threshold for HA transmission in MSM. As HA is no longer endemic in Australia or in most other developed countries, vaccination is the only means of maintaining population immunity above 70%. We suggest these results be used as impetus to promote HA vaccination in high-risk groups such as MSM.

Free Oral Session (FOS)

O-06-04 Is Telephone-based Partner Notification for STIs Cost-effective? A Case Study from Louisiana, USA

Mohammad M. Rahman,

Epidemiologist, Louisiana Department of Health & Hospitals, Office of Public Health – STD/HIV Program, New Orleans, Louisiana, USA

E-mail: Mohammad.Rahman@LA.gov

Background: Partner notification is considered a cornerstone of sexually transmitted infection (STI) control. As it is highly resource intensive, most STI control programs focus their partner notification resources on syphilis cases only. Louisiana ranks near the top among all states in USA for STIs. Despite the high incidence, partner notification for gonorrhea and chlamydia has not been adopted as a routine. Therefore, introduction of partner notification by cost saving means should be helpful in detecting additional cases at a relatively low cost.

Method: Gonorrhea and chlamydia cases detected at two STD clinics were randomly selected for partner notification via telephone & letters. Trained telephone interviewers made up to seven attempts to contact and interview the index cases for eliciting sex partners and obtaining detailed information on the partners. Micro costing approach from a provider's perspective was done to identify the cost of each case detected.

Results: 2,160 cases were assigned for interview from June 2010 to May 2012. 909 cases were interviewed and 495 partners were elicited. 218 new cases of chlamydia or gonorrhea were identified among these partners. It cost \$129 to identify each additional case.

Conclusion: Our study shows that partner notification for gonorrhea and chlamydia cases via telephone can be a cost effective mechanism in high morbidity STD areas. Published study has demonstrated that an undetected chlamydia case can result in \$1,995 in medical cost in women who has a chance of developing Pelvic Inflammatory Disease (PID) and \$274 in men who has a possibility of developing epididymitis. Besides, indirect cost (lost of productivity) of untreated chlamydia in female costs an additional \$148. Whereas, this study has demonstrated that by spending only \$129, an additional case of chlamydia or gonorrhea can be detected.

Free Oral Session (FOS)

O-06-05 Facilitating Factors for HIV among Older Orphaned and Vulnerable Children in Senior Secondary Schools in Ogbomoso, Nigeria

Oyebode Oyenike,

Faculty of Law, Osun State University, Osogbo 234, Nigeria

E-mail: princessoyebode@gmail.com

Background: Most people become sexually active in adolescence but lack the proper knowledge to protect themselves against HIV/AIDS. This study therefore designed to determine facilitating factors for HIV among older Orphaned and Vulnerable Children (OVC) in senior secondary schools in Ogbomoso, Nigeria

Method: This was a descriptive cross sectional study. A total population of 679 consenting OVC were recruited for the study. A pre-tested semi-structured questionnaire was used for data collection. Questions on sexual behaviour, contraceptives use and abortion practices were asked from the respondents. Descriptive statistics and Chi-square test were used to analyze the data.

Results: Mean age of respondents was 13.5 ± 3.2 years and 34.8% were living in orphanage home. Majority (90.1%) had steady boyfriends, 72.2% had had sex with their lover while 16.9% had sex with their teachers. Mean age at start of sexual intercourse was 12 ± 2.1 years. Many (55.6%) enjoyed having sex regularly and 34.9% find it difficult to say "No" to sex. Many (65.2%) engaged in sex to make money from their boyfriends while 7.0% have sex to satisfy sexual emotion. Majority (95.9%) of the respondents knew at least one method of contraceptives and 82.5% had ever used it. Few (11.5%) of the respondents had ever performed unsafe abortion, 7.9% had performed abortion more than once and 20.7% had experienced complication after abortion. Few (3.1%) of the respondents were aware of friends who had died from unsafe abortion. Only (5.2%) perceived themselves susceptible to HIV and 3.7% had ever done HCT. Few (6.6%) of the respondents reported engaging in commercial sex work.

Conclusion: Majority of the respondents are less likely to take precaution against HIV because they did not perceive themselves being susceptible in spite of being engaging in an unprotected sex. Educational intervention programme on safe sex practice is needed among this population.

Free Oral Session (FOS)

O-07-01 Drug and Alcohol Consumption and Condom Use among Female Sex Workers in Vanuatu, 2011

Mark Stoove, Caroline van Gemert

Burnet Institute, 85 Commercial Road, Melbourne Victoria 3004, Australia

E-mail: stoove@burnet.edu.au

Introduction: The use of alcohol and other drugs (AOD) is thought to play a role in modifying risk factors among female sex workers (FSW) globally. The association between AOD use and condom use has not been explored in Vanuatu. This study, part of an Integrated Bio-Behavioural Survey among female sex workers (FSW), explored AOD-related factors and condom use among FSW.

Method: Using respondent-driven sampling, 149 females aged 18+ years who reported transactional sex during the previous year and living in Port Vila were recruited in 2011. Descriptive analyses are presented.

Results: One-third of all FSW (35%) identified their primary reason for exchanging sex was to buy alcohol and/or drugs. One-third (36%) of FSW reporting consuming alcohol more than once per week, with 13% reported an average of six or more drinks per session. Over 80% of the sample had reported ever consuming Kava (a plant-based drink with sedative properties), with 92% of these individuals consuming in the past month. Half of the sample had ever used illicit drugs; of those, 75% had used drugs within the past month. The most common illicit drug used within the previous month was cannabis (35% of total sample). Only one-quarter of FSW reported using a condom at last sexual encounter (with either a transactional or non-transactional partner).

Conclusion: FSW in Vanuatu have high rates of alcohol and drug use, particularly kava and cannabis. The findings suggest that for some FSW, AOD use may be a motivating factor to engage in transaction sex work. Use of condoms when using drugs or alcohol should be further explored in order to inform sexual health promotion initiatives.

Free Oral Session (FOS)

O-07-02 Improving Health Seeking Behaviors of Female Sex Workers in Ibadan, Nigeria: A Face to Referral

Taiwo Iyabo Oluwayemisi,

SHiPS 4 MARP, Society for Family Health, 24 Baale Akintayo Street, Jericho, Idishin, Ibadan, Nigeria

E-mail: iyabo_yakubu@yahoo.com

Background: Referral of Most-At-Risk-Populations (MARPs) for counseling and treatment are usually never completed due to their refusal to report at Health Facilities (HF) where they are referred for fear of stigma and discrimination. Experience has shown that MARPs prefer bringing services to their community. We therefore piloted a modified referral system among Female Sex Workers (FSWs) in six communities in Ibadan to assess its feasibility among this group.

Method: The USAID funded Strengthening HIV Prevention Services (SHiPS) for MARPs targeted at FSWs in 16 brothels in three Local Government Areas in Ibadan with emphasis on Combination Prevention Intervention (CPI). Selected FSWs were trained as peer educators who in turn trained their peers in their brothel for duration of four months toward improving the Health Seeking Behaviour (HSB) of FSWs. The project was implemented with support from some selected HF as our referral points. Health Care Workers (HCWs) were invited to the community to interact with the FSWs where issues of confidentiality were discussed and trust assured. The HCWs shared their telephone numbers with the FSWs who usually phone the HCWs before visiting the HF.

Results: Sharing contact phone numbers of HCWs with FSWs increased their confidentiality and trust thereby reducing stigma and discrimination among this group. This also provided a relaxed environment for provision of services such as STI, HIV counseling and testing, treatment care and support. Timely and prompt attendance to FSWs at the facility drastically improved their HSB. The number of FSWs visiting HF for services has also increased. Cost was a major barrier to FSWs HSB.

Conclusion: Involvement of trained HCWs as key stakeholders in community level intervention enhanced successful referral which is a key to the CPI. Adequate provision would also be made for HCWs to keep detailed record of clients referred for ease of tracking and follow up. SHiPS for MARPs Project would make provision for periodic health education on other health issues that could affect the health of FSWs

Free Oral Session (FOS)

O-07-03 Young People as Female Sex Workers: Implications for Sexually Transmitted Infections

Ademola Adelekan,

Research and Reproductive Health, Public Health Promotion Alliance, Gra, Okefia Street, Osogbo 234, Nigeria

E-mail: kingadelekan@gmail.com

Background: Young People (YP) who are Female Sex Workers (FSWs) have numerous sex partners than their counterpart and they engage in unprotected sex with a partner who may be infected with Sexually Transmitted Infections (STIs) including HIV. This study therefore designed to document sexual behaviour, experiences and factors promoting STIs susceptibility among (YP) who are FSWs in Ogbomoso, Nigeria.

Method: This descriptive cross-sectional study was conducted among YP between the ages of 18-24 years. Interviewer-administered questionnaire was used to collect data from all consenting 63 YP who are FSWs in all the 5 brothels in the study area and snowball technique was used in selecting respondents. Data were analyzed using Descriptive statistics and Chi-square test.

Result: Mean age of respondents was 21.2 ± 8.6 years, 89.2% were between the aged (21-24), 62.7% had spent more than 3 years as Sex Workers (SWs) and 43.3% had no formal education. Respondents' reported having a weekly average of 12.5 paying clients and mean age at sexual initiation was 14.7 ± 3.2 years, with first sexual partner being boyfriend (52.7%). Many (43.7%) had ever had STIs and these included gonorrhoea (11.1%) and chlamydia (5.3%). Respondents reported experienced signs and symptoms were pain during sexual act (78.9%) and pus like discharge from vagina (34.9%). Few (14.9%) currently have STDs which included HIV (1.7%) and 24.8% were aware of other SWs that are HIV positive. Majority (98.7%) perceived themselves susceptible to HIV and 75.9% had never undergone HCT. Prevention against STIs among respondents included use of condom (83.9%) and regular taking of herbs (35.8%).

Conclusion: Young people who are female sex workers are more susceptible to STIs including HIV/AIDS. Preventive efforts should go beyond raising awareness and information levels but should address the lack of opportunities and support for many vulnerable young women in the country.

Free Oral Session (FOS)

O-07-04 Condom Used among Female Sexual Worker in Jayapura City, Papua Province, Indonesia

Antonius Oktavian, Hana Krismawati, Irawati Wike

Institute of Research and Development for Biomedicine Papua, Indonesia

E-mail: ilambra3333@gmail.com

Background: HIV/AIDS still become a serious problem in the world , also in Papua Province-Indonesia. The HIV/AIDS cases in this Eastern province of Indonesia were 15.577 cumulatively in 2013 and 97,2% of cases were heterosexual. Jayapura as the capital city of Papua Province have contributed the highest number of AIDS cases, but no much data about condom used among female sexual worker.

Methods: Aim of the study to identified the condom used among female sexual worker in Jayapura City. 141 female sexual workers from bars and massage parlors become subjects of this pilot study, conducted in October – November 2013. A questioner as a tool to identified the condom used such as: negotiating condom with client, lubricant, type of lubricant and confirmed with microscopic examination from vaginal swab.

Results: We found that years of working : mean 3 years, 48,9% have permanent partner, 17,7% never used condom , 46,1% have experience condom use rejection from partner or client, 72,3% have free condom from the clinic, 76,1% used water based gel as lubricant and from vaginal swab we found : 24,8% have diplococcus bacteria, 2,1% have Trichomonas vaginalis and 1,4 % Candida albicans

Conclusion: More education and information about condom use is needed to raise the awareness, and will support the HIV/AIDS prevention program.

Free Oral Session (FOS)

O-07-05 Factors Associated with HIV Prevalence among Sex Workers and Truckers in the Border Towns of Busia and Malaba - Uganda

Stephen Okoboi,

The AIDS Support Organization, Gladys Nakanjako, Makerere University, Uganda

E-mail: stephenokoboi@yahoo.co.uk/okobois@tasouganda.org

Background: Sex workers (SWs) and their clients, account for an estimated 14% of all new HIV infections in Uganda. SWs and truckers along transport borders of Malaba and Busia remain substantial contributors of HIV new infections and populations not adequately covered by the prevention and STIs screening and treatment efforts. The study was to determine factors associated with HIV prevalence among SWs and Truckers

Method: This was analytical-cross sectional study conducted during the month of March, 2013. Provider initiated testing and counseling approach was used during routine moonlight clinics of TASO Tororo. After consenting, M.O.H Uganda HTC questionnaire was administered to truckers and SWs, data was analyzed using EPI info.

Results: Of the 550 participants tested, 329 (59.82%) were males, mean age 30, HIV prevalence was 4.7% truckers 18.0% among sex workers. 261(47.45%) were married, 98 (17.8%) divorced/separated, 18(3.27%) widowed, 173 (31.45%) never married. 390 (70.91%) reported more than two sexual partners, 155 (28.18%) one sexual partner and 5(0.91%) reported no sexual partner. Marital status (p-value 0.042), multiple sexual partners (p-value 0.047), never taken an HIV test (p-value 0.001) sexual gender based violence for CWs and history of STIs (p-value 0.011) were factors associated with HIV prevalence. 254 (46.18%) had not tested before. Of those who had tested 124 had tested past 12 months, 102 past 3 months, 67 past 6 months and 2 more than 12 months. Spousal HIV test history indicated that 254 (46.18%) did not know if their spouses had taken an HIV test, 209 (38%) had spouses who had never taken an HIV test and 87 (15.82%) had spouses who had taken HIV test, 65 (11.82%) reported at least one STI symptoms.

Conclusion: Sexual gender violence and history of STIs were factors found to be associated with prevalence of HIV among the sex workers and truckers.

O-08-01 *Trichomonas vaginalis* Infection and Spermatogenesis in Men

Kulbarshin Akyshbayeva, Baxyt Ramazanova, Narymzhan Nakisbekov, [Aibek Smagul](mailto:smagulaibek@gmail.com)

Department of Microbiology, Virology and Immunology, Asfendiyarov Kazakh National Medical University, Kazakhstan

E-mail: smagulaibek@gmail.com

Background: Trichomoniasis infection (TI) is one of the most sexually transmitted infection (STI) in the Kazakhstan. The high frequency of coinfection with other STIs make trichomoniasis a compelling public health concern. Men with trichomoniasis may be frequently asymptomatic, complications, such as prostatitis and epididymitis. Trichomoniasis infection (TI) is also associated with infertility

Method: We examined 63 patients with TI. We used: sperm analysis to evaluate the morphology and functional properties of sperm; quantitative analysis of immature germ cells in the ejaculate to identify spermatogenic abnormalities, Transmission Electron Microscopy (TEM) research.

Results: We found that TI leads to spermatogenesis anomalies (oligozoospermia I, II, III degree with advantage of II and III degree). A decline of total sperm count, reduced sperm motility-active (21.3%) with an increase in sedentary (25.0%), fixed (53.7%) and pathological forms (up to 49.0%) ($p < 0.05$). Agglutination phenomenon was observed in 72.1%, mostly observed was agglutination of sperm tails. The tendency to increase the pathological changes in the distribution process. Oligozoospermia III degree was identified in 28.1% of patients with chronic prostatitis.

TEM examination of material from patients with disease recurrence showed the occurrence of TV with dislocated flagellum (nine triplets of peripheral microtubules and no central pair); hydrogenosomes with matrix aggregation, which are fundamental compartments for the energy metabolism of eucaryotes, and lenticular inclusions composed with electron-dense membranes. We believe that the change in the ultrastructure of hydrogenosome is the result of enzyme systems failure, which involved in energetic metabolism of the protozoa.

Conclusion: Changes in semen analysis with TI depend on the prevalence of infection and are more severe with involvement of the prostate inflammatory process. Structural changes in *Trichomonas* depending on the form of infection, explains the structural and functional heterogeneity of TV, as a factor of biological adaptation that allows protozoa to persist in the lesions.

O-08-02 HIV1- HSV2 interaction: Development of an In-vitro T-cell Line Model

Dipen Desai, Smita Kulkarni

Department of Virology, National AIDS Research Institute (Indian Council of Medical Research), Pune, India

E-mail: dipends@yahoo.com

Background: Interactions associated with an increased risk of HIV acquisition due to HSV-2 are difficult to study in vivo. Our study investigated the ability of three T-cell lines to identify an in vitro model for assessing and characterizing the interaction between HSV-2 and HIV-1.

Method: T-cell lines (CEMccr5, PM-1 and MOLT4/R5) were infected with HSV-2 (ATCC VR 734, 0.5 MOI) and subsequently infected with HIV-1Ada5 (20 TCID₅₀/ml) in three independent experiments. The HIV-1 and HSV-2 viral loads in the culture supernatants were estimated on day 0, 3 and 5 by automated Abbott m2000 RealTime PCR and plaque assay (Vero cells) respectively. The percentage of HIV-1 and HSV-2 mono and dually infected cells was determined by indirect immunofluorescence assay and analyzed using CellF software.

Results: It was observed that HSV-2 viral loads were similar in the three cell lines studied. Significant increase [4.5 folds ($p < 0.01$)] in the HIV-1 viral load was observed in CEMccr5 cells co-infected with HSV-2 and HIV-1 than those infected with HIV-1 alone. Although higher HIV-1 viral load was noted in the PM-1 cells, co-infection with HSV-2 did not have significant effect [1.98 fold ($p > 0.05$)]. Conversely, the HIV-1 viral load obtained in MOLT4/R5 cell line was lowest and did not differ significantly. The percentage of HSV-2 infected cells was almost similar in CEMccr5 (22.42%) and PM-1 (24.11%) cells, however the number of HIV-1 infected cells was slightly higher in PM-1 (42%) as compared to CEMccr5 cells (35.93%). Approximately, 8% of CEMccr5 and 10% of PM-1 cells were co-infected with HIV-1 as well as HSV-2.

Conclusion: Our data suggests that selection of an appropriate T cell line greatly influences the outcomes while studying interaction between two viruses. The study thus indicates that CEMccr5 cell line is most suitable for studying interactions between HIV-1/ HSV-2 using in vitro methods.

O-08-03 Association of Chlamydia trachomatis with mRNA Expression of Proinflammatory Cytokines and COX-2 Genes in Spontaneous Aborters

Namita Singh¹, Priya Prasad¹, LC Singh¹, Banashree Das², Sangita Rastogi¹

¹ Microbiology laboratory, National Institute of Pathology (ICMR), Sriramachari Bhawan, Safdarjung hospital campus, Ring Road, New Delhi-110029, India

² Department of Gynecology and Obstetrics, Safdarjung hospital, New Delhi-110029, India

E-mail: namisingh85@gmail.com

Background: Chlamydia trachomatis (CT) constitutes a serious public health concern. Pregnancy increases risk of CT colonization resulting in altered immune response and may affect intra- and extra-uterine development in pregnant women causing Spontaneous Abortion (SA). Till date, the immunomolecular changes underlying the complex transition from uterine quiescence to SA are not clear. In this study, an attempt was made to evaluate expression of tumor necrosis factor-alpha (TNF- α) and interferon-gamma (IFN- γ) and correlate cytokine findings with cyclooxygenase-2 (cox-2) expression level in CT-infected spontaneous aborters.

Method: With hospital ethics permission, Endometrial Curettage Tissue (ECT) was collected from 75 women presenting with vaginal bleeding and undergoing SA in first trimester of pregnancy (Group I) and from 25 age-matched controls comprising of pregnant women undergoing medical termination of pregnancy (Group II) at Department of Obstetrics & Gynecology, Safdarjung hospital, New Delhi, India. CT diagnosis was performed by PCR assay, while TNF- α , IFN- γ and cox-2 expression was assessed by quantitative real time-PCR assay (qRT-PCR) in the ECT.

Results: Average gestational age (weeks), gravidity and parity of patients in Groups I – II were 8, 2 and 2, respectively. In Group I, 10.7% spontaneous aborters were diagnosed as C. trachomatis-positive for the cryptic plasmid gene (200 bp) by PCR assay. None of the control women was found to be infected. A significantly higher level of TNF- α and IFN- γ was evaluated at transcript level by qRT-PCR in CT-positive spontaneous aborters in comparison to controls ($p < 0.05$). Cox-2 expression was also found to be significantly higher in the patient group in comparison to controls ($p < 0.002$). A significant effect of gestational age on cox-2 expression ($p < 0.0001$) in ECT of first trimester spontaneous aborters was also observed.

Conclusion: Our findings indicate that C. trachomatis is responsible for causing SA through altered expression of proinflammatory cytokines and cox-2 genes.

Free Oral Session (FOS)

O-08-04 Designing A Genome-based HIV Incidence Assay and Field Applications in Areas With High HIV Prevalence

Chuanyi Ning¹, Xiayu Xia², Xiang He¹, Hui Xing¹, Joseph D.Tucker³, Yiming Shao¹

¹ National Center for AIDS/STD Control and Prevention (NCAIDS), China CDC

² Qinghua University, China

³ South China-UNC STI Research Training Center, Guangzhou, China

E-mail: ningchuanyi@126.com

Background: Persons with recent HIV infection (acquired within one year) are believed to account for over half of all HIV transmission. We used genetic sequencing to estimate recent HIV infections in two high prevalence Chinese cities.

Method: A convenience sample of HIV isolates from the Liangshan and Yili prefecture was sequenced. Recent HIV infection was determined with the sequences clustering based diversity (SCBD) method, using reverse transcription env (C2-V5) gene fragments by single genomic amplifications and sequencing (SGA/S). Briefly, we used iterative dot-matrix alignment to calculate the pairwise sequence diversity and the overall mean value for each sample. Isolates were categorized as recent (within 1yr) or not recent HIV infection (beyond 1yr) by SCBD. We compared the SCBD method to BED estimates.

Results: We collected 1,222 blood specimens from HIV-infected individuals and were able to yield 6,454 SGA/S sequences from 506 (42.2%) of HIV isolates. We Overall, 26.3%(133/506) were recent HIV infections. The BED estimate was 25.7%(309/1202) recent HIV infections, overall, and 18.0%(65/361) among those with SCBD estimates (21.1%, 76/361). The BED and SCBD concordance rate was 0.78 (Kappa).

Conclusion: Among newly reported cases over one year, about 25% represented recent infection. The scientific data can provide direct evidence for the key areas of AIDS prevention strategies in China.

O-08-05 Receptor-based Design and Discovery of Novel Pyrazole and Pyrimidine Scaffolds as Novel Class of Non-Nucleoside Reverse Transcriptase Inhibitors (NNRTIs)

Udaya P. Singh, Hans R. Bhat

Drug Design & Discovery laboratory, School of Pharmacy, Sam Higginbottom Institute of Agriculture, Technology & Sciences, Allahabad, India 211007

Background: Non-Nucleoside Reverse Transcriptase Inhibitors (NNRTIs) considered as structurally diverse group of compounds, act by inhibiting the reverse-transcriptase (RT) enzyme in an allosteric site causing a distortion of the catalytic aspartate triad in a non-competitive fashion. In continuation of our ongoing efforts in the discovery of economic NNRTI agents, herein, we wish to report a novel class of pyrazoles and pyrimidines via receptor based drug design in order to obtain more effective candidates. These molecules were designed as per the pharmacophoric requirement to bind efficiently with NNIBP.

Method: A novel series of pyrazole and pyrimidine hybrid compounds has been developed via hydrazine, phenyl hydrazine and urea. These molecules have been subsequently tested for anti-HIV activity using TZM-bl cell lines along with Luciferase expression profile of the TZM-bl cells after infecting with NL4.3 virus and MTT assay for the cytotoxicity determination.

Results: In Anti-HIV assay, molecules having pyrazole amine with distant position of NO₂, Cl, Br showed 91-98 % inhibition. Further these compounds in Luciferase assay showed considerable inhibition of infection. While in cytotoxicity assay, it was observed that an increase in the concentration of most active compounds did not appreciably lower the percentage of cell viability. A close inspection of the best docked pose of most active compound showed that it attained a "horseshoe-like" conformation and interaction with the Tyr181 and Tyr188 of the p66 subunit in the NNIBP. Hence, it was inferred that these molecules showed potent anti-HIV activity, while presenting no significant toxicity at the test dosages.

Conclusion: As a concluding remark, we have developed a novel series of compounds with potent anti-HIV activity.

Free Oral Session (FOS)

O-09-01 Efficacy of Diagnostic Methods for Detection of *Chlamydia trachomatis* Persistent Infection in Reactive Arthritis

Praveen Kumar¹, Darshan Singh Bhakuni², Sangita Rastogi¹

¹ Microbiology Laboratory, National Institute of Pathology (ICMR), Sriramachari Bhawan, Safdarjung hospital campus, Ring Road, New Delhi-110029, India

² Department of Rheumatology and Clinical Immunology, Army Hospital (Research & Referral), Dhaula Kuan, New Delhi-110010, India

E-mail of presenting author1: pilluigib@gmail.com

Background: *Chlamydia trachomatis* is an intracellular highly prevalent sexually transmitted bacterium having biphasic life cycle causing serious morbidities in both sexes. Genitourinary induced Reactive arthritis (ReA) and undifferentiated spondyloarthropathy (uSpA), a forme fruste of ReA, are arthritic conditions representing significant health burden globally including India. Infection due to *C. trachomatis* might be difficult to diagnose by nucleic acid amplification in chronically infected patients in whom the bacteria are no longer detectable locally, thereby causing diagnostic dilemma and delayed treatment. To evaluate the efficacy of diagnostic methods, attempts were made to detect *C. trachomatis* in synovial fluid/ serum by molecular/ non-molecular methods.

Method: Prospective, observational case-control study was performed. 25 ReA/ uSpA patients were enrolled (ESSG criteria) as study group while Rheumatoid Arthritis (RA) and healthy patients served as controls. Collection of Synovial Fluid (SF) and blood samples was done in each patient. Two-step PCR assay, Elisa for detection of anti-*C. trachomatis* IgA antibody (Savyon Diagnostics, Israel) and direct fluorescence assay (Microtrak, USA) were performed. Results were analyzed using Graph prism pad software.

Results: In SF, 24% ReA/ uSpA (6/25) were found positive for endogenous cryptic plasmid gene ($p < 0.02$ versus controls). Among 6 patients, 66.6% (4/6) showed good agreement by DFA (Kappa statistics- 0.75) while 3 patients (50%) had moderate agreement for IgA antibodies (Kappa statistics-0.59). Sensitivity and specificity of DFA was 100% and 95.2%, respectively while IgA antibodies showed sensitivity and specificity of 75% and 95.2%, respectively. 12% (3/25) uSpA and 1 RA patient (4%) were positive for serum antibodies. None of healthy controls was positive for antibody/ antigen/ DNA.

Conclusion: PCR followed by DFA should be the method of choice for diagnosis of infection in SF of chronic ReA/ uSpA.

Free Oral Session (FOS)

O-09-02 Thai Health Care Personnel's Knowledge, Opinions and Perceptions of the Benefits of Neonatal Male Circumcision's in Reducing Transmission of HIV and Other STIs

Richard M. Grimes¹, Deanna E. Grimes², Kriengkrai Srithanaviboonchai³, Namtip Srirak³, Boonlure Prue-englampoo³, Kanittha Thaikla³, Jiraporn Suwanteerankul³, Jiraporn Korana³

¹ Adjunct Professor of Medicine Division of General Internal Medicine, The University of Texas Health Science Center at Houston, Texas, USA

² Suzie Conway Endowed Professor in Nursing School of Nursing, University of Texas Health Science Center-Houston, Baylor-UT Houston Center for AIDS Research, Texas, USA

³ Faculty of Medicine, Research Institute for Health Sciences, Chiang Mai University, Chiang Mai, Thailand

E-mail: Richard.M.Grimes@uth.tmc.edu

Background: Male circumcision (MC) reduces the risk of female-to-male HIV transmission and the incidence of other sexually transmitted infections (STIs). Neonatal male circumcision (NMC) is simpler, safer, cheaper, and has been shown to achieve higher rates of MC than circumcision at later ages. This study aimed to determine Thai health care personnel's knowledge about and opinions toward implementing NMC in Thailand.

Method: This mixed methods study was conducted in 2011-2012. Multi-stage sampling identified 16 government hospitals to represent various hospital sizes and regions of the country. Researchers using a fixed choice questionnaire conducted face-to-face interviews with administrators, physicians and nurses (whose jobs were relevant to NMC). An administrator, a physician, and a nurse at each hospital were asked to provide additional thoughts during in-depth qualitative interviews. The data were analyzed using descriptive statistics and content analysis.

Results: 133 individuals participated in the quantitative study and 42 in the qualitative study. 38% of the respondents agreed that NMC reduced the risk of sexual transmission of HIV. Only 65% indicated that they knew that NMC prevented STIs. Most respondents recognized benefits of NMC on hygiene (96%) and cancer prevention (74%). Qualitative data verified that participants knew the latter two benefits of NMC and STI reduction, but not HIV prevention. Major concerns raised were child rights, parental understanding, social acceptability, and skills and experience of surgeons. They said that scientific evidence to inform personnel, staff training, equipment support, pilot projects, and public information campaigns would be necessary prior to full implementation.

Conclusion: Most health personnel who participated in the study did not recognize that MC could reduce the risk of HIV acquisition and over one-third did not know NMC's reduced STI transmission. Clear policy, thorough preparation of health facilities, staff training and public education are needed before NMC could be introduced in Thailand.

