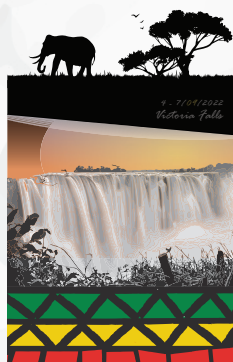




INTERNATIONAL UNION AGAINST
SEXUALLY TRANSMITTED INFECTIONS



23RD IUSTI
WORLD CONGRESS
4 - 7 SEPTEMBER 2022
ELEPHANT HILLS RESORT, VICTORIA FALLS,
ZIMBABWE

CONGRESS PROGRAMME

CONFRONTING INEQUITIES IN STI PREVENTION, DIAGNOSTICS AND CARE

PROGRAMME BOOK SPONSORED BY

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WELCOME

MESSAGE

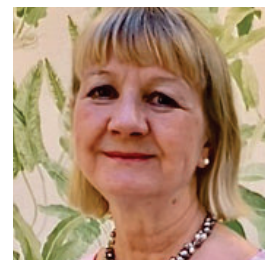
WELCOME TO THE 23rd IUSTI WORLD CONGRESS IN VICTORIA FALLS, ZIMBABWE

On behalf of the International Union against Sexually Transmitted Infections (IUSTI), the International Organising Committee and the Scientific Committee, Janet Wilson (President IUSTI World & Co-President of the 23rd IUSTI World Congress) and I, Francis J. Ndowa, President of the 23rd IUSTI World Congress, are delighted to welcome you all to the 23RD IUSTI WORLD CONGRESS, taking place with in-person attendance, as well as by virtual participation, in the city of Victoria Falls, Zimbabwe.

This is an exciting event for several reasons. First, it is the fourth time the IUSTI World Congress has been held in Africa following the congresses in Sun City (1999), Cape Town (2009) in South Africa and Marrakech (2016) in Morocco. Secondly, this small city of Victoria Falls, a centre for adventure tourism, is also the gateway to the mighty Victoria Falls, locally known as Mosi-oa-Tunya (the smoke that thunders), one of the seven natural wonders of the world. What a place to network in person, again, after two years of virtual meetings because of the Covid-19 pandemic and travel restrictions!

Most of all, it is an exciting event because the International Scientific Committee, chaired by Professor Jo-Anne Dillon from Canada and co-chaired by Professor Remco Peters from South Africa, worked tirelessly to put together a stimulating and thought-provoking programme under the conference theme, Confronting Iniquities in STI Prevention, Diagnostics and Care.

Within the Congress, we will hear the latest findings by world experts and researchers, not only in the field of STIs/HIV but also on Covid-19 and its impact on persons seeking care for STI and HIV infections, as well as on the latest in monkeypox. These issues will be discussed to understand and respond to their implications for programmes, local and global health policies and the delivery of health services for persons seeking care for STIs, including HIV.



We are grateful to all our speakers, particularly those in the five plenary sessions who all agreed to come in person to share their experiences in their respective fields of expertise in the prevention and control of STIs.

We are also grateful to our supporters who contributed towards a scholarship fund which enabled us to assist more than 20 physicians and researchers from limited-resource settings to attend this conference in person to share the outcome of their research.

Zimbabweans have a long tradition of welcoming people from all over the world, and always with a smile, and Victoria Falls, the host city, is among the most coveted tourist destinations as there are so many exciting and exhilarating activities to do in Victoria Falls, and we hope you enjoy yourselves while you are here. We have created opportunities, with long lunch breaks and social events at the pool deck, to encourage networking and exchange of creative ideas for the benefit of younger and upcoming scientists and researchers as well as those of us who have been in the system for a long time!

We thank you for attending the Congress and we wish you an inspiring and enjoyable experience.



Organising Committee