Free Oral Session (FOS)

O-09-03 A Pre-HIV Counseling and Testing Survey of Sexual Behaviors of High School Learners in Gauteng and North West Provinces, South Africa

MM Mokgatle, ES Madiba

Department of Public Health, Faculty of Health Science University of Limpopo (Medunsa Campus), South Africa

E-mail: mathilda_mokgatle@embanet.com

Background: HIV infection is a global crisis that presents as public health threat among younger people. The consequences of engaging in risky sexual behaviour have been well documented and include sexually-transmitted infections (STIs), abortion, and pregnancy. One of the key areas of a large formative evaluation on acceptability of HIV Counselling and Testing (HCT) in schools was to investigate the views and practices of learners with regards to HIV counselling and testing including sexual behaviours, risk of HIV, acquiring STIs and pregnancy. The study hypothesized that learners experienced early sexual debut; learners had risky sexual behaviours and there are differences in sexual behaviours between boys and girls.

Method: A survey design was used to assess sexual behaviours of learners prior to the implementation of HIV counselling and testing in schools is proposed by the South African National Department of Health. A total of 2664 learners were included in the survey. Proportions and associations and multivariate logistic regression analysis was performed. Results: The mean age of the learners was 17.5 years and the mean age for initial sex was 10.5 years. 53% were female. Up to 82% (n=2,138) had relationships with the opposite sex, with the number of partners ranging from one to four. 62,5% (n=1,661) reported to have had sex in the past three months. 47% (n1,263) reported using condoms consistently. Of the 65.2% who were sexually active, perceived susceptibility to HIV was 29%,59% thought they could not contract STIs.17% of the sexually active girls thought that they could fall pregnant while 29% of the sexually active boys thought they could impregnate a girl.

Conclusion: Early sexual debut is still relatively high among learners. Learners have multiple or concurrent sexual partners. Consistent condom use among sexually active learners is low which predisposes learners to HIV, STI and pregnancy.

O-09-04 Genital ulcer disease in India: Accuracy of clinical diagnosis and validation of syndromic approach

Sethi S¹, Garg VK¹, Sardana K¹, Bhalla P², Patwardhan V²

¹ Department of Dermatology, Maulana Azad Medical College and associated Hospitals

² Department of Microbiology, Maulana Azad Medical College and associated Hospitals

E-mail: sethi1587@gmail.com

Background: Genital ulcer disease (GUD) syndrome is clinically classified as herpetic or non-herpetic and managed according to national guidelines. Universal implementation of syndromic approach and dearth of laboratory support at most health facilities, has led to lack of data pertaining to etiology of GUD in Indian subcontinent.

Objectives: To determine the etiology of GUDs in patients presenting to a sexually transmitted infection (STI) clinic and assess the performance of the national algorithm for syndromic management of GUDs in India.

Method: 65 consecutive patients of either sex, with first episode GUD were included as subjects. Treatment was provided according to syndromic diagnosis and laboratory investigations were carried out to find the etiology.

Results: Of the 65 patients recruited, etiology was confirmed in 43 GUD cases (66.15%). Sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) of syndromic diagnosis of herpetic ulcers were 97.05%, 25.80%, 58.92% and 88.89%. Sensitivity, Specificity, PPV and NPV of syndromic diagnosis of non-herpetic ulcers were 66.67%, 91.52%, 44.44% and 96.42%. Using the national algorithm, 28 (41.79%) cases were clinically misclassified as either herpetic (23 cases) or non-herpetic (5 cases) GUD resulting in incorrect treatment. Chi-sq=185 and $p < .001$, which shows that difference between laboratory diagnosis and syndromic diagnosis is highly significant and Kappa = 0.2665 which shows that their agreement is very weak.

Conclusion: A decline in the incidence of non-herpetic ulcers was noted which could be attributed to universal implementation of syndromic treatment of STIs along with widespread use of broad spectrum antibiotics for other illnesses. Low PPV of the syndromic approach was observed which leads to over-diagnosis and overtreatment, increased drug costs, side effects and potential for drug resistance. Thus, it should be supplemented with laboratory facilities with rapid point of care tests. We suggest a revision of existing national STI treatment guidelines in India to include a diagnostic test of herpes in all GUD patients.

Free Oral Session (FOS)

O-09-05 Risk Factors for HIV Transmission and Correlation of Periodontal Status with CD4 Cell Count of Infected Patients

Ashna Kaipattil,

Apollo Healthcare, Department of dentistry, Eranhipalam, Kozhikode - 673006, Kerala, India

E-mail: reach2achu@gmail.com

Background: CD4 cell count has been established to be a standard laboratory marker for monitoring disease progression. Oral health is an important aspect in the promotion of general health and the impact of oral illness has bearing on general health. The purpose of this study was to find out risk factors for HIV transmission and if any correlation exists between the severity of periodontal disease and the CD4 cell count in HIV patients.

Method: Forty five male and five female HIV positive patients attending various treatment units in tertiary care hospital at Mangalore, India were examined according to a predesigned proforma and CD4 counts assessed after obtaining informed consent. They were categorized according to the CD4 cell count cutoff as Group I—Patients with CD4 Cell count < 200/ μ l and Group II—Patients with CD4 Cell count \geq 200/ μ l. The Assessment of the periodontal status was using Community Periodontal Index (CPI). The data was analysed using chi – square test and Pearsons correlation coefficient.

Results: 45 male and five female HIV positive patients were studied. 70% were in 20-40 years age group. 40% were related to transport services. The prevalence of periodontitis was significantly greater in patients of the group having CD4 < 200 (27.3%) than in the group having CD4 > 200 group (9.5%). A statistically significant correlation was found between CD4 cell count and periodontal status as shown by highest periodontal score in the present study.

Conclusion: Occupation was the important risk factor for HIV transmission and heterosexual contact is the most common mode of spread. The present study also reaffirms the effect of CD4 count on periodontal diseases in HIV infected patients.

O-09-06 Chlamydia trachomatis as an Etiological Agent for Prostatitis

Kulbarshin Akyshbayeva, Baxyt Ramazanova, Marat Mukazanov, [Aibek Smagul](mailto:smagulaibek@gmail.com)

Department of Microbiology, Virology and Immunology, Asfendiyarov Kazakh National Medical University

E-mail: smagulaibek@gmail.com

Background: Chlamydia infection (CI) is the third highest STI in the Kazakhstan. Young people are most commonly infected, with current rates highest in males aged 20-25 years and females aged 15-20 years. The role Chlamydia trachomatis (CT) in the development of male urethritis, epididymitis, and orchitis is accepted, but the role of Chlamydia in the development of prostatitis is controversial.

Method: We examined 132 patients aged 19-55 years with chlamydial infection. The samples were taken from the urethra, urine, prostatic secretion, ejaculate and were examined using direct immunofluorescence, polymerase chain reaction.

Results: Mixed-chlamydial infection is established in 89 (67.4%), mainly as co-infection. Prostatitis was diagnosed in 59.1% of them with epididymo-orchitis – 13.6%, indicating that the bacterium ascends the male reproductive tract. The development of CT epididymitis is most predominant in younger men under the age of 35 yr. Mixed infection 2 times more often causes damage to the prostate gland: $67.4 \pm 5.0\%$ versus $32.5 \pm 7.1\%$ at monoinfection. Catarrhal prostatitis – 66.7%, parenchymatous–20.5%, follicular – 12.8%. The study of 132 semen samples showed that the presence of Chlamydia reduced normal sperm morphology by 22%, volume by 12.9%, motility by 15.9%. In addition to these examined sperm parameters, we had demonstrated that co-infection with CT and other bacterium results in 2-folds more sperm cells with altered parameters. During the chronic disease by patients with a low percentage of active spermatozoa in 3.8 times higher than compared to the acute course (24.3% vs. 6.4%). Noting the increased viscosity of semen in 62 (47.0%) patients, which has a negative impact on sperm fertilizing capacity.

Conclusion: We believe that findings from studies employing sensitive detection methods on suitable samples provide compelling evidence of an association between CI and the development of prostatitis.

Free Oral Session (FOS)

O-10-01 Women's Knowledge Regarding Human Papillomavirus Infection, Cervical Cancer and its Prevention: A Cross-Sectional Analysis

Ranjitha Shetty,

Associate Professor Department of Community Medicine, KMC, Manipal University, Manipal, Udupi District - 576 104, India

E-mail: ranjithakmc@gmail.com

Background: India accounts for one-fifth of world's burden of cervical cancer. Human papillomavirus (HPV) infection is a common sexually transmitted viral infection and is associated with the development of cervical cancer. Cervical cancer is a preventable disease, if detected early through screening. This study was taken up with an attempt to assess the knowledge regarding cervical cancer, its prevention and control among rural women in Southern India.

Method: A cross sectional study was carried out among 100 women in the age group of 18 -45 years attending Rural Health Centers of a tertiary care teaching hospital. A pre-designed semi-structured questionnaire was administered to collect details on their socio-demographic and reproductive characteristics, and their knowledge towards cervical cancer.

Results: Most of the participants were in the age group of 26-35 years, literate, home makers by occupation and belonged to middle socio-economic status. Only 54% of the respondents knew about cervical cancer out of which none of them knew that HPV infection, having multiple sexual partners or early age at pregnancy would increase women's risk of developing cervical cancer. However, a few of them (4 -14%) were aware of risk factors such as high parity, smoking and poor genital hygiene. Half of the women attributed irregular bleeding and post -menopausal bleeding as common symptoms of cervical cancer. Majority of them were of the opinion that cervical cancer can be treated if detected early. Only one respondent had undergone Pap smear as a routine investigation.

Conclusion: This study highlights the need for further education regarding cervical cancer and importance of screening and HPV vaccine in preventing and controlling cervical cancer.

O-10-02 Single-nucleotide Polymorphism of Toll-like Receptor 4 in Response to Interferon Based Therapy in Chronic Hepatitis C Egyptian Patients

**Olfat G. Shaker¹, Nermin A.H. Sadik², Hassan Z .Ghanem³, Heba A. Hassan³,
Abdel-Hamid. Z. Abdel-Hamid³**

¹ *Medical Biochemistry and Molecular Biology Department, Faculty of Medicine, Cairo University, Cairo, Egypt*

² *Biochemistry Department, Faculty of Pharmacy, Cairo University, Kasr El-Eini Street, Cairo, Egypt*

³ *Therapeutic Chemistry Department, National Research Center, Cairo, Egypt*

E-mail: olfatshaker@yahoo.com

Egypt has the highest prevalence of hepatitis C virus (HCV) in the world. It has been suggested that not only the virus but also the interaction between the virus and the host immune system is important in determining the course of the infection and the response to interferon (IFN) -based therapy. While the adaptive immune system plays a critical role in HCV infection, the innate immune system has only been recognized recently. Therefore, toll-like receptor (TLR) forms the cornerstone of the innate immune response. The present study aimed to investigate the role of the single-nucleotide polymorphism (SNP) in TLR4 and its protein levels in predicting the response to treatment in chronic HCV patients. A total of 83 chronic HCV infected Egyptian patients treated with peg -IFN-a2b-ribavirin combination therapy and 40 healthy subjects were included in this study. SNP in the TLR4 rs2149356 gene and its serum levels were assessed. Within the responders group, T/T genotype was the significantly highest genotype. Moreover a higher frequency of T/T was found to be associated with lower serum TLR4 level in our responder patients. In addition, T/T genotype in the healthy control group has lower serum TLR4 level than other genotypes. It can be concluded that SNP in TLR4 rs2149356 T/T gene may be a promising predictor for HCV therapy.

Free Oral Session (FOS)

O-10-03 Interleukins 10 and 12 Polymorphisms and Their Association with Treatment Outcome of Patients with Chronic Hepatitis C Infection

Olfat Shaker¹, Samar Marzok¹, Rafat Hanna², Hanan Hassan², Gamal Essmat³

¹ Medical Biochemistry and Molecular Biology Department, Faculty of medicine, Cairo University, Egypt

² Medical Biochemistry, National Research Center, Egypt

E-mail: olfatshaker@yahoo.com

Chronic infection with HCV is a huge problem both globally and at the level of the individual patient. We aimed to detect SNPs of the IL-10 at -1082 & -592 and IL-12 at -1188, in chronic liver disease patients under treatment with peg IFN- α plus ribavirin. 160 patients with HCV and 100 healthy subjects serving as control were enrolled in this study. The following was done; Liver function tests, hepatitis markers, HCV quantitation by real time PCR, PCR-RFLP and quantitation of IL-10 and IL-12 by ELISA. The levels of IL-10 were significantly decreased and IL-12 were significantly increased in responder compared with non-responder ($p= 0.001$). SNP of the IL-10 (-1082) showed significant difference regard genotypes (AA and AG). The G allele showed higher rates in responders than those with A allele. IL-10 -592 showed significant difference in its genotype frequencies between responders and non-responders regard (AA and CC) where AA genotype had greater frequency in responders than CC. A allele was higher in responder patients than those with C allele. IL-12 -1188 showed significant difference in its genotype frequencies between responders and non-responders regard (AA) genotype. While, no significant difference regard genotype (AC and CC) among responders and non-responders. The subjects with an allele showed higher rates of response than those with C allele. It can be concluded that SNPs in IL-10 and IL-12 and their serum levels may be promising predictors for HCV therapy.

O-10-04 Survey the Frequency of *Mycoplasma hominis*, *Mycoplasma genitalium* and *Ureaplasma urealyticum* in Women with Cervicitis

Alisha Akya¹, Mansur Aletaha², Azam Elahi³

¹ Assistant Prof. Nosocomial Infections Research Center, Kermanshah University of Medical Sciences, Kermanshah, Iran

² MSc of medical microbiology, Kermanshah University of Medical Sciences, Kermanshah, Iran

³ MSc student of medical microbiology, Kermanshah University of Medical Sciences, Kermanshah, Iran

E-mail: akya359@yahoo.com

Introduction: Sexually transmitted diseases (STDs) are common infectious diseases in communities with financial burden for societies and patients. *Mycoplasma hominis*, *Mycoplasma genitalium* and *Ureaplasma urealyticum* are bacterial agents of STDs. They are the smallest bacteria without cell wall and cause diseases such as cervicitis, vaginitis, pyelonephritis and pelvic inflammatory disease. This study investigated the prevalence *M. hominis*, *M. genitalium* and *U. urealyticum* in women with cervicitis in Kermanshah, Iran.

Method: From 235 married women with cervicitis, cervical samples were taken using Dacron swab and the demographic and other relevant data of patients were also recorded. Bacterial DNA was extracted from samples for doing PCR experiments with specific primers for the detection of *M. hominis*, *M. genitalium* and *U. urealyticum*.

Results: The average age of the 235 women was 32.50 years. *M. hominis*, *M. genitalium* and *U. urealyticum* were found, in 12 (5.1%), 14 (6%) and 61(26%) of women, respectively. Coinfection with two organisms was found in 5 women (2.1%). Two hundred and twenty patients (94%) had clinical symptoms. The higher rate of infection was found in women who used the IUD and tubectomy.

Conclusion: The rate of *M. hominis*, *M. genitalium* and *U. urealyticum* in Kermanshah is considerable. However, in compare to some other countries the rate of infection for genital mycoplasmas is lower. This can be explained by the fact that the sexual behavior is restricted in countries like Iran. The rate of infection for genital mycoplasmas in this study indicated the more surveillance is required to control these bacterial infections.

O-10-05 Genetic Susceptibility to Cervical Cancer: Role of XRCC1

D Bajpai¹, S Pathak¹, S Jain², N Singh¹

¹ Dept of Biochemistry, All India Institute of Medical Sciences

² Dept of Obstetrics & Gynecology, All India Institute of Medical Sciences

E-mail: deepti.aiims@gmail.com

Background: X-ray repair cross-complementation group 1 (XRCC1) is a scaffold protein involved in the early and late stages of Base Excision Repair (BER). Three single nucleotide polymorphisms occur in XRCC1 which could change the binding or regulatory activities of XRCC1. Human papillomavirus is necessary but not sufficient for cervical cancer. Our aim was to assess the association between the XRCC1 gene Arg194Trp, Arg399Gln, Arg280His polymorphisms as well as its expression and risk of SIL and cervical cancer (CC).

Method: A case control study consisting of 178 samples (65 CC cases, 45 SIL cases and 68 controls) was carried out. XRCC1 polymorphisms were determined by Restriction Fragment Length Polymorphism. The mRNA expression was checked by RT PCR and at protein level by Western blotting.

Results: The TT genotype of XRCC1 codon 194 and AA genotype of XRCC1 codon 280 presented 12 fold ($p = 0.001$; OR = 12.2; 95%CI = 4.9–30.9) and 7.5 fold ($p = 0.001$; OR = 7.5; 95%CI = 2.9–18.7) higher risk of CC, respectively. The variant genotype of XRCC1 codon 399 was associated with 4.2 fold ($p = 0.008$; OR = 4.2; 95%CI = 1.5–12.1) higher risk of cervical cancer. The heterozygous genotype of all the three exons did not present any significant risk. In XRCC1 C194T, and XRCC1 G280A combining the heterozygous and variant genotype there was higher risk for CC ($p = 0.001$; OR = 7.01 95%CI = 3.1-15.7 and $p = 0.001$, OR = 3.2, 95%CI = 1.6-6.6, respectively). In SIL cases, the homozygous variant TT of Exon 6 presented 3.5 fold ($p = 0.012$; OR = 3.5; 95%CI = 1.3-9.8) higher risk. The invasive cancer and SIL subjects demonstrated lower relative expression of the XRCC1 ($p < 0.001$).

Conclusion: The present study suggested that XRCC1 as a predisposing factor in SIL and increased risk of CC. Low mRNA transcript of XRCC1 showed an increased risk of CC. This implies that polymorphism and reduction in expression of XRCC1 gene is associated with an early event in the progression to CC.

Free Oral Session (FOS)

O-11-01 Availability and Quality of Online HIV/STD Self-Test Kits in the United States and China: Implications for Expanding Self-Testing Platforms

Liu Fengying¹, Larry Han^{2,3}, Weiming Tang², Shujie Huang¹, Heping Zheng¹, Bin Yang¹, Joseph D. Tucker^{2,4}

¹ Guangdong Provincial Center for Skin Diseases and STI Control & Prevention, Guangzhou, China

² University of North Carolina Project-China, Guangzhou, China

³ Department of Biostatistics, Gillings School of Global Public Health, University of North Carolina at Chapel Hill, Chapel Hill, NC, USA

⁴ University of North Carolina at Chapel Hill School of Medicine, Chapel Hill, NC, USA

E-mail: liufengying85@163.com

Background: Many HIV-infected individuals worldwide do not get tested because of concerns about confidentiality, availability, and ease of use of testing kits. This unmet need and the advent of HIV self-testing kits have given birth to a large e-commerce market selling HIV self-test kits. This study was to investigate the availability and quality of HIV/STD self-test kits on major e-commerce websites in the United States and China.

Method: In October 2013, the four largest e-commerce websites in the US and China were chosen (Amazon, Ebay, Taobao, and Jingdong). The number of self-test kits sold, number of comments, test methods, linkage to care, and prices were collected from the e-commerce websites. The quality of HIV counseling services was assessed by asking vendors about self-test counselor medical background and face-to-face HIV counseling experience.

Results: We identified a total of 46 vendors that sold 38 brands of HIV/STD self-testing kits. All of the vendors were private companies or individual sellers. The largest Chinese e-commerce site reported a total of 17,396 HIV/STD self-testing kits sold and 6,796 ratings. The largest US e-commerce site reported 489,792 ratings on self-test kits (no data on total kits sold). The price per HIV test kit ranged from 19 to 46 USD, with a mean of 39 USD. No Chinese vendors (0/7) and only 34% (13/38) of US vendors provided HIV confirmatory testing service. All seven Chinese vendors and 50% (19/38) of American vendors provided general advice directing individuals to the local public health authority without specific hotline or address information. Only 28% (2/7) of Chinese and 21% (8/38) of US customer service employees had medical backgrounds and none had face-to-face counseling experience.

Conclusion: Internet-based HIV/STD self-testing provides an untapped opportunity for expanding HIV/STD testing. However, existing self-testing has been dominated by private companies and is poor in quality.

Free Oral Session (FOS)

O-11-02 Couple HIV Counseling and Testing (CHCT) among High Risk Population versus General Population in Bali, Indonesia “Acceptability among High Risk Couples, Pregnant Women and Their Partners”

Septarini NW¹, Sutarsa IN², Sari KAK², Rowe E³

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

² School of Medicine, Faculty of Medicine, Udayana University- Bali Indonesia

³ Kerti Praja Foundation-Bali Indonesia

E-mail: septa_rn@yahoo.com ; wayan_septarini@unud.ac.id

Introduction: Number of HIV and AIDS cases in Bali in 2012 was approximately 26.000. Since several years the mode of HIV transmission in Bali is mainly from heterosexual intercourses. Data shows that more than 17% HIV infected people in Bali are housewives which belief transmitted by their husband/partner. Couple HIV counseling and testing (CHCT) aims to prevent HIV through sexual transmission and build support environment for partners who found to be HIV+. There is no CHCT program available in Indonesia or In Bali. The objective of this study is to know views from pregnant women and their partners if CHCT conducted during ANC visit at Primary Health Centre.

Method: This is a descriptive qualitative study conducted in Denpasar and Badung Regency, Bali-Indonesia from July to December 2013. Twenty couples (10 pregnant women and 10 partners) were participated in in-depth interviews regarding the feasibility study on CHCT in ANC setting. Two focus group discussions were also performed. The FGDs were each among pregnant women and the pregnant women partners.

Results: Results from in-depth interviews with pregnant women and partners stated that integrating CHCT into ANC services is a good idea and they will join the program if conducted. However, when ask about the acceptance on their partners if discordant, the pregnant women stated that their will accept their husband if he is HIV+ and she HIV-. Different from partners' views gained from in-depth interviews and FGD. If in CHCT their wives found to be HIV+, they will interrogate them first before accept or reject (divorced) her. If it was because of accidents that they did not intend to do (needle stick trauma), they will accept her. But if it is due to outside married relationships, injecting drugs, they will not accept her again as their wife (will divorced).

Conclusion: Integrating CHCT into ANC services is a good idea to prevent HIV transmission in couples; however, in order to maximize the objectives of CHCT program, several actions need to be taken, particularly regarding the acceptance if they found to be a discordant couple.

Disclosure of interests' statement: This study has been funded by HIV Cooperation Program for Indonesia (HCPI) and Indonesia National AIDS Commission.

Free Oral Session (FOS)

O-11-03 Beliefs, Attitudes and Practice of Male Condom among University Students in Ethiopia: A Call for Tailored Intervention to Prevent HIV/AIDS and Other STDs

Melkie Tilahun,

Department of Health Studies, University of South Africa, South Africa

E-mail: melkiet2004@yahoo.com

Background: The male latex condom is the single most efficient technology available to reduce the sexual transmission of HIV and other STDs. Condom use is a critical element of combination prevention to reduce the sexual transmission of HIV. Social and cultural attitudes pose significant barriers to condom use. The findings from different Universities in Ethiopia show that despite the expectation of prevention consciousness among university students, the prevalence of consistent condom use is very low.

Method: A cross-sectional survey was conducted in Addis Ababa University from April to May 2014. A self-administered questionnaire was used to collect data from the students. A multi-stage cluster sampling technique was employed to select sample population. SPSS version 20 was used to enter and analyze data. A descriptive statistics was performed to run frequencies. The confidence interval was set at 95%. Ethical clearance was obtained from Ethiopian Ministry of Science and Technology.

Results: About 544 (274 male, 270 female) students completed the self-administered questionnaire. More than 140 (44%) believe that sexual intercourse without condom increases sensation and satisfaction. About 20% of the students reported that they would like to have casual sex without condom. One fifth (20%) of the respondents had sex in the past 12 months prior to the survey. Of those who had sex in the past 12 months, 82% reported that they used condom during sex in the past 12 months. Sixty-two percent used condom consistently. The remaining 38% used condom sometimes or rarely.

Conclusion: A significant proportion of University students have inappropriate belief about condom. Similarly, substantial proportion of the students had unfavorable attitude towards condom use. In addition, inconsistent condom use was reported by sizable proportion of the students. The results call for a robust and tailored intervention that promotes condom use among University students in Ethiopia.

Free Oral Session (FOS)

O-11-04 Effectiveness of Mobile Internet Technology toward Enhancing Early Initiation of Children on Art in Rural Communities in Iwo, Osun State, Nigeria

Ademola Adelekan,

Research and Reproductive Health, Public Health Promotion Alliance, Gra, Okefia Street, Osogbo 234, Nigeria

E-mail: kingadelekan@gmail.com

Background: In Nigeria, there is a high mortality rate among children living with HIV, who often die while awaiting DNA polymerase chain reaction (PCR) test results, which can take up to 12 weeks to be returned to the health facility from laboratory facility.

Method: In March, 2012, we launched a strategy to reduce HIV test results turnaround time, by speeding transfer of test results to health facilities to facilitate early initiation of infants on ART. A review of site data was conducted to examine the potential use of mobile internet as a mechanism for feedback and distribution of DNA PCR results to reduce lag times between testing and initiation of children on ART.

Results: Between January and December 2012, a total of 205 infants with a mean age of five weeks had a Dried Blood Spot (DBS) PCR test performed. Through the use of mobile technology, average test result turnaround times were reduced from 12 to four weeks. The percentage of HIV-positive children initiated on ART increased significantly from 4.0% in the 2nd quarter of 2012 (when mobile technology was introduced) to 34.8% in the 4th quarter of 2012. During the review period, a total of 237 children were initiated on ART within four weeks (from the time of DBS to the time of ART initiation), 23 children were initiated in the 2nd quarter of 2012 and 45 children in the 4th quarter of 2012.

Conclusion: The use of mobile internet technology was visible and effective for faster and easier transfer of DNA PCR results from the central laboratory back to rural health facilities. Impact of this intervention on infant mortality will be evaluated.

Free Oral Session (FOS)

O-11-05 Effectiveness of Peer Education Approach for Capacity Building among Female Sex Workers in Ibadan, Nigeria

Taiwo Iyabo Oluwayemisi,

SHIPS 4 MARP, Society for Family Health, 24 Baale Akintayo Street, Jericho, Idishin, Ibadan, Nigeria

E-mail: iyabo_yakubu@yahoo.com

Background: Female sex work is an important risk factor for HIV infection. Fifteen percent of current HIV burden in the general female adult population is attributable to sex work. Prevention programmes targeting Female Sex Workers (FSWs) have a great potential to lower disease burden in this key population and additionally decrease disease transmission in the general population. This intervention therefore determined the effectiveness of peer education approach for capacity building among FSWs in Ibadan, Nigeria.

Methods: A total of 19 FSWs were recruited and trained as Peer Educators in 16 brothels in Ibadan North (IN), Ibadan North West (INW) and Akinyele (AKN) Local Government Areas (LGAs) in Ibadan. The selected PEs were equipped with information on Enabling Environment for Safer Sexual and Reproductive Health Behaviour (EESSRHB), Behavioural Change Maintenance (BCM) and Knowledge and Attitude Conductive to Safer Sexual and Reproductive Health Practice (KACSSRHP). The trainees in turn trained other FSWs in their brothel through micro-teaching and IEC Materials. A total of 322 FSWs were trained by trained PEs within 6 months of the intervention and this was done between April and September, 2013. Focus Group Discussions were also carried out among FSWs.

Results: The EESSRHB increased from 39.0% to 80.3%, 53.0% to 87.5% and 56.0% to 87.5% in IN, INW and AKN LGAs respectively and BCM increased from 50.0% to 68.8%, 50.0% to 50.0% and 50.0% to 50.0% in IN, INW and AKN LGAs respectively. The KACSSRHP also increased from 92.0% to 100.0%, 92.0% to 100.0% and 86.0% to 100.0% in IN, INW and AKN LGAs respectively. The FSWs during FGDs were of the opinion that safer sex products are always available for them to buy and are affordable but were not sure if the environment is safer for the products. They also expressed their willingness to be part of HIV prevention programme in their community.

Conclusions: The intervention was affective for creating enabling environment for safer sexual and reproductive health behaviour among female sex workers but there is need for intensive behaviour change communication activities.

Free Oral Session (FOS)

O-12-01 Effectiveness of Counseling to Promote consistent condom use among Female Adolescents in Drugstore Setting

Nattanan Chiewchalakom¹, Penkarn Kanjanarat²

¹ Office of Diseases Prevention and Control region 10, Chiangmai, Thailand

² Department of Pharmaceutical Care, Faculty of Pharmacy, Chiangmai University, Thailand

E-mail: bnattanan@yahoo.com

Background: Condoms offer protection against STIs and HIV when used correctly and consistently. Previous data show low rate of consistent condom use in adolescents, thus leading to infections. Condom use promotion programs need to take into account the different motivation among male and female for engaging unsafe sex. The purpose of this study was to assess the effectiveness of promoting condom use behaviors and psychosocial parameters of female adolescents by drugstore pharmacist's counseling.

Method: One group pre-post test design was used to compare condom use, intention, attitude and self-efficacy toward condom use. Thai female adolescents aged 18 – 25 years, self-report of sexual experience, with risks of AIDS based on screening questions, were enrolled at 2 community drugstores during December 2011-February 2012. The subjects participated in a 30-minute individual counseling session based on the Integrated Behavioral Model on counseling programs. Data were collected at the first visit and 1-month after the counseling session. Data were analyzed by descriptive statistic and McNemar's Test with statistical significance at the 0.05 level.

Results: This study recruited 65 female adolescents to a pre-counseling questionnaire and counseling program. Completed questionnaire were received from 52 female adolescents at the 1-month follow up. The average age of the subjects was 19.7 ± 1.5 years. The counseling program increased consistent condom use from 36.5% to 42.3% and the ability to refuse a partner with non-condom use sexual intercourse from 32.7% to 50.0% with no statistical significant differences while the intention to convince their partner to use condom was increased from 63.5% to 82.7% and the desirability in condom procurement was increased from 30.8% to 53.8% with statistical significant ($p = 0.021$ and 0.004 respectively).

Conclusion: Counseling to promote condom use in female adolescents by drugstore pharmacist testified to be effectiveness in improving consistent condom use intention and self-efficacy toward condom use.

Free Oral Session (FOS)

O-12-02 Knowledge and Awareness of Modes of Transmission of Sexually Transmitted Infections (STIs) Among a High Risk Group in a Nigerian University

Sabitu Muhammad Zainu,

Venereology Unit/STI Clinic, Department of Medical Microbiology, Jos University Teaching Hospital, PMB 2076, Jos, Nigeria

E-mail: zsabitu@gmail.com

Background: Globally, Sexually Transmitted Infections (STIs) have reportedly reached an alarming prevalence in several countries especially in sub-Saharan Africa. Misconceptions of how they are transmitted maybe responsible for this high prevalence. This study was conducted to determine awareness and knowledge of modes of STI transmission among male and female students of the University of Jos, Nigeria.

Method: A total of 316 students of various departments attending the University were enrolled for the study. Voluntary written informed consent was obtained from each participant. Structured self administered questionnaires were used to obtain relevant data from each of the students. Data was collated and analyzed using EPI info version 3.5.3 statistical package.

Results: Male respondents were 217 (68.7%) while females were 99 (31.3%). Many respondents were unaware that oral sex (n = 174, 55.1%), anal sex (n = 140, 44.3%), unprotected sexual intercourse (n = 114, 36.1%) and being involved with multiple sexual partners (n = 71, 22.5%) were possible modes of transmission of STIs. Other respondents thought that sharing clothes (excluding underwear and excluding transmission of pubic lice and scabies) (n = 39, 12.3%), sharing toilets (n = 72, 22.8%) and kissing (n = 48, 15.2%) were modes of STI transmission.

Conclusion: The study revealed that there still exist a poor knowledge and awareness of certain modes of STI transmission among this high risk group. Targeted education of this student population of the possible modes of transmission of STIs and their consequences is imperative and will go a long way in reducing the prevalence of STIs.

Free Oral Session (FOS)

O-12-03 Implementing HIV Counselling and Testing at School in South Africa: A Formative Evaluation of Learners' Opinions and Acceptability in Gauteng and North West Provinces

Sphiwe Madiba¹, Mathildah Mokgatle²

¹ School of Public Health, University of Limpopo, South Africa

² Department of Public Health, Faculty of Health Science, University of Limpopo (Medunsa Campus), South Africa, E-mail: mathilda_mokgatle@embanet.com

E-mail: sphiwe_madiba@embanet.com

Background: The South African National Departments of Health announced the need for implementing HIV counselling and testing (HCT) of learners in schools, in 2011. However, HCT has been widely advocated as a HIV prevention strategy among adults and the debate on the appropriateness of providing HCT in schools has been between adults with little considerations of the learners. The purpose of the formative evaluation was to assess the learners' opinions and acceptability of HCT in school. The research question that needed to be answered was whether HCT could work well for learners at school.

Method: The study used a formative evaluation using qualitative methods with 112 grade 10-12 learners in 17 high schools in North West and Gauteng provinces in South Africa. Male (46%) and female (54%) learners participated in eight focus group discussions. Data were analyzed thematically using NVivo 10. Three key themes emerged; willingness to test at school, communicating HIV test results, and provision for post-test counselling.

Results: Three quarters of the learners displayed a positive attitude towards HCT and stated their willingness to utilize it should it be made available at school. There had concerns about how they would be informed about the HIV test results which might compromise confidentiality and secrecy. The learners suggested various options for receiving the HIV test results which included; receiving the results face to face after testing and on different times in a sealed envelope delivered by hand or mail, by SMS, and WhatsApp messages. Strategies for post-test counselling included the option to make counselling part of learners' Life Orientation syllabus, and providing a link to counselling services that the learners could call.

Conclusion: HCT at school is acceptable to learners who recommended strategies for communicating the HIV test results and for post-test counselling. The findings will inform the proposed roll out of HCT campaign in schools.

O-12-04 Male Clients among Men Who Have Sex with Men in China: An Unexplored World

Lei Chen¹, Ye Zhang¹, Fengying Liu¹, Shujie Huang¹, Weiming Tang^{1,2}

¹ Guangdong Provincial Center for Skin Disease and STI Control

² University of North Carolina, Project-China

E-mail: gdpuchenlei@163.com

Background: In the past few years, several studies were conducted among male sex workers who sold sex to other men in China. However, little is known about men who have sex with men (MSM) who paid for male sex (MSM Clients). The objectives of current reported study were to study the demographic, HIV and syphilis prevalence and behaviors of MSM clients in China.

Method: In this multi-center cross-sectional study, respondent-driven-sampling and snow-ball sampling were used to recruit participants who were male, ≥ 18 years old and engaged in anal sex with men in the past 12 months. Descriptive analysis was used to describe the characteristics and behaviors of the participants. Logistic regression was used to compare MSM clients with others, while marital status, nationality, sampling city and resident were adjusted in the multivariate model.

Results: Among the 2958 recruited participants, 148 paid for male-to-male sex in the past six months, with a proportion of 5.00%. The HIV prevalence for clients and other MSM were 7.43% and 7.72%, while syphilis prevalence rates were 18.92% and 14.02%, respectively. The prevalence of unprotected anal intercourse of clients and other MSM were 59.46% and 48.15%. After adjusted for potential confounders, MSM clients tend to be elder (OR=3.54 for aged 40 to 50, 95%CI: 1.41-8.94), poor educated (4.02 for illiterate or elementary level, 1.87-8.65), have higher income (4.56 for monthly income >4000 RMB, 2.21-9.39), like to found partners at park or public restroom (4.76, 2.85, 7.94), have better knowledge of HIV (1.49, 1.06-2.11) and have larger network size (2.65 for 10 and above, 1.42-4.94).

Conclusion: Compared to other MSM, the MSM clients have similar HIV prevalence but higher syphilis prevalence and risk behaviors. We need pay more concern to MSM clients, and the intervention strategies should take age, education level, income, venues, knowledge and network size into consideration.

Free Oral Session (FOS)

O-12-05 Redefining the Perceived Quality of Life of PLHIV through Counseling Programs: A Case Study of Pinoy Plus Members

Enrico Antonio P. Arevalo Jr¹, Maria Carinnes A. Gonzalez²

¹ Assistant Professor of sociology at the Faculty of Arts and Letters, University of Santo Tomas, Manila, Philippines

² undergraduate student of sociology at the Faculty of Arts and Letters, University of Santo Tomas, Manila, Philippines

E-mail: arevalo.enricop@yahoo.com

This research explores the counseling programs offered by Pinoy Plus, a NGO that provides treatment, care and support to its PLHIV members in the Philippines. This study seeks to explore the effect of Pinoy Plus' counseling programs to the perceived quality of life of its PLHIV members. The objective of this research is to develop an understanding on how PLHIV perceive their quality of life prior to and after joining Pinoy Plus. This research also seeks answers to the following questions: (1) in what ways does Pinoy Plus affect the perceived quality of life of its PLHIV members? And (2) what are the perceptions of PLHIV regarding their quality of life before and after joining Pinoy Plus? The data for this qualitative research consisted of 5 PLHIV Pinoy Plus members. Data were gathered using in depth semi-structured interviews and qualitative surveys. Participant observation and focused ethnography were performed as well. Data were encoded to Atlas.ti and SPSS. Based on the gathered data, the perceived QoL of PLHIV members of Pinoy Plus have been characterized by themselves as: empowered, supported and disciplined, as the counseling programs took in place. This research will be beneficial to the Pinoy Plus' interventions when it comes to the treatment, care and support for the PLHIV. Hopefully the output of this research will serve as one of the basis for future plans and actions for the treatment, care and support of non-governmental and governmental organizations in understanding and addressing the QoL of people living with HIV.

Free Oral Session (FOS)

O-13-01 Barriers to Integrating Couple HIV Counselling and Testing (CHCT) in Mother and Child Health (MCH) Program at Community Health Centres in Bali Province, Indonesia

Sutarsa IN¹, Septarini NW², Kartika Sari KA¹, Rowe E³

¹ Department of Community and Preventive Medicine, Faculty of Medicine Udayana University, Indonesia

² School of Public Health, Faculty of Medicine Udayana University, Indonesia

³ Kerti Parka Foundation, Denpasar, Bali, Indonesia

E-mail: sutarsa84@gmail.com

Background: Indonesian Government policy on prevention from mother to child transmission states all pregnant women should be offered HIV testing. Studies in developing countries reveal that integrating couple HIV counselling and testing (CHCT) in maternal and child health (MCH) program raises awareness of risky sexual behaviours, increases HIV testing uptake, improves treatment adherence and strengthens support within the couple relationship. This study explored barriers to integrating CHCT in MCH program at community health centres (Puskesmas) in Bali Province, Indonesia.

Method: A qualitative study was completed using in-depth interviews with 26 respondents (pregnant women and their partners, VCT staff from Puskesmas) and six focus group discussions (pregnant women, their husbands, head of Puskesmas, head of MCH program, head of VCT program and policy makers). Data were analysed using thematic method and presented using narrative approach.

Results: Barriers to integration included lack of perceived risk among couples and inability for women to seek HIV testing without support from their husbands – influenced by patriarchal Balinese culture. From a Puskesmas readiness perspective, barriers included: lack of skilled staff, high rotation and turnover; lack of cross-program and inter-sectoral linkages; insufficient funding; inadequate infrastructure; and complex logistic systems for supplying materials. Training Puskesmas staff and promoting stronger program linkages are very critical followed by pooling HIV and AIDS funding at provincial Department of Health and distributing to Puskesmas based on need and capacity; simplifying logistic systems; and forming partnerships between lay counsellors or field workers from non-governmental organisations to raise awareness of available HIV services, involve more men in prevention program and promote stigma reduction activities in the community.

Conclusion: Findings from this study can be used to inform implementation of CHCT into MCH program, accompanied by Puskesmas strengthening and intensive stigma reduction strategies.

O-13-02 Breast Feeding as a Risk Factor of Perinatal HIV Transmission

Khudaykulova Gulnara,

Tashkent Medical Academy, Tashkent, Uzbekistan

E-mail presenting author: gulechkauz@rambler.ru

Background: According to the findings of a number of researchers, the risk of HIV transmission from mother to bottle-fed child with the lack of preventive measures accounts for 15-30 %; breast feeding raises the risk to 20-45 %.

Objective: Evaluate breast feeding role in perinatal HIV transmission.

Method: We have analyzed the data on breastfeeding modes for 147 newborns born to HIV-infected women. The children were divided into 2 groups: group 1 consisted of 49 children infected perinatally; 98 children who were not infected perinatally were included in group 2. The children's HIV status was determined by PCR made twice: at the age of 1-2 months and 3-4 months.

Results: In group 1, the share of the breast-fed babies was significantly higher compared to not-infected children (26.5 % vs 7.1 %). The share of bottle-fed babies was significantly higher in group 2 (81.6% vs 63.3). The rate of combined feeding was almost the same in both groups (10.2% and 11.2%, respectively). On the basis of the findings, the relative risk (RR) of HIV transmission through breast feeding was calculated. In breast-fed babies, the risk of HIV-infection was 2.3 times as high as in children fed with baby's formulas (RR = 2.327).

Conclusion: Our research demonstrated that breast-feeding doubled the risk of HIV-infection for babies. It predetermines the expediency of corresponding feeding for the newborns reducing the risk of the infection transmission through breast milk (feeding with baby formula, antiretroviral prophylaxis (ARVP) prolongation for the mother for the whole period of breast feeding, etc.)

O-13-03 Evaluating Knowledge for Sexually Transmitted Infections among Primary Care Doctors Working in Government Township Medical Offices, Hospitals and Clinics in Yangon Region, Myanmar

Myo Thant¹, Win Myint Thu¹, Nyo Win Ko¹, Koji Wada², Ikuma Nozaki², Myint Shwe¹

¹ National AIDS Program, Myanmar

² JICA Major Infectious Disease Control Phase 2, Myanmar

E-mail: kwada-sgy@umin.ac.jp

Background: Even though not every doctor has an opportunity to see patients with sexually transmitted infections, basic training is necessary in limited resource areas to ensure that patients have access to appropriate treatment. The Ministry of Health, Myanmar, has provided training to primary care doctors on treating patients with sexually transmitted infections. To improve the quality of training, we conducted a questionnaire survey on sexually transmitted infections to gauge the knowledge among primary care doctors.

Method: In 2014, we delivered an anonymous questionnaire for all the participants before we conducted the training on sexually transmitted infections. The questionnaire assessed their knowledge on prevention, diagnosis, and treatment based on the national guidelines.

Results: A total of 67 primary care doctors agreed to participate in this study. Among participants, 34.3% and 11.9% of doctors did not see any male and female patients, respectively, with symptoms of sexually transmitted infection in the previous year. Most participants correctly answered questions on prevention. However, relatively fewer correctly answered questions on the risks of hepatitis B transmission through anal sex (77.6%), and the severity of health consequences among such females (70.1%). With regard to diagnosis, most participants correctly answered questions on urethral discharge (85.1%) and genital ulcers (74.0%), but did not correctly answer questions required differential diagnosis (38.8% and 20.9%). Most participants correctly identified appropriate treatments for genital herpes (95.5%), syphilis (92.5%), candidiasis (83.6%), and gonorrhea (65.7%), but they did not adequately understand the treatment of trichomoniasis (56.7%), chancroid (44.8%), and chlamydia (43.3%).

Conclusion: We identified topics that required to be addressed during the training, especially treatments for trichomoniasis, chancroid, and chlamydia.

O-13-04 Sexual Contact Is the Trigger! Women's Views and Experience of the Causes and Triggers of Bacterial Vaginosis

Jade Bilardi¹, Sandra Walker², Meredith Temple-Smith², Ruth McNair², Julie Mooney-Somers³, Clare Bellhouse^{1,4}, Christopher Fairley⁵, Marcus Chen⁵, Catriona Bradshaw⁵

¹ Monash University, Melbourne, Australia,

² The University of Melbourne, Melbourne, Australia,

³ The University of Sydney, Sydney, Australia,

⁴ Melbourne Sexual Health Centre, Melbourne, Australia,

⁵ The University of Melbourne & Melbourne Sexual Health Centre, Melbourne, Australia.

E-mail: swalker@mshc.org.au

Background: Bacterial vaginosis (BV) is a common vaginal infection, causing an abnormal vaginal discharge and/or odour in up to 50% of sufferers. Recurrence is common following recommended treatment. Increasing evidence suggests BV may be sexually transmitted, however causative agents for sexual transmission have not been verified. The aim of this study was to explore women's experiences of recurrent BV. This paper reports on findings relating to women's views and experiences around the causes and triggers of recurrent BV.

Method: Thirty five women were interviewed face-to-face or by phone about their experience of recurrent BV. Interviews took between 20-45 minutes. All interviews were digitally recorded, transcribed verbatim and imported into N-Vivo 9 for thematic analysis.

Results: The majority of women attributed their BV to sexual contact including sexual intercourse, unprotected sex, sex with casual partners, sex toy use, digital-vaginal sex, oral sex, frequent sex or vaginal sex following anal sex and sex with male or female partners. Only a few women did not feel that some form of sexual contact had triggered their episodes of BV. For some women BV presented regardless of sexual partner, while for others it was triggered only with certain sexual partners. While most women attributed their BV to sexual contact they generally did not consider it an STI.

Conclusion: Most women felt that their episodes of recurrent BV had been caused or triggered by some form of sexual contact. This study is one of the first studies to explore women's views and experiences around BV transmission. Further large scale studies are required to determine if women from diverse populations report similar experiences around BV transmission.

O-13-05 Barriers to Antenatal Syphilis Screening in Burkina Faso

Fadima Yata Bocoum,

*Institut de recherche en science de la santé, Burkina Faso,
University of Western Cape, South Africa, Free Afrik, 01 BP 4859, Ouagadougou, Burkina Faso*

E-mail: fadimaboloum@yahoo.fr

Introduction: Despite advances in treatment and management, syphilis remains a major public health problem in Burkina Faso. Syphilis in pregnancy poses major health risks for the mother and the fetus and also increases the risk for HIV transmission. Despite its potential benefits, antenatal syphilis screening is often poorly implemented in many sub-Saharan African countries. The purpose of the study is to identify and understand barriers affecting health system performance for syphilis screening among pregnant women in Burkina Faso.

Method: We conducted in-depth interviews and observations in the Kaya health district, Burkina Faso. Participants were purposively selected to capture a range of perspectives across different actors with different roles and responsibilities. Seventy-five interviews were conducted with health providers, district managers, facility managers, traditional healers, pregnant women, community health workers, and Non-Governmental Organizations (NGO) managers. Interviews were transcribed and organized into codes and categories using NVivo software.

Results: Participants identified multiple barriers at health providers and community levels. Key barriers at provider level included fragmentation of services, poor communication, low motivation for prescription, and low awareness of syphilis burden. Cost of testing, distance to laboratory and lack of knowledge about syphilis were identified as barriers at community level.

Conclusion: The study highlights barriers such as distance, cost of testing, and knowledge about syphilis. The introduction of point of care testing for syphilis could be an entry point for improving coverage of antenatal syphilis screening.

O-14-01 Risk Factors of HIV and other Sexually Transmitted Infections in China: A Systematic Review of Reviews

Yanping Zhao¹, Tongyong Luo², Joseph D Tucker^{3,4}, William Chi Wai Wong¹

¹ Department of Family Medicine and Primary Care, The University of Hong Kong, Hong Kong;

² The Jockey Club School of Public Health and Primary Care, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong;

³ University of North Carolina Project-China, Guangzhou, China,

⁴ London School of Hygiene and Tropical Medicine, London, United Kingdom

E-mail: u3002443@connect.hku.hk

Background: China is challenged with rising rates of Sexually Transmitted Infections (STIs) and HIV. Reliable and comprehensive mapping of HIV/STIs risk factors would guide the development of effective prevention and control strategies. The objective of this systemic review of reviews was to map HIV/STIs risk factors in the Chinese population.

Methods: Search terms related to “risk factors”, “HIV” “STI” and “Chinese” were used in English databases (PubMed, PsycINFO, and the Cochrane Library) and Chinese databases (Wanfang data, CNKI, VIP and SINOMED) to look for peer-reviewed systematic review articles (1991- 2014). The risk factors identified were grouped into individual, social, and structural levels based on HIV Social Epidemiology Model. This review followed the PRISMA guidelines.

Results: 30 reviews (27 English and 3 Chinese) were included, from which, individual, social, and structural risk factors were mapped against the HIV Social Epidemiology Model. The papers were focused on risk factors within key populations e.g. Female Sex Workers (FSW), Men Who Have Sex with Men (MSM) and individual level (e.g. age, income, and sexual practices), while those on social (e.g. physical environment) and structural levels (migration, urbanization, and legal structures) were limited. However social and structural factors could have serious impacts. For example, at social level, FSW at low-tier workplace were four times likely to be syphilis infected than those at medium and high tier workplaces. At structural level, migrant workers recruited from urban areas had about seven times HIV prevalence than the overall Chinese population.

Conclusion: Reviews covering HIV/STIs in China are one-sided, centering “at-risk” groups and individual factors. However, to prevent HIV/STIs more effectively, it takes more than the individual-targeted approach. The identified three layers of risk factors, including social and structural levels will feed into a holistic intervention strategy to effectively curtail HIV/STIs in China.

O-14-03 Testing for human immunodeficiency virus needs paradigm shift in Australia given minimal increase between 2003 and 2013 in Melbourne, Australia.

Eric P.F.Chow,

Melbourne Sexual Health Centre, Alfred Health, 580 Swanston Street, Carlton 3053, Victoria, Australia

E-mail: echow@mshc.org.au

- Background:** Men who have sex with men (MSM) are the most affected by the human immunodeficiency virus (HIV) in Australia. Increasing the frequency of HIV testing is crucial to preventing the transmission. We investigated trends in HIV testing among MSM in Melbourne, Australia.
- Method:** A retrospective study was conducted using electronic medical records of MSM who attended Melbourne Sexual Health Centre between 2003 and 2013. Jonckheere-Terpstra tests were conducted to investigate trends over the study period in the self-reported time since the last HIV test. Factors associated with HIV testing; including year, demographic characteristics and sexual practices were examined in multivariate logistic regression analyses.
- Results:** Overall, 13,489 MSM were included in our study. Among those ever tested, the proportion who reported an HIV test in the last 12 months increased from 43.6% in 2003 to 56.9% in 2013 (adjusted ptrend = 0.030). The median time since last HIV test decreased from 19 months (interquartile range (IQR) 6-42) in 2003 to 10 months (IQR4-24) in 2013 (ptrend < 0.001). The proportion of high-risk MSM (reported unprotected anal intercourse and/or >20 partners in 12 months) who reported an HIV test in the last 12 months was unchanged (ptrend = 0.242) despite a decrease in median time (13 months (IQR5-34) in 2003 to 10 months (IQR3-22) in 2013; ptrend < 0.001). Factors associated with testing include: having more than five male partners in the last 12 months, ever engaged in sex work, younger age and being Australian born ($p < 0.050$). MSM who had sex with women were less likely to be tested ($p < 0.001$).
- Conclusion:** Despite HIV testing becoming more frequent, the magnitude of the change over the last decade is insufficient for major reductions in HIV incidence. A paradigm shift is required to remove barriers to testing through strategies such as point-of-care rapid testing or access to testing without seeing a clinician.

O-14-04 A 2-year Follow-up of Infants Diagnosed with HIV in Osun State, Nigeria

Oyebode Oyenike,

Faculty of Law, Osun State University, Osogbo 234, Nigeria

E-mail: princessoyebode@gmail.com

Background: Vertical transmission of HIV-1 is responsible for a high level of infant mortality necessitating early infant diagnosis. Effective pediatric HIV treatment requires early diagnosis, prompt initiation of ART, and frequent monitoring to ensure retention and quality care. This study therefore followed-up infants diagnosed with HIV in Osun State, Nigeria.

Methods: HIV-infected infants from all 6 postnatal care facilities that collect dried blood spots for Early Infant Diagnosis (EID) testing were identified by Polymerase Chain Reaction (PCR). Reporting of HIV test results and referrals to treatment was determined from clinic infant testing registers. Patient identifiers including first name, last name, date of birth, and sex were used to link infants across different databases. This was done from January, 2011-December, 2013.

Results: A total of 3,434 HIV-exposed infants were followed-up. Of these, 2,819 (82.1%) were tested for HIV, and 107 (1.6%) were diagnosed with HIV infection. Of the 107 HIV-infected infants, the mothers of 100 (93.5%) had post-HIV test counseling, and 78 (58.5%) infants had received ART. Through December, 2013, a total of 65 (60.7%) children were alive and on ART. Of the 42 (39.39%) HIV-infected children who died, 34 died before receiving ART, and 8 died after being started on ART. Twenty of the 42 patients who died had a documented cause of death. The leading causes of death were pneumonia (46.0%), gastroenteritis (21.8%) and sepsis (8.9%). A total of 9 (8.4%) infants were lost to follow-up and 5 (4.8%) transferred out of the catchment area. Three (2.8%) family declined ART for their infants.

Conclusions: Strategies for increasing EID testing coverage, prompt referral of HIV-diagnosed infants for ART, and retention in care will be intensify to ensure the survival of children who are born with HIV.

O-14-05 HIV Positive Cases Finding on TB-HIV Collaboration Program in Denpasar, Bali, Indonesia 2011-2013

IWG Artawan Eka Putra, PAS Astuti, IMK Duana, IMP Kardiwinata, IM Sutarga

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

E-mail: gedartawan@unud.ac.id

Background: Tuberculosis (TB) and Human Immunodeficiency Virus (HIV) co-infection of is the major issue in combat communicable diseases. National strategy initiate the TB-HIV collaboration program to expand the coverage of TB screening on HIV positive cases and coverage of HIV testing on TB cases. Bali is the fourth highest prevalence of HIV positive in Indonesia and Denpasar is the highest in Bali. We aimed to describe the HIV positive cases finding among notified TB cases on TB-HIV collaboration program in Denpasar, Bali.

Method: This is a health facilities based study. The population is all TB cases without HIV history that notified in TB integrated information system and we analyzed the data from total population descriptively. TB integrated information system started in 2011 to manage the data from TB surveillance system including TB-HIV collaboration program.

Results: From 2011-2013, there were 3239 TB cases without HIV history, 1585 (48.9%) of them were suggested to counseling and testing but only 1236 (38.2%) follow the counseling and 1211 (37.4%) were agree testing, 227 (7.0%) found positive (2 or 3 reactive) and 15 (0.5%) intermediate (1 reactive). The proportion of HIV positive cases finding among notified TB cases are increasing from 7.3% in 2011, 5.4% in 2012 to 8.3% in 2013. A significant different of the findings among male 8.5% vs 4.8% among female, 8.1% among

Conclusion: TB-HIV Collaboration program has a significant contribution in HIV positive cases finding. The higher findings were found among male,

Free Oral Session (FOS)

O-14-06 High CD4 Count Level as Risk Factor of Hyperglycemia among Malaysian HIV Patients on Highly-Active Antiretroviral Therapy (HAART)

Nazisa Hejazi¹, Mary Huang Soo Lee¹, Khor Geok Li¹, Christopher Lee Kwok Choong²

¹ Department of Nutrition and Dietetic, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, 43400, Serdang, Selangor, Malaysia

² Jabatan Perubatan Am, Hospital Sungai Buloh, Jalan Hospital Sungai Buloh, Selangor, Darul Ehsan, 47000, Malaysia

Email of presenting author: Nazisa_hejazi@yahoo.com

Background: HIV subjects on highly-active antiretroviral therapy (HAART) are susceptible to metabolic abnormalities including high blood glucose and diabetes. This study aimed to investigate the relationship of CD4+ T cell count attained after stable HAART with glucose metabolism in Malaysia HIV patients without a history of diabetes.

Method: Data on socioeconomic background, anthropometry, medical history and dietary intake of 322 patients [80% male, 20% female] and [65% Chinese, 25% Malay, 10% Indian] at a public hospital in Selangor, Malaysia. Hyperglycemia is defined based on world health organization (1999) and as well national cholesterol education program criteria as fasting plasma glucose (FPG) ³ 6.1 (mmol/L). One-way ANOVA and Independent Sample-T test were used to find significant difference between ethnic and gender. Adjusted odd ratios (ORs) were obtained using binary logistic regression in SPSS for determining risk factors (age, education, employment, income, CD4 count, dietary supplement, length of time on HAART, line of HIV therapy, exposures to protease inhibitors (PI), Ziduvodine and Stavudine, BMI, waist circumference, waist-hip ratio, body fat percentage, dietary intakes of energy, carbohydrate, fat cholesterol and fiber, and % energy from carbohydrate and fat.

Results: The mean + SD level was 5.75 + 2.4 (mmol/L) among studied population. Total 22% of subjects had high FPG as as 11% with impaired FPG level 6.1-6.99 (mmol/L) and another 11% had FPG level of >7 (mmol/L). Percentage PI receivers were 14.5%. There were no significant differences in mean + SD FPG (mmol/L) between genders [5.82 + 2.51 males, 5.47 + 1.90 females] or between ethnics [5.60 + 1.73 Chinese, 5.62 + 3.30 Malay, 6.37 + 3.27 Indian]. The respondents with higher CD4 Cell count (copies/mm³) had higher risk (adjusted OR = 1.001, CI = 1.000-1.003) of elevated FPS level significantly (p=0.044) while dietary fiber intake (adjusted OR = 0.242, CI = 0.050-0.468) protect them against the elevated FPS.

Conclusion: A fifth of population had elevated FPG. High CD4 count and low dietary fiber were risk factors. Therapeutic strategies in HIV/AIDS era for enhancement of immunity level should be administrated properly to prevent increasing in blood glucose. In the same time evaluation and intervention for irreversible risks such as unhealthy diet can assist to achieve normal blood glucose range.

P-01-01 Plasmid-mediated Penicillin and Tetracycline Resistance among *Neisseria gonorrhoeae* Isolates in Guangzhou from 2002 to 2012: Emergency African- and Toronto-type Penicillinase -Producing *N. gonorrhoeae* Strains

Heping Zheng¹, Xingzhong Wu¹, Jinmei Huang¹, Xiaolin Qin¹, Yaohua Xue¹, Weiyong Zeng¹, Yinyuan Lan¹, Jiangli Ou¹, Sanmei Tang¹, Mingheng Fang¹

¹ Guangdong Provincial Center for Skin Diseases and STI Control & Prevention,

² Lujing Road, Guangzhou, China, 510095

E-mail: zhpf@hotmail.com

Objective: To monitor the Plasmid-mediated penicillin and tetracycline resistance among *N. gonorrhoeae* isolates in Guangzhou from 2002 to 2012.

Method: β -Penicillinase producing *N. gonorrhoeae* (PPNG) isolates was analyzed by the paper acidometric method. Plasmid-mediated resistance to tetracycline in *N. gonorrhoeae* (TRNG) isolates was screened by the agar plate dilution method. Plasmid types were determined for TRNG and PPNG isolates by PCR. Minimum inhibitory concentrations (MICs) to penicillin and tetracycline were determined by agar plate dilution.

Results: Of 1378 consecutive gonococci, 429 PPNG and 639 TRNG strains were identified. The prevalence of PPNG, TRNG and PPNG/TRNG increased from 18.3 to 47.1% ($\chi^2 = 31.570$, $p < 0.001$), from 29.4% to 52.1% ($\chi^2=16.282$, $p < 0.001$) and from 10.0% to 26.2% ($\chi^2=10.462$, $p < 0.01$) in 2002-12, respectively. Genotyping of plasmid showed that the isolates with Asia-type plasmid dominated. Africa-type plasmid emerged in 2008 and quickly increased to 14.0% in 2012, $\chi^2 = 25.029$, $p < 0.001$), while all of 639 TRNGs carried Dutch-type plasmid during 2002-12. MICs of penicillin G and tetracycline persisted at high level and the MIC90s were 32-fold higher than the resistant cutoff point over eleven years. The penicillin-resistant prevalence remained high ranging from 91.1% to 90.9% and tetracycline resistance from 88.3% to 89.3% in 2002-12.

Conclusion: The Resistance to penicillin and tetracycline continued to be high in Guangzhou. PPNG and TRNG has been increasingly spread with Asia-type PPNG and Dutch-type TRNG dominating. African-type PPNG has emerged and increased in recent recent years, while Toronto-type emerged in 2012 in Guangzhou.

P-01-02 The Mosaic pen A Cephalosporin Resistance Gene is Generalized to All STD Patients in Hong Kong in 2013

Tongyong LUO,

The School of Public Health and Primary Care, Faculty of Medicine, The Chinese University of Hong Kong, Room 427, Building of the School of Public Health, Prince of Wales Hospital, 30-32 Ngan Shing Street, Division of infectious diseases, Shatin, New Territories, Hong Kong

E-mail: johnson.luo@cuhk.edu.hk

Background: Antibiotic-resistant gonorrhoea is a global public health threat. The mosaic penA gene is the primary determinant for reduced susceptibility to oral cephalosporins, which were considered the preferred *Neisseria gonorrhoeae* (NG) treatment until 2011. Hong Kong recently experienced a surge in gonorrhoea cases associated with mosaic penA. We conducted a case-control study to identify risk factors and epidemiological characteristics of patients with NG infection harboring the mosaic penA gene.

Method: All NG patients diagnosed in the Hong Kong Social Hygiene Clinics in 2013 were included. Cases and controls were patients with gonorrhoea with or without reduced susceptibility to cephalosporins harboring the mosaic penA gene respectively. Demographic, clinical and risk-behavior characteristics were analyzed using the chi-square test.

Results: 1084 patients were diagnosed with NG infection; 112 cases and 965 controls were identified with a prevalence of 11%. There was no significant association between mosaic penA and commonly identified risk groups. Cases were equally likely to report probable acquisition of infection in Mainland China (N=250) as in Hong Kong (N=455) (10.7% versus 11.4%, $p=0.857$). Men (N=856) and women (N=109) were equally likely to have NG with mosaic penA (11.2% versus 9.2%, $p=0.501$). A slight trend was observed among MSM versus heterosexual men (14.5% versus 10.9%, $p=0.325$) and extra-urogenital isolates versus urogenital isolates (14.3% versus 10.6%, $p=0.675$).

Conclusion: This study provides evidence that NG resistance to oral cephalosporins has already spread beyond traditional risk groups and all Hong Kong STD clients are at risk for oral cephalosporin treatment failure. Collaboration should be strengthened among Hong Kong, Macau, Mainland China and Southeast Asia for treatment and control of cephalosporin-resistant NG.

P-01-03 Cefixime sensitivity diffusion test of *Neisseria gonorrhoeae* in uncomplicated cervicitis gonorrhoe of female sex workers who followed periodic presumptive treatment in Surabaya – Indonesia

Trisniartami Setyaningrum, Astindari, Hans Lumintang

Departement of Dermato-venereology/Faculty of Medicine, Dr. Soetomo Hospital/ Airlangga University, Surabaya

Email of presenting author:hanslumintang@yahoo.com

Background: Gonococcal infection is one of the most commonly encountered sexually transmitted diseases. The emergence of antibiotic resistance has remained a challenge for a few decades. The third generation cephalosporins such as cefixime and ceftriaxone are now the first-line therapy in many region and are administered routinely to female sex workers as periodic presumptive treatment, applied also in Surabaya, however, the reduction of the susceptibility to cephalosporins is likely to emerge and spread.

Purpose: To evaluate susceptibility of cefixime to *Neisseria gonorrhoeae* with diffusion test.

Methods: The study design was descriptive observational cross sectional for three month from November 2012-January 2013. Based from the inclusion and exclusion criteria, 21 isolates *N. gonorrhoeae* were foud from 86 cervical secretions where cefixime diffusion susceptibility test were performed.

Results: Results from in vitro cefixime diffusion susceptibility test against *N. gonorrhoeae* isolates, 7 of 21 isolates (33.3%) obtained were resistant to cefixime and 14 of 21 isolates (66.7%) were sensitive to cefixime. From the sensitive isolates, 5 of 14 isolates (35.7%) had inhibition zone with a diameter of 31 mm which is the minimum limit of cefixime ability to inhibit the growth rate of *N. gonorrhoeae*.

Conclusion: *N. gonorrhoeae* strains were found which showed resistance to cefixime in diffusion susceptibility test, therefor more research such as dilution susceptibility test needs to be done for the presence of increased resistance of *N. gonorrhoeae* to cefixime in the future.

P-02-01 Distribution of SDF-1 3' polymorphism among HIV-hepatitis B and C coinfecting Thai patients

Thitiilat Chiraunyanann^{1,3}, Warisara Sritapanya², Duangnate Pipatsatitpong³, Khaimook Changsri³, Chareeporn Akekawatchai³

¹ Bureau of AIDS, TB and STIs, Nonthaburi, Thailand

² Nakhon Nayok Hospital, Nakhon Noyok, Thailand

³ Department of Medical Technology and Graduate Program in Medical Technology, Faculty of Allied Health Sciences, Thammasat University, Pathum Thani, Thailand

E-mail: thitiilat@gmail.com

Background: Hepatitis B and C infection has been known to be an important risk for liver diseases in HIV infected patients. Stromal cell-derived factor 1 (SDF-1) is a chemotactic chemokine that plays a significant role in pathogenesis of acute and chronic hepatitis. Polymorphisms of SDF-1 gene, SDF-1 3' G801A, potentially affect HBV and HCV coinfection in HIV-infected patients. The aim of this study was to compare the distribution of the SDF-1 3' A in HIV- hepatitis B and C coinfecting and HIV monoinfected patients.

Method: Seventy whole blood and plasma samples of HIV-1 infected patients were collected from antiretroviral treatment clinic in Nakhon Nayok Hospital, Thailand. They were tested for the HBsAg and anti-HCV by ELISA and the SDF-1 gene polymorphisms by tetra-primer and amplification mutation system.

Results: Among 70 patients, 80% (56/70) were HIV monoinfected patients. HIV-HBV and HIV-HCV coinfecting patients were 11.4% (8/70) and 8.6% (6/70), respectively. Distributions of GG, GA and AA genotypes were 64.3%, 32.1%, and 3.6% in HIV monoinfected group, 62.5%, 25.0%, and 12.5% in HIV-HBV, and 50.0%, 50.0%, and 0.0% in HIV-HCV coinfecting group, respectively.

Conclusion: The distributions of SDF-1 3'A in HIV monoinfected and hepatitis B and C coinfecting patients were similar indicating that this SDF-13'A is unlikely to have an effect on the susceptibility of hepatitis B and C coinfection. However, further studies in a larger sample size are required. The verification of this genetic predisposition may be useful for treatment and care of HIV-hepatitis B and C coinfecting patients.

P-02-02 Molecular identification of *Neisseria gonorrhoeae* and human papilloma-virus of asymptomatic patients at Bangrak STI Clinic

Ratchaneeporn Khummin¹, Angkana Charoenwatanachokchai², Somchai Lokpichard², Busara Bam-rungsak²

¹ The office of Diseases Prevention and Control 9 Phitsanulok, Thailand

² Bangrak STI Cluster, Bangkok 10120, Thailand

E-mail: rkhummin3@gmail.com

Background: *Neisseria gonorrhoeae* and Human papillomavirus (HPV) are highly prevalence in asymptomatic sexually transmitted infection (STI) patients. The molecular technique is a highly sensitive method. The aim of this study is a detection of *N. gonorrhoeae* and HPV in asymptomatic patient by molecular technique.

Method: The vaginal swabs from female patients at Bangrak STI Clinic, Bangkok in August – September 2013 with asymptomatic, negative for gram stain and no history of treatment with STDs were collected. All samples were identified *N. gonorrhoeae* by the opa and porA gene and HPV by the PGMY09/11 primers system to detect early (E) and late (L) genes.

Results: The samples from 43 sex worker, 2 private business, 1 student, and 2 sale women were analysed. The results showed that one third of samples or 16 (33.33%) samples were positive results for *N. gonorrhoeae* whereas all samples were negative results for HPV. In addition, all positive samples were collected from sex workers. The our data showed that *N. gonorrhoeae* infection was not co-infection with HPV.

Conclusion: The prevalence rate is high with molecular technique of *N. gonorrhoeae* in asymptomatic patients. Thus, molecular technique is necessary for surveillance of *N. gonorrhoeae* and HPV infection in the high risk group.

P-03-01 HIV Testing and Diagnosis among Young Asian-born MSM in Victoria, Australia: Understanding Needs & Vulnerability

Jason Asselin¹, Wilkinson AL^{1,3}, Higgins N², Stoové M^{1,3}, Hellard M^{1,3}, El-Hayek C¹

¹ Centre for Population Health, Burnet Institute, Melbourne, Australia

² Health Protection Branch, Department of Health, Victoria, Australia

³ Department of Epidemiology and Preventative Medicine, Monash University, Melbourne, Australia

E-mail: jason.asselin@burnet.edu.au

Background: Asian-born men are disproportionately represented among notifications of HIV in the Australian state of Victoria. Poor sexual health knowledge, social isolation and barriers to health services may be increasing risk. As arrivals of Asian-born men increases, there is a need to better understand the epidemiology of HIV in this population.

Method: Victorian HIV registry data (2007-2012) described new diagnoses by country of birth, time since arrival and exposure to HIV. Recently arrived migrants were defined as arriving in Victoria 10 partners in the previous 12 months and in 47% of tests, Asian-born MSM reported unsafe sex.

Results: The proportion positive among Asian-born MSM was higher compared to Australian-born MSM (2.6% vs 1.9%) and Asian-born MSM were more likely to be diagnosed on their first test within the VPCNSS (58% vs 30% in 2011).

Conclusion: These results highlight the potential vulnerability of Asian-born MSM to HIV upon arrival to Australia, and suggest a need to focus on HIV prevention and care among this group.

P-03-02 Factors Associated with Self-reported Unprotected Anal Intercourse among Men Who Have Sex with Men in Changsha City of Hunan Province, China

Eric P.F. Chow^{1,2,3,4}, Xi Chen⁵, Junshi Zhao⁵, Xun Zhuang⁶, Jun Jing⁴, Lei Zhang^{3,4}

¹ Melbourne Sexual Health Centre, Alfred Health, Melbourne, Victoria, Australia

² Central Clinical School, Faculty of Medicine, Nursing and Health Sciences, Monash University, Melbourne, Victoria, Australia

³ The Kirby Institute, Faculty of Medicine, University of New South Wales, Sydney, NSW, Australia

⁴ Comprehensive AIDS Research Center, School of Medicine, Tsinghua University, Beijing, China

⁵ Division of HIV/AIDS and STI control, Hunan Provincial Centers for Disease Control and Prevention, Hunan, China

⁶ School of Public Health, Nantong University, Jiangsu, China

E-mail: echow@mshc.org.au

Background: MSM who have sex with men (MSM) in China are highly susceptible to HIV infection and HIV prevalence among Chinese MSM is rapidly increasing in recent years. Unprotected anal intercourse (UAI) is a major contributing factor of HIV transmission. This study aims to identify factors associated with UAI among MSM in Changsha city, China.

Method: A cross-sectional survey was conducted among 642 MSM in Changsha city from July 2009 to June 2011 via a venue-based sampling method. Data on socio-demographic characteristics, sexual behaviours, and utilisation of HIV/AIDS services were collected to determine the associates of UAI in MSM.

Results: Among the 642 MSM, 184 (28.7%) reported having UAI with male partners at the last sexual episode. UAI was associated with the venues where MSM met other MSM, and having unprotected vaginal sex (UVI) with female partners at last the sexual episode and in the past six months. In addition, UAI was significant associated with not being covered by HIV interventions, including free condom, lubricant, HIV testing and counselling, and peer-education.

Conclusion: MSM who have UAI practice are more likely to have UVI with female; hence, potentially bridging HIV to the general female population. Specific harm-reduction programs are shown to have significant impacts in reducing UAI and should be scaled up among MSM in China.

P-03-03 Unprotected Vaginal Sex and Its Correlates among Men Who Have Sex with Men in China: the Story of Other Side

Hongcheng Shen, Shujie Huang, Ye Zhang, Heping Zheng, Weiming Tang

Guangdong Provincial Center for Skin Disease and STI Control, No. 2 Lujing Road, Guangzhou, China

E-mail: shenhongchenggz@163.com

Background: China has experienced a rapid increase of HIV and syphilis epidemic among men who have sex with men (MSM), reaching alarmingly high levels in some cities. MSM have potential to transmit HIV to their female partners if they engaged in unprotected vaginal intercourse (UVI). Thus, to know the UVI rates and identify its correlates among MSM is very important for the control of cross-gender transmission.

Method: We conducted a cross-sectional study in seven Chinese cities (Nanjing, Guangzhou, Chongqing, Harbin, Jinan, Yangzhou and Suzhou). In order to gain a sample with better representation, respondent-driven-sampling and snowball sampling were used. Description analysis was used to describe the demographic information and behaviors of the participants. Univariate and multivariate logistic regression (adjusted for income, city, nationality and social network size) were performed to explore the factors correlated with UVI.

Results: A total of 2958 MSM were recruited, rendering an UVI rate of 19.03%, prevalence of HIV and syphilis among participants involved in UVI were 5.86% and 14.74% (8.14% and 14.15% for other MSM). After adjusted for potential confounders, the participants who were older (OR for aged 31-39= 2.60, 95% CI: 1.54-4.37), married (6.13, 4.95-7.58), attended college or above (3.86, 2.26-6.69), met male partners at pub or parks (3.52, 2.62-4.72), and sexual orientation was heterosexual (13.81, 7.14-26.70) were more prone to have UVI. In addition, correct HIV knowledge and HIV related intervention were all negatively associated with UVI, with ORs of 0.70 (0.55, 0.88) and 0.67 (0.54, 0.82), respectively.

Conclusion: In order to bring down the UVI rate among MSM, special attention should be paid to those whose sexual orientation was heterosexual, were married and older when we design the intervention programs. In addition we should continue to expand the coverage of our intervention programs and increase the knowledge of MSM in China.

P-03-04 HIV Prevention Programme among Men Who Have Sex with Men in Osun State, Nigeria

Oyelami Funmilola,

Oyo State College of Nursing and Midwifery, Eleyele, Ibadan, Nigeria

E-mail: ikofunmi@gmail.com

Background: Men who have Sex with Men (MSM) suffer negligence, stigma and discrimination in accessing health care facilities and have little or no information that HIV can be transmitted through anal sexual intercourse. This intervention was therefore designed among MSMs in Osun State towards preventing HIV.

Methods: We conducted outreaches through parties, picnic and community dialogue as a strategy for reaching MSM in the State. Needs assessments were conducted through in-depth interviews and focus group discussions to identify the plight and perceptions of MSM towards HIV/AIDS and safe sex practice. We therefore implement HIV prevention programme through sensitization workshop, provision of condom and lubricants for MSM at the community level. A total of 131 MSM were recruited for this project and 5 were lost to follow up. The intervention was evaluated at 6 month and 1 year.

Results: At baseline, 18.0% of the participants have poor knowledge of HIV/AIDS but within 6 month 87.9% had a good knowledge of HIV/AIDS. At baseline, 73.8% of the participants reported engaging in unprotected sex in the last 3 month and almost all (98.2%) have never used lubricant. During the evaluation of the intervention after 1 year, only 13.9% reported engaging in unprotected sex and 89.5% used lubricants during the last sexual intercourse. Availability was a major barrier to use of lubricant among the participants. Prior to the intervention, MSM in the State have a wrong perception that condoms are to be used only for vaginal sex and only 3.9% had ever used condom. At 6 month evaluation, 87.9% reported regular use of condom and at 12 month, the percentage of participants using condom decreased to 60.7%.

Conclusion: Use of condom increased within 6 month evaluation but reduced at one year evaluation. Research to determine the antecedent factors responsible for this is therefore recommended.

P-04-01 Ways of Life and Health Seeking Behaviors among Female Sex Workers in Attractive Tourism Area

Prateep Punthong, Nuntana Chumpa, Teerada Piamwattanasap, Pattharaporn Itthivorakul, Papankorn Salarak

The office of disease prevention and control 3 Chonburi, Thailand

E-mail: pprew55@gmail.com

Background: Pattaya is an attractive and the second most visited city for tourists and expatriates in Thailand. It has derived part of its reputation as a tourist destination due to the sex industry and the resulting nightlife. There are vast numbers of direct and indirect female sex workers (FSW) serving foreign tourists as well as in various enterprises such as host bars, a-go-go bars, massage parlours, saunas, and hourly hotels. Although many HIV and STIs prevention and control campaign projects of GOs and NGOs have been launched in this city, HIV and STIs infection still a challenging problem among FSWs. Due to changing social context, the objective of this qualitative study was to explore current ways of life and health seeking behaviors among FSWs in Pattaya city.

Method: 20 FSWs serving in the Walking Street and Pattaya-Naklua road, the highest prevalent of sex enterprise, were purposively recruited as key informants of this study. In-depth interviews focusing on ways of life, socioeconomic status, attitude on their works, self-care and health seeking behaviors, were conducted among key informants in April, 2014.

Results: The majority of subjects in this study were aged between 21-40 years (80%), divorced (70%), domiciled in northeast region (75%), having average income as of 10,000-50,000 Baths/month (70%). The average year of serving as FSW was 5 years and their working hour started from evening until dawn of the next day, some of them had to provide services during daytime. All of them had positive attitude and willing to serve as FSW because they could earn high income without educational background. Most of them were happy and satisfied with their job (90%) only few mentioned that they were unhappy to have sex with strangers (20%). For their life goals, all of them would save incomes for build up a good family. About 40% who used to quit this job had to come back because they could not earn enough income. For self-care and health seeking behaviors, for a minor illness it was found that the majority of them bought medicines from pharmacies to treat themselves (75%), only few of them visited a private clinic (15%) or government hospital (10%). According to HIV/STIs prevention, all subject refused having history of HIV or STIs, most of them had high awareness for the important of consistently used of condom to prevent HIV and STIs. They also mentioned that most of their work places had a good support for condom use. For health care demands, they were all mentioned a need to have special friendly STIs clinic for FSW. The sources of information for HIV and STIs prevention they received were internet (70%), pamphlets available in the STI clinics (15%), and outreach services provided by health personnel of government sectors (15%).

Conclusion: Because context, motivations, and access to health information among FSWs have been changed from the past, it is a challenging to develop new strategies and approaches to increase effectiveness of prevention and control of HIV and STIs among this population.

P-04-02 The Development of Standard of Practice on HIV and STIs Prevention, Sexual and Reproductive Health Services for Female Sex Workers

Wipada Maharatanaviroj¹, Taweessap Siraprapasiri¹, Monthinee Vasantiuppapokakorn¹, Dusita Pungsamran², Penpaktr Uthis³, Ladda Jitwattanapat⁴, Surang Janyam⁵

¹ Bureau of AIDS TB and STIs, Thailand

² PACT, Thailand

³ Chulalongkorn University

⁴ Planned Parenthood Association of Thailand

⁵ Service Workers in Group (SWING) Foundation

E-mail: wipada3512@yahoo.com

Background: In Thailand, most of new HIV infected cases were from sexual contact. The Asian Epidemic Model (AEM) has estimated that there will be 43,000 newly HIV infections in 2012-2016 by which MSM, female sex workers (FSW) and their clients, and people who injecting drug accounted for 62% of this number. Although HIV prevention and control projects among FSW in Thailand have been successful in many ways, there are still new challenges to achieve the goals of the National Strategic Plan for AIDS Prevention AD 2555-2559. The stigma and discrimination as well as the limitations to apply existing laws, policies, and guidelines may violate rights on accessing to health and social care services of FSW. Most importantly, there was no well-developed national standard of practice to provide essential services that respond to the needs of this marginalized population. Thus, such standard of practice needed to be developed in order to achieve the optimal goal of getting to zero infection and zero discrimination among FSW.

Method: The objective of this two phases action research was to develop and evaluate the efficacy of the national standard of practice to provide comprehensive and essential services on HIV and STIs prevention, social care, and sexual and reproductive health care to FSW. The first phase was a process to develop a national standard for FSW by conducting literature reviewed and many consecutive workshops among related committees. These committees comprised of representatives from many organizations working with and responsible for FSW including GOs such as bureau of AIDS, TB and STIs, National AIDS Management Center, Department of Health, National Health Security Office, and the Office of Disease Prevention and Control; NGOs such as SWING, PPAT, PACT Thailand; and international organization such as UNFPA and TUC. After an approval from a panel of experts, this standard was piloted test for its applicable and completeness in 4 provinces including Bangkok, Chonburi, Nakhonratchasima, and Nakhonprathom. In the second phase, the final version of standard was implemented in 15 priority provinces including Nonthaburi, Kanchanaburi, Ratchburi, Nakhonprathom, Samut Songkhram, Nakornsawan, Pitsanulok, Undon Thani, Loei, Sa Kew, Nakhon Phanom, Na Korn Si Thammarat, Chumphon, Phang Nga, and Satun.

Results: A developed national standard of practice for FSW comprise of 7 essential elements including: 1) Situation analysis and Community diagnosis, 2) Comprehensive and quality services on HIV/STIs screening and prevention, and treatment and care for sexual and reproductive health that are sensitive and respected to the rights of FSWs, 3) Condom and Lubricant, 4) Outreach and Behavioral change communication Services, 5) Enhancing advocacy, community mobilization, and enabling environment, 6) FSW program management, and 7) Monitoring and Evaluation. An advantage of this standard is that although it should be used as a framework to provide comprehensive essential services to FSWs, it can be applied to provide services that are suitable to the context in each area. The preliminary findings of 121 health care workers, from those 15 participated provinces, who were trained to use this standard revealed that the majority of them are female (80.2%), aged as of 26-35 and 46-55 years (54.6%), completed bachelor degree (62.8%), nurses (37.2%), personnel who have been worked more than 5 years (49.6%) and who directly provided services to FSWs (69.4%). About 32.9% used the standard as their practice guideline and 20.5% distributed it to other health care personnel. By overall, they satisfied with the standard contents in the high level (24.4%), and with materials (CD) in the package in the highest level (64.5%) and high level (24.7 %). There were some suggestions from participants such as increasing more contents related to rights and psychological care for FSW, revise some contents to be more practical, and frequently update this standard of practice.

Conclusions: In order to achieve the optimal goals for the prevention and care among FSW, basic services of all elements in the standard of practice should be provided simultaneously because the operation of each component will benefit other elements. However, the completeness of services in each element may be prioritized according to the readiness in term of human resources and context of each health care facility. It is suggested that the effectiveness of the standard implementation in term of its outcomes on FSWs should be further evaluated.

P-04-03 Health Care Seeking Behavior among Male Sex Workers in Some Selected Areas

Karim Mohammad Rezaul¹, Mona Nusrat Jahan²

¹ Assistant Prof, Course in charge and Head, Department of Population Dynamic, National Institute of Preventive and Social Medicine (NIP-SOM), Mohakhali, Dhaka-1212, Bangladesh

² Final year students in Bangladesh Medical Colleges and Hospital, Dhanmondi, Dhaka, Bangladesh

E-mail: drr_karim@yahoo.com

Background: Male to male sex in Dhaka is fairly widespread and men who make up this group are considered to be vulnerable to contracting and transmitting HIV and other sexually transmitted infections. Men who have unprotected sex with sex workers are at risk not just of contracting HIV and STIs, but of passing them on to their wives and girlfriends.

Method: Cross sectional study was conducted among male sex workers with the objective of assessing their health seeking behavior. Total 322 sex workers were interviewed by using structured questionnaires.

Results: Study revealed that most of the sex workers were young age. Regarding knowledge on how to protect from getting infected with STIs, 90% respondents had knowledge that STIs can be prevented by use of condom during sex, 12% said washing of genitalia with disinfectants after sex, 12% said by washing with water after sex. Regarding STIs majority of the respondents 47% perceived that they were at medium risk of getting infected with STIs, 23% reported at low risk, 13% reported at high risk and 6% reported that they were not at all in risk of getting infected with STIs, 12% respondents thought that they have no idea regarding the risk. Among the respondents 83.3% suffered ever out of which 66.4% respondents suffered from STIs once, 27% twice, 4% thrice and 4% more than thrice in the last three months. Thirty seven percent respondents received treatment from NGO clinic, 23% from MBBS doctor, 17.33% from government hospital, 13.33% did self-medication, 6% received treatment from homiopath, 9% received treatment from kabiraj and 2% of the respondents did not seek any treatment.

Conclusion: It was evident that the knowledge of prevention and treatment measures among the male sex workers was inadequate. HIV/STIs campaigns need to improve the sex workers awareness and treatment seeking behavior for STIs.

P-04-04 Sexual Violence and its impact on Commercial Sex Workers in the Dhaka City of Bangladesh

Mohammed Abul Kalam,

Director (Research) Siam Health Care (SHC), House # 142, Green Castle (2nd Floor)Green Road, Dhaka - 1205, Bangladesh

E-mail: med_sociology_iedcr@yahoo.com

Background: Commercial sex worker facing sexual violence are at risk of contracting HIV and other STIs. Despite the presence of national HIV/AIDS prevention program to ensure access to HIV prevention services, STIs prevalence amongst commercial sex workers is still high at 18.09% as indicated by Sero-behavioral surveillance of HIV/AIDS in Bangladesh in 2012.

Method: Information collected through literature review, survey, focus group and in-depth interview. Focus group contained 10-12 participants, survey collected from 60 commercial sex workers at four different sites in Dhaka City.

Results: Among the 60 CSW who participated in the study, 85% reported being a victim of sexual violence from a male counterpart in their in their life time after being on drugs, alcohol and smoking, 53.3% have experience violence in the past twelve month, 95% have been assaulted in the lifetime, and 86.6% have experienced psychological abuse from a man. 60% have been abused sexually by members of the law enforcement agencies. The survey revealed that the average age at first sexual intercourse was 15.42 years and 19.5 years for age of transactional intercourse. Focus group discussion also revealed that men remove condoms during sex.

Among the victims of life time sexual violence, 41.6% had reported unwanted pregnancies, 51.6% reported vaginal discharges, and 26.6% reported itches around the vagina. Psychological impact like elf petty, unhappiness was very high among the cases of rape.

Conclusion: Sexual violence against commercial sex workers increases vulnerability to HIV infection and other STIs, because in such situations condoms are hardly used. Therefore, any successful HIV prevention program should put in place strategies to reduce sexual violence. Effort should support grassroots advocacy with community based organizations, involve commercial sex workers at all levels of intervention, carry out HIV prevention programs with law enforcing agencies, provide post exposure prophylaxis to victims of rape, strengthen partnership with doctors for emergency checkup and consultations, and regularly monitor of sexual violence.

P-04-05 The Development of Peer Empowering Model for the HIV and Sexually Transmitted Diseases (STIs) Prevention among MSM in Thailand

Amporn Srisamruai¹, Anuwat Chanthi², Nilawan Chetacha³, Sathien Chuelee⁴, Pongsri Seubtuam⁵, Rat-tamanoon Meepon⁶

¹ Bureau of AIDS TB and STIs, Thailand

² Rainbow Sky Association of Thailand

³ Office of Disease Prevention and Control Zone 10, Thailand

⁴ Office of Disease Prevention and Control Zone 7, Thailand

⁵ Office of Disease Prevention and Control Zone 11, Thailand

⁶ Andaman power group, Thailand

E-mail: p_s1234567@hotmail.com

Background: In Thailand, it was estimated that new infection rate of HIV among MSM was 33% in 2010. Most of them (84%) were infected with unsafe sex due to low rate of consistently condom use which less than 60%. The majority of infected MSM (89%) were among youth aged of 15-19 years. Therefore, it was a challenging situation to develop an appropriate approach to increase the effectiveness of HIV prevention and control among this population. This participatory action research aimed to find the model develop based on empowerment and enhancement of self-worth of leadership for prevention HIV and STIs among MSM.

Method: Data were collected in 2012 (3 months) in Phuket, Chonburi, Ubon Ratchathani and Chiang Mai. The study was conducted in 2 stages. In the first, data were collected through the outreach workers of each province were trained to reach those areas with selection criteria: age 18-24 years, using Snow Ball technique to define gender consciousness and a realization if MSM/TG, 6 months ago had anal sex >3 times, without artificial vagina, understood Thai well, including some ethnic groups. In depth interviews were performed among 14 MSM, 10 MSW, 15 TG, 12 TG sex workers together with focus group discussion (FGD) among 23 MSM, 24 MSW, 27 TG and 24 TG sex workers. Key informant interview were performed among 26 these MSM group, with 39 FGD. The data were analyzed by ATLAS.ti 5.0 with content analysis to find out the characteristics of the problems and their socio cultural context. These findings informed the design of activities for training courses. In the second, the designed activities were pilot tested with the 93 participants by training of 4 courses at 2 days; The building empowerment and self esteem, Dimensional positive to sexual diversity, Prevention and health care and Creating a leader youth in Prevention and health care. Using a participatory learning process and practice by encouraging prospects know themselves and appreciating ourselves to understand and empowerment to others. Creating awareness on health issues power within themselves to pull out their own solutions and community. Training on critical thinking, skills, positive attitude, activation energy of the mind, the power of ideas, the role as a vocal health and writing the mind to be responsible for their own health and others. And their results were evaluated 3 months after the activities were conducted.

Results: The target group had a significantly higher level of knowledge after the training than before it ($p < 0.05$) and highly satisfied with the trainings. After the training, most participants had knowledge, attitudes and skills to take care of their health, can perform its role as a mainstay for HIV and STIs prevention such as skills to HIV and STI prevention, to use condoms and lube consistently, to access voluntary counseling and testing services, education about AIDS and STIs, health information sources and networking with students and teachers of sex education in the community.

Conclusion: A Model to empowerment and enhancement of self-worth of leadership in the prevention of HIV infection and STIs, are essential for MSM process that promotes knowledge, attitude and skills to modify behaviors in preventing HIV and STIs to lead / network to meet their health. Their abilities and self-esteem are able to pull out empowerment of themselves for prevent HIV infection and STIs be successful. The model of this study should be applied to expand operations with a group of MSM more than. And should be studied in order to have a clear and documented policy measures into practice to prevent HIV infection and STIs continue.

P-04-06 Accessibility of the health services and quality of life of female sex workers in Hat Yai Songkhla

Sopista Tunthanathip, Phumhok Ampawa, Bunkhum Ratiwarakamol, Somsakul Phoomborplap

Office of Diseases Prevention and Control Region 12 Hat Yai, Songkhla 90110, Thailand

E-mail: anne-verycute@outlook.co.th

Background: AIDS and sexual transmitted diseases (STD) have been a major burden in Thailand. The female sex workers (FSW) are one of a high risk group but their quality of life (QOL) and accessibility of the health service are unknown. We aimed to investigate the QOL and accessibility of the health service of FSW at Hatyai, Songkhla.

Method: The volunteer FSW who worked at Hatyai, Songkhla in April-May 2013 were analyzed the accessibility to the health service and the QOL in 4 domains (physical, psychological, social and environment domains) via a questionnaire and WHO Life-BREF (WHOQOL-BREF), respectively.

Results: A hundred and ten volunteer FSW were median age at 36 years. Major volunteers were foreign workers from Myanmar and Laos. All volunteers have routinely accessed the sexual health service at Hatyai, Songkhla province. They were performed the physical examination, VDRL and HIV testing. Data showed that 107 (97.3%) volunteers rated their QOL at medium and good levels. However, degree of satisfactory was different in each domains. Over 90% volunteers rated the physical, psychological, and environment domains at medium and good levels. Only social domain was rated at low level from 28 (25.5%) volunteers. Thus, social domain should be focused for improvement.

Conclusion: In conclusion, the situation of the QOL and accessibility of the health service of FSW at Hatyai, Songkhla was evaluated. Program for improvement of social domain should mainly be set up. In addition, continuing services and assessment program should be performed in this risk group.

P-04-07 Determinants Related to the Prevalence of Sexually Transmitted Infection among Indirect Female Sex Workers in a Rural Area in Bali

Wibawa, IMES², Sutarga, IM², Septarini, NW^{1,2}

¹ Kerti Praja Foundation, Denpasar

² School of Public Health, Faculty of Medicine, Udayana University, Bali-Indonesia

Email of presenting author: septa_rn@yahoo.com, wayan_septarini@unud.ac.id

Human immunodeficiency virus infection cases in Indonesia including Bali increase every year. Those who suffered from STIs are more likely to get HIV infection. Indirect FSWs are very vulnerable and at risk to STIs. The prevalence of STIs among indirect FSWs in Abiansemal District was 44.65% in 2013. This study aimed to find out factors related to the prevalence of STIs among Indirect FSWs in Abiansemal District, Badung Regency, Bali.

This is a cross sectional analytic study among 70 indirect FSWs using cluster random sampling method. Indirect FSWs are referred to women who indirectly selling sex and works as waitress in cafés or alcohol beverages stalls. Interviews and STIs examination are conducted in Abiansemal Public Health Centre.

The result shows 44% of the prevalence of STIs among samples is contributed by three determinants that related to STIs infections including knowledge about STIs and HIV (OR: 4.212, p: 0.021); practice regarding condom use (OR: 4.534, p=0.0018); practice regarding access to health service (OR: 13.503, p=0.020).

Knowledge, attitudes and practice regarding to STIs and HIV are significantly related to the prevalence of STIs among indirect FSWs in Abiansemal. There is a need to enhance these determinants in order to reduce the STIs prevalence and therefore reduce the risk of getting HIV infection with emphasis on the condom use as an effective strategy.

P-04-08 Health Care Workers and Standard Precautions – Perceptions and Determinants of Compliance in the Emergency and Trauma Triage of a Tertiary Care Hospital in South India

Suma Nair, Ranjitha S Shetty, Sangini Punia

Kasturba Medical College, Manipal University, Manipal, Karnataka, India

E-mail of presenting author: sumavimal@gmail.com

Background: Health Care Workers (HCWs) are at risk of exposure to blood borne infections at their workplace. Careful adherence to Standard Precautions can protect both HCWs and patients from infections. The present study was undertaken to identify the perceptions and compliance towards the use of Standard Precautions and to assess the determinants of the non-compliance among the HCWs in an Emergency and Trauma Triage Centre of a tertiary care hospital.

Method: A cross sectional design was used and a semi-structured questionnaire was administered to collect the details regarding the HCWs compliance with the use of hand-rub and personal protective equipment (PPE). Hazardous needle practices and barriers to PPE compliance were also queried.

Results: A total of 162 HCWs were recruited into the study, who showed varying degrees of compliance with the different measures contained within standard precautions. While hand rub (95%) and glove use (77%) was common, use of protective eye gear and outer protective clothing was very low (22 & 28% respectively). Despite a perceived risk of exposure to blood borne infections, nearly 8% of the HCWs had not completed the hepatitis B vaccination schedule. About 17 % reported at least one Needle Stick Injury (NSI) in the past year but only 5.6% reported it and received medical attention. More than half of the participants (60%) were observed to not follow needle safety precautions and recapping needles was a common practice. The most common reason quoted for non – compliance with personal protective equipment was lack of time in the emergency setting.

Conclusion: Inadequate adherence to standard precautions among health care providers warrants new training and monitoring strategies. Establishment of an effective occupational health cell incorporating these elements including periodic surveillance could be the way forward.

P-04-09 HIV Risk Assessment among Female Sex Workers in Ibadan, Nigeria

Taiwo Iyabo Oluwayemisi,

SHiPS 4 MARP, Society for Family Health, 24 Baale Akintayo Street, Jericho, Idishin, Ibadan, Nigeria

E-mail: iyabo_yakubu@yahoo.com

Background: In many parts of the world, Female Sex Workers (FSWs) have been among the groups mostly vulnerable and affected by HIV since the beginning of the AIDS pandemic. Risk assessment among FSW is important in the control of this public health problem. This study therefore was designed to document HIV risk behaviour among FSW in Ibadan, Nigeria.

Method: This cross-sectional assessment was purposively carried out in three out of eleven Local Government Areas in Ibadan. All the 127 who consented to participate out of 322 FSWs participated in the study. The respondents were interviewed using a semi-structured assessment questionnaire. Data were analyzed using descriptive statistics and Chi-square test.

Results: Mean age of respondents was 31.3 ± 8.7 years. Majority (74.2%) were single, 21.8% were widowed while 1.6% were married. (Majority (82.8%) and 35.7% had unprotected sex with regular and casual partners respectively in the last 3 months. Few (21.3%) of the respondents have had blood transfusion in the last 3 months. Many (43.9%) of the respondents had STI in the last 3 months while 7.6% reported to have been previously tested positive for HIV. Only 7.9% of the respondents were able to demonstrate correct use of condom.

Conclusion: Majority of the respondents have a higher risk of HIV and poor knowledge of condom usage. HIV education programmes aimed at improving sex workers knowledge of HIV prevention should be provided by government and non-governmental agencies.

P-05-01 Unusual Case of Primary Syphilis

Dan Lazar, Andreea Nicoleta Boca, Simona Senila, Dorina Ciuce

Emergency County Hospital, Dermato-Venereology Department, Clinicilor 3-5, 400006, Dermatology Department, Cluj-Napoca, Romania

Email: danlazar.derma@yahoo.com

Background: A 48 years old male, married, with his wife working abroad and frequent extra conjugal sexual intercourse, addressed to our clinic in June 2011 with chancre on the glans and inguinal swollen lymph nodes.

Results: The diagnosis of primary syphilis was made based on the presence of chancre and inguinal swollen lymph nodes, qualitative VDRL positive, quantitative VDRL 1:64, qualitative TPHA positive and ELISA IgM positive. The patient was treated with benzathine penicillin G IM, according to protocol. At the three months follow up, the disease was in remission, with TPHA positive and VDRL decreased to 1:4. After one year, following unprotected sexual intercourse, he addressed the clinic again and we found quantitative VDRL 1:32. The treatment with benzathine penicillin G was administrated. He did not return for follow up, but due to a standard screening of all inpatients, he was identified one year later in another department, with serological scar. In April 2014 he addressed to our department with palmoplantar syphilids and we found VDRL 1:256. Benzathine penicillin G was administrated. The patient is expected to return for follow up.

Discussion: When treating a sexual transmitted disease, it is important to have a good cooperation with the patient, with follow up and treatment of the patient and all sexual partners. Due to the inappropriate sexual behavior of such patients, despite the optimal therapy, the management of such cases remains a complex issue.

P-05-02 Reproductive Tract Infection and Its Related Attributes among the Women Attending at Selected Hospital

Background: In Bangladesh social stigma created by religious and cultural value hinder obtaining information about actual situations. Study on RTI in different hospitals of an urban community to find out the proportion, type and related attributes of reproductive tract infection among the women.

Method: It was a cross sectional study conducted among 214 women at selected hospital. Data were collected by questionnaire and check list.

Results: Study revealed that 29.9% of the RTI sufferers belonged to the age group between 25 to 29 years. Cent percent of the respondents were married and those 57.0% who were married early suffered more. 82.2% were housewives and 39.3% of the husbands were engaged in non government services. Practice of personal hygiene during menstruation showed reproductive tract infections were higher among the respondents having poor personal hygiene 69.2%. Twenty eight percent of the respondents had history of abortion while 36.4% had menstrual regulation. 86.0% of the respondents had the history of contraceptive use where 57.6% were oral contraceptive pill users. In this study it was found that about half of the respondents had Candidial infections 50.47% followed by Trichomoniasis 23.36%, Gonorrhoea and Chlamydia infection 19.63% and 6.54% had multiple infections. The main symptoms as described by the respondents were vaginal discharge 92.5% where 54.5% were white curd like discharge. About 72.9% respondents had complaints of vaginal itching and 43.9% had burning / painful micturation. It was found that 65.4% had history of painful sexual intercourse.

Conclusion: Study findings indicate that RTI was highly prevalent among women due to the influence of low level of education, lower family income and also husband's educational background and employment status. Effective preventive measures should be taken by the policy makers; otherwise it may bring about irreparable destruction not for those who are suffered but also the society.

P-05-03 Syphilis - 'The Great Imitator', Syphilis Skin Lesions as a Skin Cancer : Case Report

Vlad Luca-Pozner,

First Surgical Clinic, Cluj County Emergency Hospital, Plastic Surgery Department, Cliniclor 3-5, Cluj-Napoca, Cluj, Romania

E-mail: vlad.luca.pozner@gmail.com

Syphilis has been called 'the great imitator' because it has many possible symptoms, many of which look like symptoms from other diseases. In this case, the patient had no symptoms, although he was diagnosed in an advanced stage of syphilis.

A 61-year-old patient, with a medical history of Appendectomy and High Blood Pressure, consulted out surgical department for a small (1/1 cm), round, smooth red nodule, located on the lower lip. The skin lesion started to grow one month prior the day he came to our department. The patient was admitted with the diagnosis of Squamous Cell Carcinoma and he underwent surgery to have his skin lesion removed. The tumour was sent to the Pathology. The pathology result excluded the malignancy of the tumour, but it was inconclusive.

Meanwhile, the patient was consulted again for fever, fatigue and loss of appetite. At the suggestion of an Infectious disease specialist, the patient was tested for STDs. The VDRL and TPHA tests came positive and the patient was diagnosed with Stage 2 syphilis. The patient followed the standard treatment for his disease (Penicillin), and after four months, the VDRL and TPHA tests were negative.

This case illustrates the polymorphism of syphilis, which can cause delays in the diagnosis and treatment of the patients. Although STDs are not that common at elderly people, it is important to consider them as a possible diagnosis, especially when the symptoms cannot be associated with other diseases.

P-05-04 Bowenoid Papulosis – A Case Report

Shrutakirthi D Shenoi¹, Sudhir Nayak², Shaila Bhat³

¹ Dept of Dermatology, Manipal University, Manipal -576104, India

² Dept of Pathology, Manipal University, Manipal -576104, India

³ Kasturba Medical College, Manipal University, Manipal -576104, India

E-mail: shru12@yahoo.com

Background: Bowenoid papulosis is caused by human papilloma virus characterized by papular lesions on the genitalia in the sexually active age group. Although it generally runs a benign course with spontaneous regression within several months, sometimes it can turn malignant. Histopathology reveals characteristic dysplastic changes.

Case report: A 41 year old male presented with asymptomatic lesions over the pubic region for past 8 to 10 months. He was married for last 15 years with history of unprotected pre-marital sexual contact. Multiple hyperpigmented papules some verrucous were present over the pubic region and shaft of penis. A diagnosis of Bowenoid papulosis was considered. Biopsy of the papule showed acanthotic epidermis and mild dysplastic features with anisonucleosis, nuclear enlargement and increased mitosis with mild dermal perivascular infiltrate. DNA-PCR markers for HPV strains 16 and 18 were negative. Patient was treated with 5% imiquimod cream.

Discussion: Bowenoid papulosis is a type of intraepithelial neoplasia caused by human papilloma virus, mainly type 16, clinically characterized by asymptomatic hyperpigmented papules mimicking warts, but histopathologically resembling Bowen's disease with wind blown appearance of large hyperchromatic nuclei. The condition has to be differentiated from genital warts, melanocytic nevi, seborrheic keratosis, lichen planus, Zoon's balanitis, squamous cell carcinoma, basal cell carcinoma, and anogenital Bowen's disease. These lesions can regress, persist, recur, or progress to invasive squamous cell carcinoma in some cases. The most effective treatment for bowenoid papulosis is simple local destruction of the lesions. Various modalities have been used, although recurrences are common with all. The modalities include simple local excision, electrodesiccation, cryosurgery, laser surgery, and use of topical retinoic acid, podophyllum resin, and topical 5-fluorouracil, imiquimod and tazarotene.

P-05-05 Cutaneous T Cell Lymphoma – the great masquerader

Smitha Prabhu,

*Kasturba Medical College, Manipal Department of Dermatology, OPD No. 21
Kasturba Medical College, Manipal Udipi, Karnatak 576104, India*

E-mail: drsmithaprabhu@yahoo.com

Introduction: Sometimes, even seemingly apparent lesion can evade diagnosis. This is highlighted by this case report.

Clinical case: A 46 year old housewife presented to us with a persistent itchy red plaque over mons pubis of 2 years duration, which was resistant to treatment. She was on treatment as for genital psoriasis by a local dermatologist at the time of initial presentation. She was treated as a case of inflammatory tinea cruris, but the lesions were resistant to antifungal treatment at 2 month follow up. In the coming months we had to change the diagnosis from Bowen's disease to Lupus vulgaris, Extramammary Pagets disease, Porokeratosis of Mibelli and Plasmacellularis circumscripta depending on the current morphology and biopsy report. The patient was very depressed and emotionally labile as this was interfering with her sexual marital relationship. Finally, after much deliberation among various Pathologists and Dermatologists a final diagnosis of Angiocentric Cutaneous T Cell lymphoma was made after the fifth and final biopsy showed exocytosis and atypical T cells with angiocentricity and vessel wall changes. The patient was treated with superficial radiotherapy and after a five year period of deliberations and suffering she is finally free of the innocuous looking but malignantly behaving bothersome genital plaques.

Conclusion: Patience pays at the end. This case highlights the perseverance and determination of the simple, uneducated lady who persisted with us despite the repeated investigations and changes in treatment. Finally our combined effort triumphed over the disease. She is disease free at the last follow up, which accounts to a disease free interval of 3 years.

P-05-06 History of Sexually Transmitted Infections and the Use of Antibiotics by Clients Visiting the 'Special Treatment Clinic' (STC) in the University Teaching Hospital (UCH) Ibadan, Nigeria

John Abdulrahman Imaledo, Esther Oludele,

Olaniyi University Teaching Hospital (UCH) Ibadan, Nigeria

E-mail: hisgracejohn@gmail.com

Background: Over three (3) decades of the emergence of HIV/AIDS and its attendant's consequences, the prevalence of Sexually Transmitted Infections (STIs) recorded every year is alarming especially in the developing countries including Nigeria despite advancement and availability of therapy. However, there is sparse of information on the first action taking by STI clients who attend the Special Treatment Clinic (STC) in Ibadan, this study therefore review existing records to fill this gap.

Methods: This retrospective study reviewed the case file of patients that attended the STC between January 2010 and December 2012. The records were reviewed and information were teased out to know the socio-demographic characteristics, their history of STIs and action taking after patients discover their present health status before attending the clinic. Data collected were later analyzed using descriptive statistics.

Results: More of the respondents (42.1%) visited the clinic in 2010 and 43.5% are in the age group of 21-30 years; 53.0% were females and 49.9% are married with 68.5% in monogamy relationship. Majority (57.5%) of the clients reported visiting the clinic on their own volition. Virtually all (97.5%) has history of STIs. Majority (72.5%) practice sex through natural intercourse, only 17.0% uses condoms in the last sexual episode and more than half (54.9%) had used antibiotics when they discover that they have STIs.

Conclusion: STI/STD is still prominent among the people of reproductive age and antibiotics is been used indiscriminately. There is the need to intensify efforts in educating the people most especially the people of reproductive age on the danger of self-medications and indiscriminate use of antibiotics. Use of condom should be promoted.

P-06-01 Prevalence and NG-MAST analysis of Penicillinase-producing *Neisseria gonorrhoeae* and Their Corresponding blaTEM Variant (blaTEM-135) in China

Chen Shao-chun¹, YIN Yue-ping¹, Chen Xiang-sheng¹

Chinese Academy of Medical Science & Peking Union Medical College, Institute of Dermatology, National Center for STD Control, Nanjing 210042, Jiangsu

E-mail: chensc@ncstdlc.org

Background: This study aimed to investigate the prevalence of penicillinase-producing *Neisseria gonorrhoeae* (PPNG) and their blaTEM-135 gene variant in six GASP sentinel sites in China. In addition, molecular epidemiological typing of all isolates was performed to elucidate the genetic relationships of the PPNG strains.

Method: A total of 572 *Neisseria Gonorrhoeae* isolates were collected in six Chinese GASP sentinel sites including Jiangsu, Shanghai, Zhejiang, Tianjin, Guangdong and Guangxi in 2012. Cefinase Paper Discs were used to identify PPNG. Mismatch amplification mutation assay (MAMA) was used to identify blaTEM-135 variants. All PPNG isolates and blaTEM-135 variants were genotyped using NG-MAST.

Results: The total prevalence of PPNG and their corresponding blaTEM-135 variants were 38.1% and 52.3% among 572 isolates. The prevalence of PPNG among different sites were as follows from highest to lowest order: Zhejiang, Shanghai, Guangdong, Guangxi, Jiangsu and Tianjin. The prevalence of blaTEM-135 variants were as follows from highest to lowest order: Zhejiang, Jiangsu, Guangdong, Shanghai, Tianjin and Guangxi. NG-MAST results showed that prevalent STs were ST2318, ST1768, ST1866, ST1053, ST8726. A strong correlation between specific genotypes and blaTEM-135 variants was found in NG-MAST analysis, such as ST1768, ST1053, ST8726. A significant difference of STs distribution was observed between Tianjin (Northern part of China) and other sites (Southern part of China). STs distribution in Southern China was similar to that in Eastern China.

Conclusion: A high prevalence of PPNG and their corresponding blaTEM-135 variants were found in Chinese GASP sentinel sites, which indicated an urgent need to persistently monitor PPNG and the blaTEM-135 variants. The genotyping analysis indicates a significant difference in STs distribution among different sites in China.

P-06-02 Detection of *Ureaplasma urealyticum* Biovars in Semen of Infertile Men

Fakhri Haghi, Habib Zeighami

Department of Microbiology and Virology, Zanjan University of Medical Sciences, Zanjan , Iran

Ureaplasma urealyticum is a causative agent of non-gonococcal urethritis and is implicated in the pathogenesis of prostatitis, epididymitis and infertility. The organism is more common in partners of infertile than fertile marriages. *U. urealyticum* infections not only jeopardize fertility but also pose a risk for infertility treatment and resulting pregnancies. The aim of this study was to determine the prevalence of *U. urealyticum* and *Ureaplasma parvum* in semen of infertile and healthy men by polymerase chain reaction (PCR). Semen samples were obtained from infertile patients and healthy controls and were subjected to the routine andrological analysis and PCR. DNA was extracted by the Cadieux method, and analysed by PCR protocol with specific primers for urease and multiple-banded antigen genes. *Ureaplasmas* were detected significantly by PCR in 12 of 100 (12%) semen specimens from infertile patients and in three of 100 (3%) healthy men. The volume of semen fluid, concentration of sperm cells, and sperm cell with normal morphology were significantly decreased in infertile men. In the group of infertile patients with PCR positive for *Ureaplasmas*, the volume, count and morphology of semen samples were lower than in the infertile patients with PCR-negative results. *U. urealyticum* species in semen of infertile men was found to be high (9%) than in healthy controls (1%). Detection rate for *U. parvum* was 3% in the infertile group and 2% in healthy men. The results indicate that *U. urealyticum* species is more common in specimens of infertile men. The percentage of normal sperm cells, the volume of semen and the percentage of sperm cells with motility in the PCR positive for *U. urealyticum* species group were lower than in the PCR positive for *U. parvum* group.

P-06-03 Detection of *Ureaplasma urealyticum* in Men with Varicocele

Fakhri Haghi, Habib Zeighami

Department of Microbiology and Virology, Zanjan University of Medical Sciences, Zanjan, Iran

Genital tract infection is the most important cause of male infertility affecting not only sperm cell function, but also the whole spermatogenesis. In this study the role of seminal colonization of *Ureaplasma urealyticum* in varicocele-related infertility was investigated. Semen samples were obtained from infertile patients with or without varicocele and healthy controls and were subjected to routine semen analysis and PCR. DNA was extracted by Cadieux method and analyzed by PCR protocol with species-specific primers for *U. urealyticum* (urease gene). *U. urealyticum* was detected by PCR in 23 of 146 (15.75%) semen specimens from infertile patients and in 3 of 100 (3%) healthy men ($p < 0.001$). Infertile patients with varicocele had higher *U. urealyticum* colonization [17/81 (20.98%)] than those without varicocele [6/65 (9.23%), $p = 0.086$] or healthy controls [3/100 (3%), $P < 0.001$]. The percentage of sperm cells with motility, volume of semen fluid, concentration of sperm cells, and sperm cell with normal morphology were significantly decreased in infertile men ($p < 0.001$). In the group of varicocele patients with PCR positive for *U. urealyticum* the volume, count and morphology of semen samples were lower than those in the varicocele patients with PCR negative results, but the differences were not significant ($p > 0.05$). Although the colonization of *U. urealyticum* does not affect the semen quality, the high prevalence of this microorganism in varicocele patients may be an additional negative factor affecting varicocele status and worsening reproductive potential.

P-07-01 Asian Refugees and Immigrants with HIV/AIDS in North America: Stigma and human rights

AKM Ahsan Ullah: Associate Professor,

Faculty of Social Science, University of Brunei Darussalam, Brunei Darussalam

E-mail: akmahsanullah@gmail.com

Background: Of the total number of refugees and immigrants accepted into the countries in North America every year, around half originate from Asia making South Asians the second largest and most diverse visible minority group. The numbers who are HIV+ entering North America from South Asia may be substantial. This paper attempts to assess the perceptions of South Asians in North America especially in Canada towards HIV/AIDS, and how they are stigmatized within community.

Method: Selected on snowball basis, 33 HIV/AIDS sufferers who are refugees or immigrants in North America from South Asia were interviewed face to face using a well designed open and closed ended questionnaire. Data were predominantly qualitative in nature. A well defined yardstick of stigma and human rights was used to measure the level of AIDS-related stigma and human rights violation they encounter in developed countries.

Results: This research identified the ways in which immigrants and refugees/refugee claimants or immigrants who are HIV/AIDS sufferer from South Asia are vulnerable to discrimination, stigmatization and human rights violation. Majority of the respondents lost their job due to their serostatus; most of them reported being stigmatized and cornered by the community. They face discrimination in accessing health services. Stigmatization and human rights violation imperil their own and loss their self esteem. Many of them as a result think that suffering from cancer is better than being infected with HIV.

Conclusion: This paper offers to generate new knowledge; and policy recommendations about South Asian refugees and immigrants who are HIV+ in North America. This research has crucial policy implications in North America and in South Asia, i.e. of how sensitive health issues can be approached with respect to both cultural norms and universal health principles.

P-07-02 Pathways of Infection: A Sequential Analysis of Linkages between Migration and HIV/AIDS in Darjeeling, India

Arpita Das¹, Ranajit Sengupta²

¹ Ph.D. Scholar, International Institute for Population Sciences, Mumbai, India

² Technical Specialist, International Centre for Research on Woman, Delhi, India

E-mail: arpitadas330@gmail.com

Background: Does migrant elevate the risk of HIV/AIDS? Examining the specific context, study addresses the aspects of the linkages between migration and HIV/AIDS. Therefore, a comprehensive understanding of various pathways linking migration and HIV/AIDS and the socio-demographic and contextual determinants of HIV sero-positivity is critical for devising suitable programmatic response to curb the pace of epidemic.

Method: Use of case-control design and mix-method approach, primary data of 620 samples has been collected. Bi-variate and multivariate regression has been performed. Composite risky sexual behaviour and social influence index has been computed to examine whether family members or friends with any risk behaviour has any impact to amplify respondent's own risky sexual behaviour. Discriminant function analysis is also done in explaining the group differences among four groups of migrant with HIV positive, migrant with HIV negative, non-migrant with HIV positive and non-migrant with HIV negative.

Results: Results depicted that the social influences of friend and family members have positive say among the respondent to coddle into risky behaviour which leads to STI/HIV. The odds ratio clearly indicates that a significant increase in the number of male migrants adopting HIV high risk behaviors after migration, under the influence of drugs or alcohol and less condom use. In case of discriminant function, age at first sex has emerged as the single most factors contributing to the discriminant function followed by sex with non-regular/non-paying partner, risk behaviour by friend, and condom attitude are next in importance as predictors.

Conclusion: Therefore, people must be encouraged to practice safe sex through education and the distribution of condoms. These interventions must be combined with care initiatives, with the prevention and treatment of STI and HIV. Community outreach programmes among migrants communities and work place interventions can be instrumental in reducing the vulnerability of migrant workers to HIV.

P-07-03 Sexually Transmitted Diseases in Sexually Assaulted Victims: Medicolegal Perspective

Arpita Das¹, Ranajit Sengupta²

¹ Ph.D. Scholar, International Institute for Population Sciences, Mumbai, India

² Technical Specialist, International Centre for Research on Woman, Delhi, India

E-mail: arpitadas330@gmail.com

Background: The life course perspective can be characterized by trajectories, transitions, turning points, and timing. Each of these four, alone or in combination, are seen in life course studies. Sexual initiation is a transitional event in anyone's life and early sexual initiation increases the risk of STI/HIV infection. Therefore study includes age at first sex, partner dynamics and life time measures of risk behaviour as important predictors to reflect the life course transition.

Method: The proposed study aims to address the transmission dynamics by recruiting study subjects from some selected ICTCs giving opportunity to adopt case-control design to compare factors affecting STI/HIV among 336 migrants as well as 284 non-migrants. Along with Bivariate and multivariate analysis, Poisson Regression and Cox Proportional Hazard Model are applied to justify the study objectives.

Results: Cox regression portrays that non-migrants are less likely to initiate sex in the early age as compared to the migrant counterparts. Compared to respondents who do not use alcohol, those who are alcohol users are 1.143 times (95% CI) = (0.851, 1.533) as likely to initiate sex earlier. Partner dynamics in sexual intimacy is an interesting issue to explore and results depicts that more than three-fifth of the migrants have reported to ever had sexual relation with commercial/paying partner and 58.9 percent with non-regular/non-paying partner. Poisson regression portrays that social influence and social isolation is also vital while discussing the number of times involved and concurrent sexual partnership as a threat to STI/HIV.

Conclusion: Therefore, people must be encouraged to practice safe sex, in terms of late sexual initiation, faithful partnership, condom use in every sexual act. There is an urgent need for suitable programmatic priorities to design for evidence based interventions and access to HIV testing, and treatment services to prevent the worst of HIV transmission.

P-07-04 Knowledge and Attitude Towards Vaccine Trial Concepts and the Functional Status and Disability of Patients with HIV/AIDS

Asmin Sha,

Department of General Medicine, Mother Hospital, Popullazhi, Olari, Thrissur 680012, India

E-mail: docasminsha@gmail.com

Background: AIDS vaccine is seen as the ultimate prevention tool that will complement the existing prevention strategies in place. Patients participate in HIV vaccine trials with hope that developing a safe and effective AIDS vaccine is possible. HIV infected individuals live with various functional disabilities which need lifelong continuous care. Also, the data about the functional status of AIDS patients are rare. On this background, the study was conducted to evaluate knowledge of vaccine trial concepts and attitude of HIV infected populations to participate in HIV vaccine trials and also assess their functional and disability status.

Method: A Cross-sectional study was done among 90 male and 20 female HIV positive patients attending a tertiary care hospital, and two non-governmental organizations at trichur, India, from November 2012 to May 2013 after approval from the institutional ethical committee. A pretested structured questionnaire was used to measure the participants' knowledge and attitudes about HIV vaccine trials and also their functional status and disability was graded according to WHO criteria after obtaining written informed consent.

Results: Knowledge of concept of vaccine trial was low and misconceptions about the concepts were common. 69% of study population will be ready to be a part of a randomized vaccine trial. Only 52% were able to lead an economically productive life. The functional status of the patients positively correlated with WHO disease stage ($P < 0.0001$) and CD4 count.

Conclusion: Volunteers will be possibly ready to enroll in HIV vaccine trials with hope that developing a safe and effective AIDS vaccine is possible and more than fifty per cent of the AIDS patients are disabled and need support and care. Functional status of patients would be helpful in making important policy decisions and health care interventions strengthening community-based palliative care for AIDS patients.

P-07-05 Sexually Transmitted Diseases in Sexually Assaulted Victims: Medicolegal Perspective

Bansal Yogender S, Senthil KR

*Department of Forensic Medicine and Toxicology, Postgraduate Institute of Medical Education and Research, Chandigarh – 160012, India
Additional Professor: Department of Forensic Medicine and Toxicology, Postgraduate Institute of Medical Education and Research, Chandigarh – 160012, India*

E-mail: yogender_bansal@rediffmail.com

Sexual assault on women and children are some of the most heinous crimes against Mankind. No age is exempted for these crimes and they comprise of various natural and unnatural sexual offences. sexual perversions seen among sexual offenders is worrisome for the legal as well as to the medical fraternity. It has been estimated that there were 24923 reported cases of Rape in 2012 in India as compared to 20737 in 2007. The burden of rape in India keeps on growing. Strict laws have been amended after the historical Delhi gang rape incidence. The recent bill have expanded the definition of rape to include not just penovaginal intercourse but the insertion of an object or any other body part into a woman's vagina, urethra or anus, and oral sex. In addition to violation of human rights, sexual assault may lead to several direct and indirect health consequences. It is the well-established fact that raped victims are in high risk of getting STDs and HIV infection. Still the data regarding the exact pattern of STDs among sexually assaulted victims are very much limited in India. The purpose of this article is to find the prevalence and pattern of sexually transmitted diseases (STDs) including HIV among sexually assaulted/abused children and adults in India. These data will be helpful for managing cases of sexual assault and also identifying research priorities in this area.

P-07-06 Knowledge and Perception of Parents as Source of Reproductive Health Information to Their Adolescent Children in South-western Nigeria

Musibau Ayoade, Titiloye, Ademola Johnson, Ajuwon

*Department of Health Promotion and Education, Faculty of Public Health,
College of Medicine, University of Ibadan, Ibadan, Nigeria.*

E-mail: msbnsmtiti@yahoo.com

Background: Globally, inadequate adolescent reproductive health information exposes adolescent age 10 and 19 years to several public health problems including Sexually Transmitted Infections, HIV/AIDS and unwanted pregnancy. Parents have pivotal role to play in shaping the sexual behaviour of their adolescent. In Nigeria, there is dearth of literature about the knowledge and perception of parents as a source of adolescent reproductive health (ARH) information with reference to STIs and pregnancy prevention to their adolescent. This study therefore focuses on knowledge and perception of parents as source of adolescent reproductive health information to their adolescent children in South-western Nigeria.

Method: This study which adopted a cross-sectional design, utilized a pretested interviewer administered questionnaire to collect data among 226 parents who have adolescents 10-19 years in two local government areas of Oyo State. Descriptive statistics and Chi-square test were used for data analysis at $p < 0.05$.

Results: Mean age was 43.1 ± 9.01 years, 79.2% were mothers, 41.2% had secondary education, more than half (55.3%) were traders while 96.5% lived with their adolescent children. Most (89.8%) of the parents had good knowledge of adolescent reproductive health with mean knowledge score of 22.6 ± 3.4 . About seventy percent considered themselves knowledgeable as source of ARH to their adolescent and 69.9% reported mothers as most preferred source of information by the adolescents. Majority (72.6%) ever discussed adolescent reproductive health issues with their wards while 94.2% perceived adolescent to be vulnerable to STI including HIV/AIDS. Fear of parents (38.9%) and lack of time were perceived by the parents as factors that can inhibit parent child communication while parent friendliness and showing love (35.8%) could promote parent child communication.

Conclusion: Parents are knowledgeable of adolescent reproductive health but perceived their adolescent fears them during communication. Evidence based training exercise for the parents on adolescent reproductive health communication are therefore recommended.

P-07-07 Political Response to HIV/AIDS Control among Local Government Chairmen in Osun State, Nigeria

Oyelami Funmilola,

Oyo State College of Nursing and Midwifery, Eleyele, Ibadan, Nigeria

E-mail: ikefunmi@gmail.com

Background: In Nigeria, the failure of the government to adequately regulate and fund health system has been documented to contribute to HIV problem in a variety of ways. Local Government Chairmen (LGC) have great responsibility to play as the head of administration in Local Government (LG). This study was therefore designed to determine the awareness and response to HIV/AIDS by LGC.

Methods: The study was a descriptive qualitative study that utilized In-Depth Interviews (IDIs). All consenting 27 out of 30 LGC in Osun State were interviewed using IDI guide. Interviews were recorded with tape recorder and analysis was performed using N6 qualitative software.

Results: Majority of the respondents were aware that HIV/AIDS is high in Nigeria but did not know the significant of this extent. All the respondents were aware of HIV/AIDS policy in Nigeria but only few had ever read through this policy. Almost all the respondents were not aware of any international policy on HIV/AIDS control. All the respondents have HIV/AIDS prevention and control unit in their LG and primary emphasis was placed on HIV prevention. HIV/AIDS control was not a prioritized programme in some LGs and reasons included low prevalence of HIV/AIDS in their LG and inadequate financial resources. To generate political will for HIV/AIDS control, respondents suggested that international agencies should create more awareness for political leaders and also make necessary funds available directly to the local government for implementation of HIV programmes.

Conclusions: Local Government chairmen awareness of HIV/AIDS magnitude was low and only few aspects of HIV/AIDS control programmes were given a priority while this disease requires a complex approach. HIV education programme should be intensified for political leaders for governments and decision makers to develop adequate policies and measures on this issue, and also to ensure their implementation by making the necessary funds available.

P-07-08 Knowledge, Attitudes and Behaviour Relating to Sexual Care among Behaviourally Bisexual Men in Vientiane, Laos, 2010: Results from a Qualitative Study

Anna Louise Bowring: PhD

*Candidate and Research Assistant, Centre for Population Health [image: Burnet Institute], 85 Commercial Road, Melbourne, Victoria, Australia 3004
GPO Box 2284, Melbourne, Victoria, Australia 3001*

E-mail: annab@burnet.edu.au

Background: In Laos, the limited available data suggest men who have sex with men (MSM) are disproportionately infected by HIV (prevalence 5.6%, 2007) and STI prevalence is high. Bisexual behaviour among men is common, and many behaviourally bisexual men (BBM) report high-risk behaviours for STIs. Currently, testing services in Vientiane are available from: 15 hospital clinics, including one MSM-specific clinic (HIV & STI); a youth clinic (HIV & selected STI testing since late 2013); selected private clinics (STI only); and a drop-in-centre for MSM (HIV only). This study explored knowledge, attitudes and access to sexual health care among BBM in Vientiane, Laos.

Method: In May 2013–April 2014, BBM were recruited from bars, clubs and dormitories for five focus group discussions and ten in-depth interviews (n=30). Additionally, 14 interviews were conducted with health, community and government representatives. Data were thematically analysed.

Results: Despite frequently reporting high-risk sexual behaviours, BBM commonly thought that because they do not feel sick, they are not at risk of HIV or STIs and do not need to be tested. Very few BBM reported ever being tested for HIV and no men specified they had undergone STI testing. Some BBM reported self-treating STI symptoms. Many BBM had limited knowledge of available sexual health services. Common misperceptions included that STIs and HIV are always symptomatic and that early withdrawal prevents pregnancy and disease transmission.

Conclusion: Key barriers to STI testing included that many BBM did not self-perceive a risk of STIs or need for STI testing and unavailability of STI testing at some specialised services. Future public health action should include improved education on STIs and promotion of regular screening. Integrated sexual health and HIV services may help reduce barriers to STI testing and improve sexual health outcomes in BBM in Laos.

P-07-09 Knowledge and Attitude of Health Workers in Yogyakarta to Increasing HIV Test Scope by Using PITC Approach

Rizka Ayu Setyaningrum¹, Ema Madyaningrum², Akhmadi²

¹ Student of Nursing Program, Faculty of Medicine, Gadjah Mada University

² Nursing Education Program, Faculty of Medicine, Gadjah Mada University

E-mail: ayu.islamic@gmail.com

Background: The numbers of cases of HIV/AIDS were increasing and late diagnosis. Provider Initiated HIV Testing and Counseling (PITC) is an approach to HIV testing and counseling in health services initiated by the health worker. Knowledge and attitudes of health workers are important to improve the coverage of HIV testing.

Objective: To determine knowledge and attitudes of health workers are nurses, midwives and physician of primary health care about the PITC and 3 principals of PITC are counseling, consent, and confidentiality.

Methods: This study was a cross sectional descriptive study design. The instrument as a questionnaire arranged from the guideline of PITC by WHO 2007 and P2PL 2010. Samples were taken with a proportional random sampling technique consisted of 33 nurses, 40 midwives and 32 physicians. Analysis of data used frequency distribution and chi square test. Results: A total of 62.5% of midwives and 56% of physician have a good level of knowledge, but 51.5% of nurses in enough. As much as 66% physicians and 67.5% midwives have a positive attitude, but 51.5% of nurses being negative. There was no difference in knowledge and attitudes between health workers of primary health care who had gotten a duty of HIV-STI Services Comprehensive Continuous or yet. ($p \geq 0.05$)

Conclusion: Majority of health workers were good knowledge and had positive attitudes to support the 3 principal application of PITC, also there was no difference in knowledge and attitude.

P-08-01 Toward Sustainability of HIV Prevention in Community

Bun Somaly,

Cambodian HIV/AIDS Education and Care (CHEC), 163, St 230, Boeng Salang, Toul Kork, Phnom Penh, Cambodia

E-mail: checto@online.com.kh

Background: Providing support technically to community to be able to take ownership in preventing HIV/AIDS Infection in their communities through providing knowledge, awareness, education and management. HIV prevention is perpetual long term strategy to reduce spread out of HIV/AIDS infection.

Setting: CHEC has implemented the strategy to sustain the HIV prevention project in seven target operational districts of five provinces. These provinces include Kampong Tralach and Boribo OD of Kampong Chnang, Sa Ang and Ta Khmao of Kandal, Preah Sdach of Prey Veng, Srey Santhor Kang Meas of Kampong Cham and Chhouk of Kampot. Regional implementer in 97 communes were trained and supported to be Community Based Educator to carry out HIV/AIDS and SIT education to people in communities in order to improve well understanding on HIV/AIDS and SIT prevention and awareness among these issue.

Project: In collaborating with local authorities and health network to select community based educator is the first considerable approach. Second approach is to strengthening their capacity, so that CHEC has provided 168 training courses to those 1,553 selected community workers and authorities on HIV/AIDS, STIs, Community Education, HIV/AIDS counseling, TB, ARV, Participatory Planning Monitoring and Evaluation and Community Capacity Enhancement and Ownership. Assisting and motivating community to practice skills are identified to be the third approach. After selected community based educators were trained, they are now carrying out the activities of community education to transfer knowledge to target group in target area through group discussion, meeting, one to one education and conducting community campaign. Reintegration prevention project plan of community was the last approach toward the goal of sustaining HIV/AIDS prevention program in those target communities. CHEC is consistently providing technical support to commune council to have them reintegrate HIV/AIDS education into Community Investment Plan (CIP). All this strategy is following to National Strategic Plan III and National Guideline.

Outcome: More than 85 percent of adults in seven target operational districts have increased knowledge on HIV/AIDS and practicing safe behaviors to prevent them self from HIV transmission. 84 communes have identified HIV prevention projects to be one of community Investment plan.

Lesson Learned: We have to strengthen communication and closely collaborate with local authority and partners to design exit strategy to assure that HIV/AIDS education program are reintegrated into Community Investment Plan and consistently carrying out education activities into communities.

P-08-02 m-Health Initiatives to Strengthen Sexual Health Information, Prevention and Care Programs in the Developing Countries

Pritish Barua,

Lab One Health Services, Chittagong, Bangladesh

E-mail: dr.pritish@yahoo.com

Background: Constrained access to information, prevention and care is one of the major obstacles for implementing meaningful STD/HIV/AIDS programs in many developing countries. m-Health in low resource setting has been the focus of much interest in recent years. It has the potential to revolutionize the delivery of health care to under-served areas and hard to reach populations. An m-Health initiative would not only increase the access to information, prevention and care but also assure the continuum of care and avoid STD/HIV/AIDS related discrimination, stigma and denial in face to face interventions.

Method: An m-Health initiative usually follows Store and Forward (SAF) or Real-Time-Consultation (RTC) techniques. However, for cost-effectiveness and greater patient satisfaction a hybrid technology using SAF and RTC by audio-communication would be preferable. In this 2-3 steps communication, patient him/herself or with the help of a primary care provider will send a pre-loaded standardized template containing queries, disease information and applicable images to the Mid coordinating doctor using a mobile phone technology. After personal evaluation or consulting with a specialist (End-Contact), the coordinating doctor will send a feed back.

Lessons learned: Some critical realizations from the experience indicate:

- m-Health is not all about technology, rather a process involving people with technology.
- move away from a single focus solution towards a greater state of open-ness.
- reusing of a realistic, relevant and proven initiative is more productive than creating a new one
- m-Health at scale will only come from meaningful public-private partnerships.

Conclusion: By understanding the concept, application, potentials and lessons from previous experiences, we have to move forward with an intuitive m-Health approach -which could be an effective solution for strengthening access to information, prevention and care of STD/HIV/AIDS in the developing countries.

P-08-03 Survey of Knowledge and Behavior towards Transmission of HIV in Ninth Grade Students of Junior High School in Denpasar 2014

I Gede Bayu Kurnia Raharja¹, Ni Wayan Septarini^{1,2}

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

² Kerti Praja Foundation, Denpasar-Bali, Indonesia

E-mail: septa_rn@yahoo.com

HIV (Human Immunodeficiency Virus) infection remains a global health problem, including in Indonesia. According to WHO's statement, there is possible that the age of HIV infection in Indonesia's ranged between 10-19 years. Denpasar is a district that contributes to largest AIDS cases in Bali. This research aimed to find out the knowledge and behavior towards HIV transmission among the ninth grade students junior high school in Denpasar.

This is a cross sectional descriptive study which involved 297 ninth grade students of junior high school which selected by Multi Stage Random Sampling method. The locations of study were at two state junior high schools and six private junior high schools in Denpasar. Data were collected using anonymous self-administered questionnaire.

The result shows that 56.57% of students have good knowledge towards HIV and AIDS. However, 79.8% of them have acquired information on narcotics and illicit drugs. The results also found 1% has ever used drugs, 1% has ever used drugs injection, 6% has ever used piercing, and 0.7% had permanent tattoos. However, the result was higher when the respondents are asked about their friend behaviors. 17.18% answered they have heard their school friends are used drugs and 5.72% of respondents' answer that they have heard/knowing their friends used injection drugs. More than 70% students had been dating and 5% had sexual intercourse. Males have odd 9.297 of doing sexual intercourse than women ($p=0.001$). Of the 14 students, 57% had sexual intercourse with just one person, 36% had sexual intercourse with more than one persons, 57% always use a condom but 21% used condoms inconsistently, and 14% never use condoms. Interestingly, the analysis also found students who used injection drugs have odd 10.808 for sexual intercourse than students who never used injection drugs ($p=0.019$).

In conclusion it is suggested to all the relevant parties to pay attention also to junior high school students as one of the at risk groups of the spread of HIV and AIDS by performing preventive acts.

P-08-04 Symptomatic Male Urethral Discharge Cases Have Been Utilized to Monitor Safe Sex Practices in the Migrants' HIV Prevention Project of Humana People to People India in India

Sugata Mukhopadhyay, Veer Singh, Surya Prakash, Natthu Singh, Anne Marie Moeller, Lisbeth Aarup

Humana People to People India, 111/9-Z, Kishangarh, Aruna Asaf Ali Marg, Vasant Kunj, New Delhi-110070, India

E-mail: sugata64@gmail.com

Background: Monitoring condom distribution trend in HIV projects doesn't say much about safe sex practices on ground. To overcome this Humana People to People India (HPPI), a NGO of India has been utilizing symptomatic male urethral discharge cases to monitor safe sex practices in its current male migrants' HIV prevention project in Rewari city of Haryana, India. Symptomatic male urethral discharge cases generally indicate recent unprotected sexual activities with infected partner/s. Key interventions of HPPI's project in Rewari that covers around 10,000 migrants from 2009 till to-date: BCC through community outreach, condom promotion, STI management and creating enabling environment for safe sex and timely health-seeking.

Method: HPPI used a program indicator like 'annual incidence of symptomatic urethral discharge per 100 sexually active single male migrants'. The symptoms taken into accounts: white muco-purulent urethral discharge with/without urinary burning. The number of such cases collected from project's health-clinic records. The clinic provides STI treatment by following National STI Syndromic Management guideline. Year-wise annual incidence of urethral discharge calculated from 2011- 2014 with assumption that about 30% of total targeted migrants sexually active as reflected in project's counseling and personal interview records.

Results: Gradual rise of annual incidence of symptomatic urethral discharge observed; 6% in 2011, 10.1% in 2012 & 10.5% in 2013. Possible interpretations: inclusion of additional 5000 new & un-intervened migrants' population since Feb'12 and reduced government's supply of free condoms (139 condoms distributed/per 100 migrants in 2011 reduced to 92/100 in 2012 and 60/100 in 2013). The observations prompted intensified interventions and increased condom supply (100/100). Incidence rate started showing decline in 2014; 7% (till May, annualized).

Conclusion: This is an on-going monitoring mechanism helping project staff to know results of safe sex promotional activities in the project and take mid-course corrections as per clinical findings of urethral discharge cases.

P-08-05 UAE Legislations, Concerns, Awareness, Campaigns and Fight against Human Trafficking

Kamal Faour DubaiUAE

Vice chairman of IUSTI West Asia, and Dubai Foundation for Women and Children, Dubai, UAE

E-mail: kmFaour@dha.gov.ae

Trafficking Human Trafficking is a crime that shames us all. It is a multibilliondollar business that helps sustain organised crime. In 2006, the UAE passed the first legislation in the region to combat H.T. DFWC, is the First licensed profit shelter in Dubai for women, children victims of domestic violence, and child abuse, to offer victims immediate protection and support.

Abu Dhabi opened another rehabilitation shelter Ewa'a in 2009 which provides social, psychological and intensive medical services, legal assistance, education, training, and financial aid.

On November 23rd, 2009, was the first conference on H.T. in Dubai and the theme was 'how dare you enslave people who have been born free!'

On October 27, 2010, Abu Dhabi held an international workshop on H.T., expanding the size and scope of the national committee to combat H.T. by including prosecutors, law enforcement officers as well as representatives of the human rights associations and victim shelters.

On December 2010 another workshop was organised by Dubai police titled 'Human Trafficking, Reality and Hope.' On July 4, 2013 the national committee to combat H.T. launches an awareness campaign in Dubai International airport, considering that it is one of the busiest airports in the world having received as many as 57.6 million passengers in 2012.

During 2014 the UAE intends to extend the airport awareness programme to other northern, Emirates, to conduct a workshop to educate the private sector about what constitutes H.T.

DFWC launches domestic violence radio awareness campaign targeting thousands of families on 03/07/2014.

Types of abuse experienced by victims of H.T.: Sexual, emotional/verbal, physical, neglect/deprivation. Human trafficking is an issue that affects many countries and the UAE is no exception.

P-08-06 Creating Ownership and Sustainability in HIV Prevention for Key Population: Case Study from the Men's Health Network Nigeria (MHNN) Project

Shoyemi Elizabeth,

Program Officer-MARPs and Population Council, 6C Irete Street, Yaba, Lagos, Nigeria

E-mail: shoyemi.elizabeth@gmail.com

Background: The stigma, discrimination and criminalization of key populations especially Men who have sex with men (MSM) and PWIDs (People who inject drugs) have contributed to their poor involvement in the design, implementation and evaluation of targeted HIV programs thus hindering community participation and sustainability of such interventions in Nigeria. The project was geared at averting HIV transmission among Key populations of men in a gender and culturally sensitive manner by strengthening capacity of key populations to reach grassroots communities.

Method: The MHNN project, an initiative of Population Council with funding from CDC employed a peer-based outreach service delivery model in 2012 by strengthening the role of MSM and ex-PWIDs as mobile HIV Testing and Counseling (HTC) teams to deliver HIV prevention services using the national minimum prevention package of intervention via a host Community Based Organization (CBO) to their peers at various communities. These mobile HTC teams were provided with, administrative, financial, technical and programmatic capacity building during which they were placed under mentoring and supervision spending 50% of their time at the CBO and remaining 50% reaching their peers with HIV intervention programs.

Results: Mobile HTC teams established and currently manage a CBO with strengthened organizational, technical and programmatic capacity with legal status to operate as CBO in Nigeria providing community-based HIV prevention, care and support services to hundreds of key populations, working with key government and non-government actors to integrate comprehensive key population-targeted programming into the national HIV response.

Conclusion: This has shown to be a successful model for enhancing local ownership and sustainability of programs targeted at key populations because they become a resource and serve as role models when they undergo capacity development

P-08-07 Advocating for STI's and HIV Prevention for the Marginalized Youth

Fayyaz Hanif,

Program Manager, Chanan Development Association, Pakistan

E-mail: Fiazh1985@gmail.com

Background: We have the largest youth demographic dividend in Pakistan forming 40% youth between 15 to 29 years and also a large number of transgender. Many transgender communities are involved in sexual activities and also at high risk for STI's. According to UNAIDS estimates, about 96,000 people were living with HIV in Pakistan at the end of 2007 (just over 0.1%). There is lack of information and services regarding basic health care and sexual and reproductive health and right of young people particularly young women are the key issues of young people as there is no HIV/AIDS Prevention policy exists in Pakistan while the National Health Policy refers only to maternal and child health.

Method: 1. Reviewing national youth, population and health policies and meetings with government officials and concern departments to highlight youth issues and incorporate their perspective/ recommendation
2. Organizing awareness and prevention session with the transgender Community at different cities of Punjab and engage some 200 transgender to have their inputs and also some of the participants share their stories. 3. Organized 3 Days TOT ON PEER EDUCATION with this Group and build a theater Groups for more activities. They also distribute leaflets about Awareness of Health Rights and HIV/AIDS in Local Community on roads.

Results: 500 young people from the Punjab directly got involved in these activities from grassroots to Punjab level and acquired precise education about Gender, Sexuality rights and HIV/AIDS.

Conclusion: There is strong need to involve young people for their Rights and Awareness of HIV. Also Involved youth who is a neglected part of Society in Pakistan for this specific cause. Now they take recommendations for effective programming to stop their vulnerabilities to HIV/AIDs and STIs at all levels.

P-08-08 Support for Adolescents Experiencing Unwanted Pregnancy: Voice of Thailand

Juraporn Tangpukdee¹, Margaret Harris², Kessarawan Nilvarangkul³

¹ PhD, Lecturer, Faculty of Nursing, Khon Kaen University, Thailand

² PhD, Lecturer, School of Nursing and Midwifery, Faculty of Health and Medicine, The University of Newcastle, Callaghan NSW 2308, Australia

³ PhD, Director of the Research and Training Centre for Enhancing Quality of Life of Working Aged People, Faculty of Nursing, Khon Kaen University, Thailand

E-mail: Margaret.Harris@newcastle.edu.au

Background: Over recent years, the incidence of unwanted pregnancies among Thai adolescents has increased substantially. In 2011, Tangmunkongvorakul et al. found that over 800 adolescents living in Chiang Mai had terminated a pregnancy via high risk means, for example, by themselves, or accessing an illegal termination service. Little is known about support systems for such adolescents, which has been the impetus for this current research. Further, there is a dearth of information about how families manage when their teenage children experience an unwanted pregnancy. Our inquiry seeks to address this gap in the literature. The aim of this research was to learn about support systems for adolescents experiencing unwanted pregnancy in Thailand.

Method: Descriptive qualitative research was conducted. Data were elicited via in-depth interviews with 10 pregnant adolescents; five mothers; and, one grandfather. Interviews were transcribed verbatim and thematic analysis was employed.

Results: There are limited support systems for adolescents with an unwanted pregnancy in Thailand. Illegal terminations result in crisis situations for those involved. Some Thai parents are not teaching their children about sex and pregnancy due to the boundaries imposed by traditional Thai culture.

Conclusion: Sex education is not seen as a parental duty. However, when an unwanted pregnancy results in a crisis for a Thai adolescent girl, families do demonstrate enormous resilience and unconditional love to support their pregnant child. Familial relationships play a major role in supporting adolescents experiencing an unwanted pregnancy.

Tangmunkongvorakul A, Banwell C, Carmichael G, Utomo ID & Sleigh A. (2011). Birth control, pregnancy and abortion among adolescents in Chiang Mai, Thailand. *Asian Population Studies*, 7(1), 15-34.

P-08-09 Study of Sexual Health Knowledge of Urban Females

Suresh Gemawat,

*Medical Social Worker, Madanmohan Medical and Counselling Centre,
D-13, Shastri Nagar JODHPUR, India*

E-mail: gemawatsuresh@gmail.com

Background: Plenty of discussion has generated about proper time for sex education .Rising interest and curiosity in adolescents is motivating factor to acquire sex information .This leads to many conception and misinformation, thus well-educated girls are not aware of female sexuality because of poor sex education.

Method: A short study was undertaken to study and assess the knowledge and attitude toward sexual health, with questioners and interview, 80 young female general OPD patients selected, to gain insight into adolescent attitude towards selected concept of sexuality. The questions pertaining to emergency pills, condoms, extra and per-marital sex male circumcision etc., were studied and discussed.

Results: Total of 80 girls, between 20-30 years of age, were graduate and above in education 65 (81 %) were married, 15 girls (19%) had formal sex education, 25 (31%) had knowledge from mothers, 20 (25%) from friends, 27 (36%) from books and internet use, 8 (!0) girls claim not having any knowledge. Premarital and multiple sex partners were accepted by 18 (23%) and 3 (4%) girls respectively. 25 (31%) girls had adequate knowledge of contraceptive pills, 100% girls were well aware about condom use, only 50 (75%) were knowing proper use and preventive aspect for STD AND HIV diseases. 23 (28%) had treatment , prevention and HIV transmission, 76 (%%) believes HIV as social taboo, All agrees start sex-education at 5-8 years.

Conclusion: Our observation showed they well informed but ill-information about sex related diseases, Attitude and knowledge of HIV AND STD diseases need to put in public mood, females to trained for preventive aspect of their sexuality as its knowledge is very complex, thus requires evaluation in different large groups.

P-08-10 Challenges of uptake of Female Condom in Secondary settings, South Western Nigeria

Olaoluwa-Moronkeji Foluwaso,

State Hospital, Ijebu Ode, Ogun State, Nigeria

E-mail: foluolaoluwa@gmail.com

Background: Male and female condoms are presently the only effective dual protection method against STI, HIV and unwanted pregnancy. There have been advocacy and support for availability of female condom. However, the level of its acceptability and availability to the users cannot be ascertained. The study sought to find out the degree of acceptability, availability and usage of female condoms among female clients receiving ART.

Method: This is a cross sectional descriptive study done using a semi structured questionnaire to collect information from randomly selected 160 sexually active female patients receiving ART at State Hospital Ijebu-Ode Nigeria.

Results: Eight of the respondents (5%) were able to identify the pack as female condom. 3 out of them have received free packs at the clinic but never used it for lack of knowledge. 153 of the respondents (95.6%) are willing to use it if it is available and they are empowered on its correct use in preventing of unwanted pregnancies, STIs and transmission of HIV to negative partners. The nurses expressed challenges in teaching clients on correct use of female condoms as against male condoms where models are available for teaching.

Conclusion: The use of female condoms in our cohort is suboptimal and it is currently not readily available. Therefore there is a need to increase its availability and build the capacity clinic staff for effective patient education on female condom use.

P-09-01 Experience of Routine HIV Testing Through Voluntary Counseling and Testing Services among TB-positive Patients in Ukraine

Sergii Soloviov,

Senior Researcher, Department of Virology of PL Shupyk National medical academy of postgraduate education

Background: Tuberculosis (TB) has been a major public health problem for centuries and is the leading cause of morbidity and mortality of patients with human immunodeficiency virus (HIV)/acquired immune-deficiency syndrome (AIDS). TB has been ranked among the AIDS-indicator diseases (58.4%) and is the leading cause of mortality among people living with HIV/AIDS in Ukraine.

Description: Ministry of Healthcare of Ukraine is introducing the services for voluntary counseling and testing for HIV (VCT) among risky groups and TB-positive patients among them. It was developed and approved strategy of increasing access to VCT services through the use of rapid HIV tests, but the question of training for the physicians, dealing with HIV/TB positive patients.

Lessons learned: Implementation of VCT training of the physicians, working with TB-positive patients, provides sufficient information about the danger prognosis for delayed implementation of preventive and therapeutic measures for each patient in case of HIV/TB co-infection. And, conversely, a positive result in case of timely implementation of appropriate appointments. It is necessary to motivate each patient regarding the advisability of testing for HIV for making informed and voluntary decisions about HIV testing, provide necessary advice of appropriate medical specialist psychologist after the test result. The main goal of VCT training is the development of patient adherence to TB treatment or HIV/TB co-infection, taking into account that TB refers to a curable disease, and the efficiency of its treatment depends on the course of HIV infection.

Conclusion/Next steps: Accessibility of VCT could help in further motivating TB-positive patients to undergo testing for HIV and the efficiency of practical VCT training of physicians, working with such patients, is likely to play a crucial role as entry point for HIV care and support.

P-09-02 Involving the Traditional Birth Attendants and the Local Communities for the Pregnant Women who are on PMTCT Programs

Martha Njama

E-mail: njamamartha@gmail.com

Background: Many times when we talk about PMTCT we think about the medical professionals. PMTCT can be more effective with the involvement of the local communities and the Traditional Birth Attendants. Taking into account that the rural women are illiterates and they need help when they are sick. Brain drain has left very few nurses in the developing countries with high workloads that they cannot cope with.

Method: 254 pregnant women, all on PMTCT program, all from the local rural communities were picked at random and interviewed using very simple YES/NO questions. The main objective was to find out how many used the services of the local communities and the Traditional Birth Attendants.

Results: Out of 223 (88%) admitted using the services of the local communities and Traditional Birth Attendants. The Traditional Birth Attendants and local communities play a very big role in PMTCT. The women use the services of their family members, neighbors, friends, Traditional Birth Attendants all of whom are members of the communities. Most of the women admitted that they would not give birth at the health facility as it was far away. They will either deliver at home or at the Traditional Birth Attendant's workplace. Due to lack or little knowledge about HIV, some community members and Traditional Birth Attendants have already been infected with HIV.

Conclusion: Involving the local communities and the Traditional Birth attendants would reduce the workload for the medical professionals. However, these classes of people need HIV education so that they may know how to prevent themselves against HIV infection. They also need to have the information that adherence to the medication is paramount as they serve the pregnant women. Also using local resources for nutrition for the pregnant women on PMTCT is important for them and the expected babies.

P-09-03 Implementing Couples HIV Counseling and Testing (CHCT) among High Risk Populations in Bali, Indonesia: What are the Challenges?

Kartika Sari, KA^{1,2}; Sutarsa, IN^{1,3}; Septarini, NW^{1,2}; Rowe, E²

¹ Department of Community and Preventive Medicine, School of Medicine, Faculty of Medicine, Udayana University, Bali, Indonesia

² Kerti Praja Foundation, Bali, Indonesia

³ School of Public Health, Faculty of Medicine, Udayana University

E-mail: ayoex_11@yahoo.co.id

Background: The reported number of HIV/AIDS cases in Bali is increasing and heterosexual transmission has been the main mode of transmission in the province. HIV counseling and testing has been usually conducted for individuals, not for couples. A pilot project was conducted among high risk populations in Bali and the study explored the challenges of CHCT from the perspectives of counselors and outreach workers.

Method: A qualitative study was conducted from July 2013-February 2014. Four focus group discussions were conducted with counselors and outreach workers to explore the challenges of CHCT program and data were analysed thematically.

Results: Couples who were not aware or denied that they had been at risk, or did not have any symptoms of sexually transmitted infections mostly declined to participate in the program. Those whose partners did not know that they had particular risk also declined to participate. It was difficult to arrange for couples come together for counseling as they were not always free at the same time. Exploring risk behavior of the couples was difficult and many couples were dishonest during the counseling sessions, as revealed later through individual interviews. In addition, clients who had taken the initiative to seek testing were usually more dominant than their partners, which made the counseling process imbalanced. Guilty feelings were experienced by some counselors while opening the test results of discordant couples as they were worried that the couples may separate afterwards. Finally, the limited number of trained counselors made it difficult to find available counselors when the clients were ready to participate.

Conclusion: Challenges during CHCT emphasize the need for more intensive promotion to get more participating couples, for more outreach workers and trained counselors, and for refresher workshops as a way for them to share experiences, to get feedback and improve their skills.

P-10-01 Cervical Cancer Risk is Associated with Inefficient Folate Metabolism

Sujata Pathak¹, Deepti Bajpai¹, Neerja Bhatla², Neeta Singh¹

¹ Department of Biochemistry, All India Institute of Medical Sciences, New Delhi, India.

² Department of Obstetrics & Gynaecology, All India Institute of Medical Sciences, New Delhi, India.

E-mail: sujata.pathak6@gmail.com

Background: Most cases of cervical cancer are associated with human papilloma virus (HPV) infection of high risk types. However, only a small number of HPV infected women develop cervical cancer, suggesting the role of other host factors in cervical carcinogenesis. Aberrant DNA methylation can be associated with HPV infection and cervical cancer, and folate is directly involved in DNA methylation via one-carbon metabolism. Also, in folate deficiency, heterogeneous nuclear ribonucleoprotein E1 (hnRNP-E1) interferes with HPV16 viral capsid protein synthesis. We aimed to study the importance of one-carbon metabolism in the progression of cervical carcinogenesis by examining serum levels of vitamin B12, homocysteine and folate and DNA methylation of tumour suppressor genes CDH1, HIC1 and RAR β and hnRNP-E1 expression in women ranging from normal to SIL to cervical cancer.

Method: Blood and tissue samples were collected from normal (n=35), SIL (n=32) and cervical cancer subjects (n=38) in the age group of 26-70 years. Measurement of serum cobalamin, folate and homocysteine was done using kits (Immulite). Promoter methylation was examined using methylation-specific PCR. Cervical tissues were evaluated for immunohistochemical expression of hnRNP-E1.

Results: We observed that lower folate and vitamin B12 levels were associated with HPV infection. The frequency of promoter hypermethylation for all the three tumour suppressor genes CDH1, HIC1 and RAR β showed an increasing trend from normal to dysplastic to invasive cervical cancer ($p < 0.05$). hnRNP-E1 progressively decreased from normals (100%) to SILs (75%) to cervical cancer (52.6%).

Conclusion: Taken together, our findings suggest a role of folate and vitamin B12 in modulating the risk of cervical cancer and HPV infection. CDH1, HIC1 and RAR β genes can be used as potential biomarkers of cervical cancer risk assessment. The results indicate that perhaps the reduced expression of hnRNP-E1 might be involved with the cervical cancer pathogenesis, with folate playing a role in the natural history of HPV infection.

P-10-02 Penile Squamous Cell Carcinoma Associated with HPV45

Natasha Tsekova Traykovich,

Kestenova Gora 23 fl.1 ap.4,

E-mail: natasa_cekova@yahoo.com

Penile carcinoma is an uncommon and potentially mutilating disease with a heterogeneous aetiology. Several risk factors have been established for its development. Human papillomavirus (HPV) infection seems to play an important role in the development of a subset of these carcinomas and its presence is thought to be related to the histological type. About half of the penile tumours were associated with HPV 16-18 with little presence of other genotypes.

We represent 86 years old man, who came in our clinic with pathological changes located in mucous membranes of the internal piece of the preputium, represented by large, eroded erythematous plaque with well-demarcated borders 3cm in greatest dimension, in some places with atrophic fields, on peripheral edges yellowish secretion. Histological findings gave the diagnosis result squamous cell carcinoma T1N1M0. We tested for HPV DNA using the Polymerase Chain Reaction (PCR) technique and we isolated HPV45.

P-10-03 Genital Warts Cases in Dermatovenereology Clinic at Gadjah Mada University Academic Hospital, Yogyakarta, Indonesia

Nurwestu Rusetiyanti^{1,2}, Husna Raisa²

¹ Department of Dermatovenereology, Faculty of Medicine, Gadjah Mada University, Yogyakarta, Indonesia

² Gadjah Mada University Academic Hospital, Yogyakarta, Indonesia

E-mail: nurwestu@gmail.com

Background: Genital warts are the most frequent benign proliferative lesions of the skin and mucous membrane in the anogenital region of both males and females, caused by human papillomavirus (HPV), which 95% of cases caused by HPV type 6 and 11. The mode of transmission is most often by sexual contact. The profile of genital warts cases in Dermatovenereology Clinic at Gadjah Mada University Hospital has not been described yet.

Objective: To determine the profile of new case of genital warts patients in Dermatovenereology Clinic, Gadjah Mada University Academic Hospital, Yogyakarta, a newly build hospital.

Method: A retrospective study based on medical records of new patient with genital warts in Dermatovenereology Clinic, Gadjah Mada University Academic Hospital, Yogyakarta from March 2012 – February 2014.

Results: There were 4 new patients with genital warts among 15 new patients with genital symptoms from March 2012 – February 2014, with male to female ratio 1:3. Most of the patients were between 21-30 years old (50%) and 50% of patients had other STIs, the most common accompanying STI was candidiasis (50%). Approximately 75% of genital warts patients admitted into the clinic having history multiple sexual partners. All of the patients treated with TCA 80%.

Conclusion: The new patients with genital warts in Gadjah Mada University Academic Hospital, Yogyakarta was mostly young people below 30 year old, have a high risk of other STIs, and the most common mode of transmission by sexual contact.

P-11-01 Effectiveness of Different Mass Media Sources in Improving HIV/AIDS Related Knowledge and Condom use in India

Akansha Sing, PhD Student,

International Institute for Population Sciences, 213, New Hostel, International Institute for Population Sciences, Govandi Station Road, Deonar, Mumbai-400088 India

E-mail: akanshasinghiips@gmail.com

Increasing the awareness and knowledge of HIV/AIDS and use of condom is important for stopping the spread of HIV/AIDS. The level of HIV/AIDS-related knowledge and the degree of condom use varies significantly by socioeconomic characteristics in India. However, there is limited research on the effectiveness of exposure to different mass media on HIV/AIDS-related outcomes in middle income country like India. We investigated the effect of exposure to different mass media and HIV/AIDS-related knowledge and condom use in India. Cross-sectional data for the men age 15-54 years from the Demographic Health Survey for India (2005-06) was used. Logistic regression analysis was used to see the significance and effect of the different mass media on HIV/AIDS-related knowledge and condom use. The propensity score method is used to estimate the average treatment effect of different mass media sources towards difference in HIV knowledge indicators and condom use. Frequency of exposure to newspaper, radio and television are strongly and positively associated with awareness of HIV/AIDS and knowledge about transmission and prevention of HIV/AIDS and are significantly associated with condom use. These associations are highly significant even when the other socioeconomic variables are controlled. Propensity score matching results suggest that reading newspapers and watching television have higher average treatment effect (ATE) than listening radio. The findings of this study suggest that media use has the potential to actually improve the knowledge attitude and behaviour towards HIV even when the limitations of the simple regression methods are controlled. Though there is a need to improve the quality and effectiveness of different source of media used in promoting knowledge and behaviour towards HIV/AIDS.

P-12-01 Factors Associated with STIs among High Risk Populations Obtaining STIs Screening Under the NHSO Universal Coverage Scheme

Tumneab Sungwanprakaisang,

STIs Cluster, Bureau of AIDS, TB and STIs, Bangrak Hospital, Bangkok 10120, Thailand

E-mail: tumneab2549@hotmail.com

Background: The objective of this study is to describe the situation of sexually transmitted infections (STIs) and their risk factors among population with high risk behaviors who obtained STIs screening in a pilot project under the universal coverage scheme supported by the National Health Security Office (NHSO).

Method: A study was conducted in a sample of 10,081 persons with high risk behaviors which comprised of sex workers (SW), men who have sex with men (MSM), injection drug users (IDU), migrants, prisoners, including youths and adult clients who attended STI clinics. Data were collected using STI/VCT mini record form. Demographic characteristics were presented in number and percentage while risk factors among different groups of population were compared using Person's Chi-square test methods.

Results: The study revealed that most of clients obtaining STI screening were female (79.0 %) in 15-25 age group (56.2%). The majority of them were SW (69.4%), followed by youths and MSM that accounted for 5.5% and 4.7% respectively. When comparing risk factors of STIs infection among different groups of population it was found that clients who experienced with leaked condom, being sex workers, had STI-infected partners, did not receiving counseling services, and had new sexual partners were at a higher risk of being infected with STIs as an odd ratio of 10.35, 8.79, 7.28, 4.89, and 3.91 times, respectively. In addition, sex workers had 4.14 times higher risk of STIs infection than their casual partners. Other factors such as gender, occupations, HIV testing, and health education were not associated with STIs.

Conclusion: STIs screening is essential as it can reduce risk of STIs transmission and enable risk groups to seek early appropriate treatment and care.

P-12-02 M. genitalium profile in Latvia

G. Din-Yun, S. Rubins

¹University of Latvia, Department of Dermatology and Venereology, University of Latvia, Riga, Latvia

E-mail: galinadin@gmail.com

Introduction & Objectives: The traditional treatment of M. genitalium infection in Latvia includes Azithromycin or Doxycycline. Some studies show that mutations in the 23S rRNA gene were associated with macrolide resistance, and mutations in ribosomal protein genes L4 and L22 were also found. L4 and L22 ribosomal proteins each have extended loops, which converge to form a narrowing in the exit tunnel adjacent to the macrolide-binding site. Therefore, macrolide resistance-associated missense mutations in L4 and L22 tend to be localized to Gln62–Gly66 in L4 and Arg88–Ala93 in L22 of E. coli, which are closest to the macrolide-binding site.

Methods: Patients, who had attended to STD clinic in 2011 and were positive for M. genitalium, were randomly selected and tested for antibiotic resistance (using a disk diffusion assay). Drug susceptibility testing was performed for the following antimicrobials: Azithromycin, Erythromycin, Clarithromycin, Ciprofloxacin, Ofloxacin, Tetracycline, Doxycycline, Pristinamycin, and Josamycin.

Results: A total of 130 patients in 2011 were positive for M. genitalium in our clinic. 29% (38/130) of M. genitalium stains showed antimicrobial resistance and/or low antibiotic susceptibility. The distribution of antibiotic resistance is: Clarithromycin – 84.2% (32/38), Azithromycin – 79% (30/38), Erythromycin – 76.3% (29/38), Ciprofloxacin – 57.9% (22/38), Ofloxacin – 10.5% (4/38), Doxycycline – 7.9% (3/38), Pristinamycin – 7.9% (3/38), Tetracycline 5.3% (2/38), Josamycin – 2.6% (1/38). The distribution of low antibiotic susceptibility is: Ofloxacin 63.2% (24/38), Ciprofloxacin 34.2% (13/38), Azithromycin 15.8% (6/38), Erythromycin 15.8% (6/38), Tetracycline 10.5% (4/38), Clarithromycin 7.9% (3/38), Doxycycline 5.3% (2/38), Josamycin 2.6% (1/38), Pristinamycin 0% (0/38).

Conclusion: The use of some antimicrobials (especially macrolide group) is very limited in M. genitalium infection. Speaking about traditional treatment of this infection in Latvia, Azithromycin is effective in about 5.2% of cases and Doxycycline in about 86.8% of cases.

P-12-03 Rural-Urban Differentials in Prevalence of RTI/STIs and Treatment Seeking Behavior among Women in West Bengal

Mousumi Gogoi,

*Senior Research Fellow International Institute for Population Sciences,
Govandi Station Road, Deonar, Mumbai-400088, India*

E-mail: gogoi.mousumi2008@gmail.com

In developing countries mortality and morbidity due to reproductive tract infections/sexually transmitted infections (RTIs/STIs) are very high. Although prevention and control of RTIs and STIs, including HIV have been accorded a national priority in India, the fact remains that many men and women suffer from various types of RTIs and STIs. The main aim of the paper is to access the rural-urban differentials in prevalence of RTI/STIs and treatment seeking behaviour based on the third round of District level Household survey data conducted during 2007-08. The state West Bengal has selected for study as the prevalence of RTI/STIs is highest in rural women among the states of India. Preliminary result shows that a total of 35 percent of women having any type of RTI/STIs in the state while a rural-urban differential has seen in prevalence of any symptom of RTI/STIs. The treatment seeking behaviour for RTI/STI is very poor among the Indian masses especially among the women. Only one fourth of the women were aware about the symptoms of RTI/STIs in the state. The reporting of RTI/STIs is found higher among women aged 35+, Muslim and scheduled tribe women. Regression analysis shows that the urban women have less chance (OR = 0.74, $p < 0.05$) of having any symptom of RTI/STI as compared to rural women. The result reveals that rural women were less intended to receive treatment for RTI/STIs (41.9%) as compared to the urban women (51.1%). Rural women were less likely to seek treatment for health complications compared to urban women and it shows a statistically significant correlation (OR = 0.54; $p < 0.05$; OR = 0.32, $p < 0.01$). The reproductive health scenario, especially of woman is far from expecting. By increasing awareness at community level for personal hygiene as well as for proper and timely health care can reduce the problem mainly in rural areas.

P-12-04 Level, Trends and Differentials in the Prevalence of Reproductive tract infections and Sexually Transmitted Infections: A Study of Urban Married Women in India

Amrita Gupta,

Research Scholar, International Institute for Population Sciences, Mumbai, India

E-mail: amritagupta7@gmail.com

Reproductive tract infections (RTI) and Sexually Transmitted Infections (STI) are a major cause of acute and chronic illness with severe consequences globally and specially in developing countries like India. In spite of governmental programmes efforts by private organizations the prevalence RTIs and STIs are increasing in India over the years. This paper tries to focus on the prevalence, trends and differentials of RTI and STI among the urban women who in spite of better exposure to medical facilities and mass media are still having high prevalence of the infections. The study is based on District Level Household and Facility Survey (2007-2008) and appropriate bivariate and multivariate techniques are used. The results show that fifteen percent of the urban women reported the signs of RTI and STI with another eleven percent reporting abnormal vaginal discharge. Major symptoms reported were itching over vulva and pain in lower abdomen (4 percents). Thirteen percent and seventeen of the urban women married before age eighteen years experienced abnormal vaginal discharge and any symptom of RTI/STI while the percentage was substantially low for women married above age eighteen. With the increase in marital duration the prevalence of any symptom RTI/STI increased and it was highest for women with marital duration of more than 10 years (16 percents). The prevalence of RTI/STI symptoms was highest among illiterate (17 percents) and women with less than five years of education (18 percent). Muslim women had highest prevalence (16 percents) of RTI/STI followed by the Hindus (10 percent). The highest prevalence of RTI and STI was found among women belonging to the lowest and the second wealth quintile groups. The study clearly highlights the poor plight of health of urban women and the urgent need for immediate and special focus for the illiterate, less educated, Muslim and young and poor women.

P-12-05 A Study on Risk Factors of Cervical Cancer among Patients Attending a Tertiary Care Hospital: A Case-Control Study

Sanjay M. Pattanshetty,

Assistant Professor Department of Public Health, Manipal University, Manipal-576104, India

E-mail: sanjay.pattanshetty@manipal.edu

Background: According to the WHO report, globally, cervical cancer comprises 12% of all cancers in women. Cancer of the cervix is the second most common cancer in women worldwide, with about 500,000 new cases and 250,000 deaths each year. Almost 80% of cases occur in low-income countries. This study was done to study the association between cervical cancer and parity; and to study the association between cervical cancer and other selected exposure variables.

Method: A hospital based case-control study in a tertiary care cancer hospital. A total of 273 participants (91 cases and 182 controls) were included. Information on demographics, habits, reproductive history, sexual history and menstrual history was collected using a semi-structured questionnaire. Data was analysed using SPSS version 15. Univariate and Multivariate logistic regression was used to find out the association between the outcome and exposure variables.

Results: Age at 1st coitus of <18 years had an odds ratio of 5.44 (2.73-6.38) and was significantly associated. Marital status is an important risk factor for cervical cancer, OR=2.98 (1.23-7.20). People having history of alcohol use were at 4.55 (1.17-17.73) times at risk of developing cervical cancer when compared to those who did not use alcohol. Age at menarche of 13-14 years was found to be a significant risk factor of cervical cancer with OR of 2.91 (1.18-7.20). Adjusted odds ratio for parity of 3 to 5 was 3.16 (1.12-8.91) and 5.57 (1.70-18.96) for women having ≥ 6 parity when compared to women having parity of less than 3 and was statistically significant.

Conclusion: The study showed that marital status, history of alcohol use, <18 years of age at first coitus, age at menarche and parity of >3 as risk factors for cervical cancer.

P-12-06 The Natural Condom: A Study on the Efficacy of Male Circumcision for HIV & STI Infection

Josephine Atieno Ochieng,

Lecturer & Researcher, Masinde Muliro University of Science & Technology, Centre for Disaster Management & Humanitarian Assistance, P.O. Box 190 Kakamega, Kenya

E-mail: jose.atieno@gmail.com

Background: Several studies have linked high prevalence rates with low male circumcision rates. Szabo & Short (2000)¹ report that there is compelling epidemiological evidence from over 40 studies showing that male circumcision provides significant protection against HIV infection. This led to the recommendation by the UNAIDS and the World Health Organisation to scale up male circumcision in affected areas.

Method: The study targeted 256 sexually active males of between 18 and 49 years in three program sites. It takes a social science perspective in evaluating the success of male circumcision in reducing men's risky sexual behaviour. Focus group discussions and key informant interviews were employed and the data analysed qualitatively while focusing on running themes in the respondents' narratives. Questionnaires were also used for demographic information. SPSS tools were used in analyzing the data specifically linear regression and correlation to determine correlational relationships.

Results: The poster discusses the changes in sexual behaviour of men, from the men's perspective and their sexual partners. The program workers' observations of increased STI infection in circumcised men is also juxtaposed vis-à-vis behavioural compensation behaviour. 50% of those presenting with STI infection were circumcised, raising the question as to whether MC is having the intended impact.

Conclusion: This study is grounded in the theories of planned behaviour, reasoned action and behavioural compensation. A major conclusion is that male circumcision alone (the physical action) does not confer protection against HIV/STI infection in men. Suggestions on how these programs can be improved are also given with a view to influencing the current policy on VMMC in Kenya.

Szabo, R. and Short, R. (2000). How Does Male Circumcision Protect Against HIV? *BMJ* 320:1592-1594 (10 June).

P-13-01 Care Seeking Patterns of Patients with Sexually Transmitted Infections in Iran

Maryam Nasirian¹, Mohammad Karamuzian², Samira Hosseini Hooshyar³,
Kianoosh Kamali⁴, Ali Akbar Haghdoost⁵

¹ Project Manager, Regional Knowledge Hub, and WHO collaborating Centre for HIV Surveillance, Institute for Futures Studies in Health, Kerman University of Medical Sciences, Kerman, Iran

² Regional Knowledge Hub, and WHO Collaborating Center for HIV Surveillance, Institute for Futures Studies in Health, Kerman University of Medical Sciences, Kerman, Iran, And, School of Population and Public Health, Faculty of Medicine, University of British Columbia, Vancouver, BC, Canada

³ Regional Knowledge Hub, and WHO Collaborating Center for HIV Surveillance, Institute for Futures Studies in Health, Kerman University of Medical Sciences, Kerman, Iran.

⁴ Center for Disease Control (CDC), Ministry of Health and Medical Education, Tehran, Iran.

⁵ Research Center for Modeling in Health, Institute for Futures Studies in Health, Kerman University of Medical Sciences, Kerman, Iran.

E-mail: s_hosseini@who-hivhub.org or s_hosseini2207@yahoo.com

Background: Sexually transmitted infections (STIs) are a significant public health concern worldwide particularly in developing countries. Early detection and response is the key components of controlling STIs. Detection is impossible unless those infected seek care. In Iran, care seeking patterns of the general population for STIs is far less understood. This study tries to shed light over the dynamics and interactions within the general population on how, when, and where an individual decides to seek care for STIs in Iran.

Method: This study was a cross-sectional survey conducted on multistage non-random sample of 1190 participants from four cities in different geographical zones in Iran in 2011. Using a pretested checklist, data was collected on the history of STIs' symptoms and treatment approach among participants. Data was analyzed through chi-square and stepwise multiple logistic regression using Stata software (version 11) and a 95% confidence interval was considered.

Results: Based on self-reported data, 56.8% (men: 24.7%, women: 74.4%) had experienced at least one STI symptom during the past year. Around 31.6% of them did nothing to improve their symptoms, 8.03% attempted self-treatment, and 60.9% sought care. Most participants sought treatment less than a week after their symptoms were found. Two-third of participants who had symptoms reported seeking treatment through the private facilities. The most females reported referring to gynecologists and midwife (80.9 and 8.6%, respectively) while most males with symptoms referred to urologists and general practitioners (33.9 and 25.8%, respectively).

Conclusion: This study shows the high prevalence of STIs in Iran among the general population emphasizing on the necessity of immediate action by policy makers to turn the tide against STIs. Policy makers should begin to invest on providing the general population with essential sexual health information and establishing de-stigmatizing campaigns and programs for STIs.

P-13-02 Knowledge and Attitude Regarding Hepatitis B Virus Infection and Vaccine among Hospital Patients

Sabin Siddique,

Department of Public Health, Yenepoya University, Derlakatte Street, Mangalore 575018, India

E-mail: drsabinsiddique@gmail.com

Background: Hepatitis B is a potentially life-threatening infection caused by the hepatitis B virus. It is the most serious type of viral hepatitis. About 400 million people have the virus, with most of these people living in Asia. Clearly, this is a significant public health and medical problem. With this background, the study was conducted to evaluate knowledge and attitude regarding HBV (Hepatitis B virus) infection and its vaccine among the patients attending tertiary care hospital.

Method: A Cross-sectional study was done among 856 patients attending a tertiary care hospital, at Mangalore, India, from November 2010 to May 2011 after approval from the institutional ethical committee. A pretested structured questionnaire was used to measure the participants' knowledge and attitude regarding HBV (Hepatitis B virus) infection and its vaccine after obtaining informed consent.

Results: In all, 856 patients (698 male and 158 female) were studied. 50% of those who were aware had no knowledge about route of transmission, infectivity, or importance of vaccination. Educated individuals were more aware about Hepatitis B vaccine ($p < 0.05$). The percentage of vaccination was 25% among study subjects. Lack of awareness was the common reason for non - vaccination (50%); of them.

Conclusion: Knowledge of Hepatitis B disease and vaccine was low and misconceptions were common. About One third of the population are vaccinated for Hepatitis B. Emphasis should especially be laid on awareness campaigns to educate the public that Hepatitis B is vaccine preventable disease. Knowledge of the Hepatitis B disease may be useful in determining health care interventions strengthening community-based care for patients.

P-13-03 STI/HIV Transmission Dynamics: How Far Life Course Perspectives Explain this?

Arpita Das¹, Ranajit Sengupta²

¹ Ph.D. Scholar, International Institute for Population Sciences, Mumbai, India

² Technical Specialist, International Centre for Research on Woman, Delhi, India

E-mail: arpitadas330@gmail.com

Background: The life course perspective can be characterized by trajectories, transitions, turning points, and timing. Each of these four, alone or in combination, are seen in life course studies. Sexual initiation is a transitional event in anyone's life and early sexual initiation increases the risk of STI/HIV infection. Therefore study includes age at first sex, partner dynamics and life time measures of risk behaviour as important predictors to reflect the life course transition.

Method: The proposed study aims to address the transmission dynamics by recruiting study subjects from some selected ICTCs giving opportunity to adopt case-control design to compare factors affecting STI/HIV among 336 migrants as well as 284 non-migrants. Along with Bivariate and multivariate analysis, Poisson Regression and Cox Proportional Hazard Model are applied to justify the study objectives.

Results: Cox regression portrays that non-migrants are less likely to initiate sex in the early age as compared to the migrant counterparts. Compared to respondents who do not use alcohol, those who are alcohol users are 1.143 times (95% CI) = (0.851, 1.533) as likely to initiate sex earlier. Partner dynamics in sexual intimacy is an interesting issue to explore and results depicts that more than three-fifth of the migrants have reported to ever had sexual relation with commercial/paying partner and 58.9 percent with non-regular/non-paying partner. Poisson regression portrays that social influence and social isolation is also vital while discussing the number of times involved and concurrent sexual partnership as a threat to STI/HIV.

Conclusion: Therefore, people must be encouraged to practice safe sex, in terms of late sexual initiation, faithful partnership, condom use in every sexual act. There is an urgent need for suitable programmatic priorities to design for evidence based interventions and access to HIV testing, and treatment services to prevent the worst of HIV transmission.

P-13-04 Religion, HIV and AIDS in the English Speaking Caribbean: Critical Reflection on the Contribution of the Church in Jamaica

Rev Garth Minott, Christopher Charles, Marjorie Lewis

E-mail: uwianglicancommunity@gmail.com

Background: In 1999, at a time when the rate of infection for HIV in Jamaica was 1.7% of the population, the Anglican Church began its response to the HIV and AIDS epidemic. This study is an evaluation of the response, especially with respect to the Church's goal of educating and sensitizing its members concerning HIV and AIDS. In the absence of a pretest the study seeks to ascertain the views of members of the Church, as well as persons living with HIV and AIDS, concerning the effectiveness of the response.

Method: Two hundred and twenty two members of the Church, or 5%, were selected for the study. A twenty five item questionnaire, as well as three focus group discussions, was used to collect data. Quantitative and qualitative data were analyzed using excel and themes drawn from focus group responses. The latter were then compared with the four research questions.

Results: Respondents' Awareness of the Church's Response to HIV and AIDS
The majority of those surveyed, approximately 155, was aware of the Church's response and had suggestions to improve its effectiveness. 60 were not aware and 10 did not respond.

Conclusion: Findings from the survey corroborate with national data which show a high percentage of knowledge about the epidemic. However, the persistence of the rate of infection at 1.7% shows that knowledge needs to be converted into behavior and attitude change.

P-13-05 The Impact of Masturbation and Sex Toys in Sexually Triggered Singles Getting to Zero New Infections

Surya Prakash,

Bapuji Center for AIDS Research & Education (BCARE)

E-mail: bcaregyca@gmail.com

Background: The “Singles” are key population segment who are commonly thirsty of sex and often sexually triggered among the youth, adults and seniors and they practice “acts of masturbation with or without ‘Sex Toys’! The sexually triggered singles ranging from the late childhood or early puberty to senior, who just discovered the pleasure in sex, who are virgin and maintain virginity, singles who are abstained or who fail or avoid to search for sex partners, yet in turn find ways and means to fulfill their sexual pleasure or desires similar to sexual intercourse.

Method: In the absence of counterpart both in married and unmarried (predominant) “singles” who commonly tend to the practice of Masturbation with or without sex toys in order to comfort their body’s thirst for sex and at the same time these singles get rid of the risked intercourses! Study 1; 100 Indians that includes migrant population construction workers, labors, drivers, etc., studied to identify their desire for sex & masturbation. Study 2; 100 Americans at NY, OH & AIDS 2014, delegates- studied, masturbation is pretty common and highly practiced mostly using Sex Toys for more pleasure due to its greater access!

Results: 1: Youth and Adult singles are 80%, senior singles are 20%. 100% singles practice masturbation with or without Sex Toys. 95% use sex toys and 5% masturbate but Sex Toy usage is unknown.

Study: 2: The Youth and Adult singles are 90%, senior singles are 10%. 90% singles practice masturbation with or without naturally found Sex objects and 5% refrain from sex to follow spirituality and 5% unknown and shy! Compilation of 200, 95% Singles practice masturbation. 2.5% dont practice practice as they follow spirituality and 2.5% unknown. The Youth and Adults were 85% and Senior singles were 15% . Unlike singles from developed nations, the Singles from developing/undeveloped nations practice masturbation and get satisfied within the limits of masturbation as they lack of Sex Toys.

Conclusion: The “act of masturbation” and “Sex Toys” practice among Singles from early youth to seniors brings joy of sex and virtual pleasure whilst contributing to the ZERO new HIV infections.

P-13-06 “Boys Do It More Than Girls” Picture from a Cross-sectional Survey on HIV Risk Behaviours among Teenagers in Bali, Indonesia

Sepeptarini, NW^{1,2}, Kurniati, DY², Subrata, M², Wulandari, LPL², Dessy Indrayanti²

¹ Kerti Praja Foundation, Denpasar

² School of Public Health, Faculty of Medicine, Udayana University, Bali, Indonesia

E-mail: septa_rn@yahoo.com, wayan_septarini@unud.ac.id

HIV epidemic in Indonesia has been started in 1990s. Human immunodeficiency virus infection cases in Indonesia including Bali increase every year. Many prevention program have been conducted in Bali in order to control the spread of HIV include involving teenagers members of Village Youth Group (Sekaa Teruna Teruni). There was not enough research on teenagers' behaviors in preventing HIV in Bali. This study aimed to find out the premarital sexual and HIV preventive behavior among the Keliki Village Youth Group members, Tegallalang, Gianyar, Bali.

This is a cross sectional survey using self administered questionnaire to the members of Keliki STT that attended a seminar about pornography, drugs abuse and HIV which held by Udayana University Student's internship. Sixty one members were able to finish the questionnaire. The total members of Keliki STT are around 455 teenagers.

The results shows that 81.3% of teenagers who confessed have been having sex with friends were boys (OR: 5.246, 95%CI: 1.300-21.160, $p = 0.014$). Boys also confessed that they have sexual relationship with their girlfriends more than girls (OR: 11.000, 95%CI: 3.034-39.879, $p < 0.001$), and with sex workers ($p = 0.061$). The type of HIV prevention practicing by the respondents including abstinence, condom use, and do not inject. However, respondents also admitted that they practicing unprotected sex (not using condom) with their friends (8.5%), girl/boyfriends (18.3%), sex workers (1.7%) and with same sex (1.7%).

Since there is still a number of teenagers reported practicing unprotected sexual behavior, there is a need to promote the program which emphasis on the condom use as an effective strategy in preventing HIV transmission.

P-13-07 Assessment of Sexually Transmitted Infection (STI) Risk Behaviors among Adolescents and Young Adults in a Tertiary Institution in North Central Nigeria

Kenneth Ikenna ONYEDIBE¹, Mohammad Z. Sabitu¹, Gomerep S Simji², Mark O. Okolo¹, Edmund B. Banwat¹, Daniel Z. Egah¹

¹ *Venereology Unit/STI Clinic, Department of Medical Microbiology, Jos University Teaching Hospital, PMB 2076, Jos, Nigeria*

² *Infectious Disease Unit, Department of Medicine, Jos University Teaching Hospital, PMB 2076, Jos, Nigeria*

E-mail: kenonyedibe@yahoo.com

Background: According to World Health Organization (WHO), about 340 million new cases of sexually transmitted infections (STIs) occur annually throughout the world. Most occur in developing countries especially in sub-Saharan Africa. Our study assessed certain risk behaviors of university students which could predispose them to (STIs) in our environment.

Method: A total of 274 sexually active participants drawn from various academic departments of the University of Jos, North Central, Nigeria were enrolled for the study after obtaining voluntary written informed consent. Structured self-administered questionnaires were used to obtain relevant data from each of the students. Data was collated and analyzed using EPI info version 3.5.3 statistical package.

Results: Among the 274 sexually active students, 98 (35.8%) were less than 18 years of age while 176 (64.2%) were 18 years or older. Also among this sexually active group, 107 (39.1%) use condom always, 136 (49.6) use condom sometimes while 31 (11.3%) never use a condom. However, 246 (89.8%) of the respondents believed that use of condoms was an important method of prevention of STIs. Only 99 (36.1%) of the respondents believed that getting an STI treated will prevent further transmission of STIs. When asked if they will inform a sexual partner if they had an STI, 225 (82.1%) answered 'Yes' while 49 (17.9%) answered 'No'.

Conclusion: Results of this study show that a large proportion of this sexually active group possesses high risk behaviors that can predispose them to STIs. The study has also pointed out areas where STI transmission risk behaviors for adolescents and young adults in tertiary institutions and in sub-Saharan Africa need to be improved. Massive education, information dissemination, targeted communication and individualized counseling on these issues to student populations will reduce the burden of STIs in developing countries.

P-13-08 Modeling Contextual Determinants of Risky Sexual Behaviour Does Cognitive Correlates of Behaviour Explain Sexual Needs?

Ranjit Sengupta¹, Arpita Das²

¹ Technical Specialist, International Centre for Research on Woman, Delhi, India

² Ph.D. Scholar, International Institute for Population Sciences, Mumbai, India

E-mail: siliguri81@gmail.com

Background: Many studies have supported the efficacy of condom in reducing the risk of HIV/AIDS transmission in heterosexual intercourse but there is a very limited study which could correlate the attitude and behaviour. The Health Belief Model identifies the perceived susceptibility and perceived barriers as predictor of safe sexual activity. In addition to HBM, other models of behavioural change have incorporated additional key constructs such as concept of self-efficacy; which plays a crucial role in STI/HIV prevention behaviour such as using condoms and limiting the number of sexual partners.

Method: Use of case-control design, primary data of 620 samples has been collected. In this study the risk perception has been judged through attitude towards condom, psychometric risk perception and alcohol sexual expectancy. Along with Bivariate and multivariate analysis, Ordinal Logistic Regression and Discriminant Function Analysis are applied to model the contextual determinants of risk behaviour.

Results: Results portray that there is an association between involvements in risky sexual behaviour and lower attitude towards condom and low levels of perceived risks of contracting STI/HIV. Perception is also very imperative factors because it reflects their behaviour. It is worth mentioning that among migrants those who have low attitude towards condom are more likely to have HIV infection (79.4 percent) as compared to their counterparts as well as those migrants and non-migrants are perceived that engaging in unprotected sex is not at all risky 14.7 percent and 11.1 percent have the HIV infection.

Conclusion: Therefore programmatic priority should be given on knowledge and awareness-is the first step towards the protective behaviour and it's important to have a comprehensive knowledge about STI/HIV that can help individual to take rational decision and should promote "know AIDS to no AIDS" because knowledge lead to safer sex and lower the chance of being infected with HIV/AIDS.

P-13-09 Sexual Behavior and Risk of HIV, Sexually Transmitted Infections and Pregnancy among Learners in Gauteng and North West Provinces

MM Mokgatle, S Madiba

Department of Public Health, Faculty of Health Science University of Limpopo (Medunsa Campus), South Africa

E-mail: mathilda_mokgatle@embanet.com

Background: HIV infection is a global crisis that presents as public health threat among younger people. The consequences of engaging in risky sexual behavior have been well documented and include sexually-transmitted infections (STIs), abortion, and pregnancy. One of the key areas of a large formative evaluation on acceptability of HIV Counselling and Testing (HCT) in schools was to investigate the views and practices of learners with regards to HIV counselling and testing including sexual behaviour, risk of HIV, acquiring STIs and pregnancy.

Method: A survey using a self-administered semi structured questionnaire was conducted with grade 10-12 learners in 17 high schools in two provinces of South Africa. A total of 2970 learners were included in the survey. Proportions and associations and multivariate logistic regression analysis was performed using Stata version 13.

Results: The mean age of the learners was 17.9 years and the mean age for initial sex was 15.6 years. Over half 55% (n=1632) were female and 45% (n=1,338) were male. Up to 61% (n=1810) ever had sex, 34.9% (n=1035) had sex in the past three months, and 42.8% (n=1271) had more than one partner. Of the sexually active learners 14.8 (n=439) did not use a condom, 69.7% (n=2071) would ask their partner to use condoms but only 48.4% (n=1436) would refuse sex without condom. Perceived susceptibility to HIV and STI was 10.9% and 11.9% respectively, and only 51.7% (n=1534) ever tested for HIV. Fourteen percent (n=420) of the sexually active girls thought that they could fall pregnant while 17.6% (n=524) of the sexually active boys thought they could impregnate a girl.

Conclusion: Sexual debut is still relatively high among learners. Learners have multiple or concurrent sexual partners. Condom use among sexually active learners is low which predisposes learners to HIV, STI and pregnancy. HCT interventions will improve sexual behaviour of learners.

P-13-10 Sexual Behaviour and Perception of Cohabitation in the Halls of Residence among Undergraduates' Students of the University of Ibadan

John Abdulrahman Imaledo, Opirite Boma, Peter-Kio, Elizabeth Afolake,

Ojelade University Teaching Hospital (UCH) Ibadan, Nigeria

E-mail: hisgracejohn@gmail.com

Background: There has been an increase practice of cohabiting and sexual experimentation in the face of increasing prevalence of unwanted pregnancy, sexually transmitted infection (STI) including HIV/AIDS among young people in Nigeria thus eroding traditional values and norms of chastity. Few studies in Nigeria have looked at the perception of undergraduates university students on cohabitation. This study therefore, assessed the sexual behaviour and perception of undergraduate students of the University of Ibadan on cohabiting in their halls of residence.

Method: A descriptive-cross sectional design and stratified proportionate sampling technique was adopted to select four hundred respondents for the study. A semi-structured self administered questionnaire was used for data collection and later analyzed using descriptive statistics.

Results: Respondents mean age was 21.1 ± 2.9 years. More (53.9%) live in four-man room in their halls and 67.0% of them have sexual partner. Also, (29.0%) had had sexual intercourse with their partners in their halls of residence out of which, 71.2% were unprotected. More (69.6%) of those that use any form of protection use condom. Only 13.7% had witness sexual harassment in the halls of residence while 5.8% had been sexually harassed in their halls of residence. Less than half (47.7%) agreed that mixed gender should be allowed to live in the same halls of residence and 35.2% had ever seen opposite sex pass the nights in their halls of residence while 10.8% are aware of rooms in their halls of residence where students cohabit contrary to the rules in the halls.

Conclusion: Respondents exhibit risky sexual behaviour and perceive that cohabiting could increase incidence of sexual harassment in the halls of residence. Adequate accommodation to address the shortage should be provided and continuous sensitizing and educating students on the danger of risky sexual behaviour and the consequence of sexual harassment is therefore recommended.

P-13-11 Sexual Behavior in People Living with HIV in Yogyakarta, Indonesia

Dhita Danny Megawati¹, Ema Madyaningrum², Sri Mulyani², Nurwestu Rusetiyanti³

¹ Student of School of Nursing, Faculty of Medicine Gadjah Mada University, Indonesia

² Department of Community Nursing of Nursing School, Faculty of Medicine Gadjah Mada University, Indonesia

³ Department of Dermatovenereology, Faculty of Medicine, Gadjah Mada University, Indonesia

E-mail: tata.mega92@yahoo.com

Background: The number of HIV in Indonesia was 20413 cases in 2013. The case of HIV in Yogyakarta was 1245 cases until 2013. The most common transmission in Yogyakarta is heterosexual. Unsafe sexual behavior will give a contribution to increase the spread of HIV.

Objective: This study aimed to know a description of sexual behavior in people with HIV in Yogyakarta.

Method: Research method of this study is a descriptive quantitative. Samples are 58 people living with HIV who still or ever had of sexual intercourse, 18 years old or older and live in Yogyakarta in May-June 2014. The sampling with accidental sampling technique, data obtain using a questionnaire of sexual behavior. Data was analyzed using frequency distribution.

Results: The majority respondents are men, and are circumcised. The most common mode of HIV transmission is through sexual intercourse by heterosexual. The most number of sexual partners of respondent is 1-5 people for one year and the maximum up to 480 people. Most people with HIV in Yogyakarta are heterosexual. The most frequent sexual activity is vaginal sex and anal sex without using a condom. Receptive partner in vaginal sex and anal sex is 27.6% and 20.7% respectively.

Conclusion: Unsafe sexual behavior in people with HIV in Yogyakarta include receptive partner of vaginal sex and anal sex without condoms.

P-13-12 Determinants and Treatment Seeking Behavior of Reproductive Tract Infections and Sexually Transmitted Infections among Rural Married Women India

Amrita Gupta,

Research Scholar, International Institute for Population Sciences, Mumbai, India.

E-mail: amritagupta7@gmail.com

Reproductive tract infections (RTI) and sexually transmitted infections (STI) account for a huge burden of disease and ill health for women. The paper brings out the major determinants of RTI/STI among rural women in India and treatment seeking behavior adopted. The main aim of focusing on the rural women is because they are the neglected section of the society with low mass media exposure and awareness about the disease along with having lower opportunity for treatment seeking as compared to the urban women. Thirteen percent of rural women experienced abnormal vaginal bleeding and 19 percent experienced other symptoms of RTI/STI. Abnormal vaginal discharge was especially high among women who had consummation of marriage below 18 years, between age 30-35 years, with more than ten years of marital duration, illiterate women and belonging to other backward class and poor households. The prevalence of other symptoms of RTI/STI was high among women who were in the age group 30-35 years, who had consummation of marriage below 18 years, with marital duration of 5-9 years, with less than five years of schooling, belonging to Muslim religion and poor households. Among women who suffered from RTI/STI only 38 percent had consulted or sought treatment. Treatment seeking behavior of women increased with the increase in age of women and increase in marital duration. Treatment seeking behavior was low among women who were non-literate, with non-literate husband, belonging to Muslim religion, scheduled tribe and poor population. More than half of the rural women who consulted or sought treatment for RTI/STI went to private health facility (53 percent) and only 35 percent went to government health facility. In order to improve the plight of RTI/STI among rural women special attention needs to be focused on women who are illiterate, poor young and married at an early age.

P-13-13 Health Seeking Behavior among Women Reporting Symptoms of Reproductive Tract Infections/Sexually Transmitted Infections: A Study of Married Women in India

Amrita Gupta,

Research Scholar, International Institute for Population Sciences, Mumbai, India

E-mail: amritagupta7@gmail.com

The problem of reproductive tract infection (RTI) and sexually transmitted infections (STI) is increasing at an alarming rate in India in spite of the governmental programs and efforts. The paper tries to bring out the level of awareness among women regarding the symptoms of RTI/STI, prevalence level and the treatment seeking behavior adopted by the women. The study uses data from the District Level Household and Facility Survey (2007-08) and bivariate and multivariate techniques. Among the married women thirteen percent had reported abnormal vaginal discharge and eighteen percent had reported other symptoms of RTI/STI. Seventy-two percent of the women with symptoms of RTI/STI had discussed the problem with their partners but the proportions were significantly low for women who were non-literate, lower marital duration and those belonging to poor households and scheduled tribes. Only 41 percent of the women had actually sort treatment for RTI/STI while 59 percent women did not have any treatment which is alarmingly high. Women who sought treatment were low both in urban (48%) and rural (38%) areas and there was not much significant variation with literacy, wealth or religion or wealth. The treatment seeking behavior was very low among the women because of the stigma or the nature of the disease which made the women reluctant to discuss it with anyone and seek treatment. Fifty-seven percent of the women went to private health facility while only one-third went to governmental health facility. The low level of treatment seeking behavior among women highlights the need for improving the level of awareness among the women and their husband about the importance of treating the infections and the long term adverse impacts if the treatment is not provided on time. Women should be encouraged to go to public health facilities were the facilities are provided a lower cost.

P-14-01 The Last Dance: Movement Disorder as a Rare and Ominous Presentation of Acquired Immune Deficiency Syndrome

Eva Lyka Paula C. Medrano, RMT, MD, Jose R.,

Reyes Memorial Medical Center , Rizal Avenue, Sta. Cruz, Manila, Philippines

E-mail: lyka031085@yahoo.com

Introduction: Reported cases of Acquired Immune Deficiency Syndrome (AIDS) and Human Immuno-Deficiency Virus (HIV) in the Philippines had ballooned in the past couple of years. Worldwide statistics showed initial involvement of the neurological structures in only 10% of cases with only 2-3% having movement disorder manifestations. Movement disorder is an ominous predictor of mortality in 4-6 months from the time of its onset.

Case Report: A 36-year old male homosexual presented with a four-week progression of involuntary movements of the right side of the body. These movements were fluid and dance-like which later on became jerky and flailing. Cranial Magnetic Resonance Imaging (MRI) revealed ring enhancing lesions within bilateral thalamus with surrounding edema extending up to the left pons. HIV Western Blot revealed positive HIV I, Toxoplasma IgG was reactive and CD4 count was down at 150. He received highly active antiretroviral therapy (HAART). Patient expired two days after HAART was started, on barely two months from onset of symptoms.

Conclusion: AIDS should be considered in high risk individuals with sub-acute onset of movement disorder. Movement disorder is a rare initial presentation of AIDS. Sub-acute presentation of movement disorder in AIDS reflects poor prognosis on patient's mortality.

P-14-02 Anemia in HIV-infection and VHC in Children

Aladova Lyudmila,

Tashkent Medical Academy, Tashkent, Uzbekistan

E-mail: lydmila20@list.ru

Background: Prevalence of VHC-infection among HIV-infected patients varies from 33 to 59 %. Due to mutual influence of HIV and VHC, serious clinical consequences in children, namely anemia, can be observed.

Objective: Estimate the frequency of anemia in HIV and VHC co-infection in children.

Methods: The study-group included 72 children with HIV and VHC co-infection aged 2 – 18 years. The HIV clinical stage in children was diagnosed according to the WHO classification. HIV and VHC co-infection was distributed as follows: stage 1 was not diagnosed, stage 2 was registered in 2.8 % (2 patients), stage 3 – in 55.5 % (40), stage 4 – in 41.7 % (30), accordingly.

Results and Discussion: We obtained the following results: 90.3 % (65) of children of 72 with HIV and VHC co-infection had anemia. 83% of children (54) of 65 with anemia were treated with HAARVT. 50 % (27 children) with an anemia of degree I, 35.2 % (19 children) with anemia of degree II and 14.8 % (8 children) with anemia of degree III, accordingly. The majority of children co-infected with HIV and VHC received HAARVT according to the scheme: 2 NIRT+1 NNIRT (AZT, 3TC, EFV).

One of adverse effects of Zidovudin is known to be anemia. Anemia treatment depends on its cause. Frequently, it is enough to select an effective HAARVT to resolve it. Drugs contributing to anemia, Zidovudin in particular, need to be excluded when treating children who have already received HAARVT.

Conclusion: Anemia in HIV and VHC co-infected children develops in 90.3 % of cases. Anemia of various severities was diagnosed in 83 % of patients being treated with HAARVT. One of the possible causes of anemia is HAARVT adverse-effects, namely AZT.

P-14-03 Description of HIV Patient Comfort that Using Antiretroviral Therapy in the City of Yogyakarta

Putry Mazayani¹, Nurwestu Rusetiyanti², Probosuseno³, Ema Madyaningrum⁴

¹ Student of School of Nursing, Faculty of Medicine Universitas Gadjah Mada, Indonesia

² Department of Dermatovenereology, Faculty of Medicine, Universitas Gadjah Mada, Indonesia

³ Department of Internal Medicine, Faculty of Medicine, Universitas Gadjah Mada, Indonesia

⁴ Department of Community Health Nursing, School of Nursing, Faculty of Medicine Universitas Gadjah Mada, Indonesia

E-mail: putrymazayani.08@gmail.com or nurwestu@gmail.com

Background: In Indonesia, in 2013 the number of people living with HIV increases. There are 35.3 million people living with HIV and 1,693 of them live in Yogyakarta. This condition causes discomfort in terms of physical, social, psychospiritual and environment. Antiretroviral is one of the important steps in tackling HIV / AIDS despite of side effects that can cause discomfort to the patients.

Objective: This study is to describe the effect of antiretroviral for patient's comfort aspect including of physical, social, psychospiritual, and environment.

Method: quantitative descriptive study with cross sectional design. The sample size is as much as 56 people living with HIV on antiretroviral therapy. The data was taken in Yogyakarta between May-June 2014. Sampling technique was taken using Purposive Sampling method. The data were obtained using GCM instrument (General Comfort Questionnaire) and analyzed using frequency distribution.

Results: The antiretroviral regimen line 1 is the most widely used. The most common complaints experienced by respondents were nausea/vomiting, headache, and loss of appetite. Results of Physical comfort mean is 25, 14 (Median = 25), social mean is 16, 55 (Median = 16) psychospiritual mean is 55, 94 (Median = 55, 5), and environment mean is 29,6607 (Median = 30). The total comfort mean 127, 30 (Median = 127). Thus, only environmental aspect which has mean value below the median.

Conclusion: The use of antiretroviral leads to physical complaints. However, overall respondents still feel comfortable in the physical, social, and psychospiritual except for environment.

P-14-04 The Increase of CD4+ T Cell Count after Antiretroviral Therapy as Prognostic Factor for Malassezia sp. Density Colonies Decrease in HIV Patients (A Study in HIV Patients at Dr. Sardjito Hospital)

Satiti Retno Pudjiati, Epi Panjaitan

Department of Dermatology and Venereology, Faculty of Medicine Gadjah Mada University/ Dr Sardjito General Hospital Yogyakarta, Indonesia

E-mail: satitirp@gmail.com

Background: Antiretroviral (ARV) effect in HIV patients can be monitored by the alteration T CD4 cell number before and after ARV therapy. Improvement can be seen with an increase in the number of T CD4 cells and improvement of opportunistic infection and skin diseases. Seborrhoeic dermatitis (SD) is one of the skin diseases that frequently found in HIV patients. The increase of Malassezia sp. colonies is suspected to have a role in the SD manifestation. This research about the increase in the number of T CD4 cells as prognostic factors of Malassezia sp. density colonies decrease in HIV patients.

Method: Prospective research was done in 38 patients HIV/AIDS who has been treated with ARV in Eidelweiss clinic, Sardjito Hospital. The number of T CD4 cells and Malassezia sp. colonies in the beginning and 3 months after ARV therapy were counted.

Results: The percentage of male compare with female 65.8%:34.2%. The highest percentage of age was 27-31 year old (39.5%). Twenty-nine subjects (76%) confessed that they were multi partner, 28% consumed alcohol, 56% did piercing, 28% had tattoos, and 28% were injection drug users. There were 31 subjects had Malassezia sp. growth. The lowest colonies of Malassezia sp. at the beginning was 1, the highest was 96 colonies (mean 22.13 ± 21.99); while after 3 months ARV therapy, the lowest was 1 and the highest was 172 colonies (mean 24.42 ± 33.88). The data did not show the decrease of Malassezia sp. colonies number. Statistically, with Spearman's rho analysis, the alternation of T CD4+ cells number and Malassezia sp. colonies number did not show significant correlation ($p = 0.341$).

Conclusion: The increase of T CD4+ cell count after ARV therapy is not prognostic factor for Malassezia sp. density colonies decrease in HIV patients.

P-14-05 Comparison of Resistance Candida albicans and Candida non albicans to Fluconazole and Nystatin Studies of Oropharyngeal Rinse from Human Immunodeficiency Virus patients in Dr. Sardjito Hospital, Yogyakarta, Indonesia

Nur Fitri Astuti, Agnes Sri Siswati, Satiti Retno Pudjiati

Department of Dermatology and Venereology, Faculty of Medicine Gadjah Mada University/Dr Sardjito General Hospital Yogyakarta, Indonesia

E-mail: satitirp@gmail.com

Background: The most common opportunistic infection in people living with HIV/AIDS (PLWH) is oropharyngeal candidiasis that caused by Candida sp. (C. albicans and C. non-albicans). The most common causes of oropharyngeal candidiasis is C. albicans but there is C. non-albicans that shift species in oropharyngeal candidiasis in PLWH. Nystatin is the first line therapy to oropharyngeal candidiasis and followed by fluconazole as second-line therapy, but utilization of fluconazole and nystatin are equal. Some studies reported increasing resistance of Candida sp. to fluconazole. This study performs to determine resistance of C. albicans, C. non-albicans and Candida sp. to fluconazole and nystatin in oropharyngeal rinse of HIV patients.

Method: This is a cross sectional study. The sample was taken from oropharyngeal rinse of HIV patients in Dr. Sardjito Hospital that using 0.9% NaCl solution for 60 seconds. Culture used an agar CHROM while resistance test used disc diffusion method. The analysis statistic used a chi-square test with significance values $p < 0.05$.

Results: From 76 oropharyngeal rinse sample of HIV patients, that growing Candida sp were 50 (65,8%). The number of species in a culture that is most abundant single species was 58%. From 50 sample which growing Candida sp, we identified 76 isolates. The number of single species and multiple species are 58% and 42%. Candida sp were grown consisted of 34 (44.74%) C. albicans and 42 (55.26%) C. non albicans. Candida glabrata (22.37%) is the most C.non albicans were found. Resistance of C. albicans and C.non albicans to fluconazole were 41.18% and 57.14%, while resistance to nystatin were 2.95% and 7.14%. There are significant differences between resistance C.albicans, C.non albicans and Candida sp to fluconazole and nystatin ($p = 0.000$).

Conclusion: Resistance of C. albicans, C. non-albicans and Candida sp. to fluconazole are higher than nystatin from oropharyngeal rinse of HIV patients.

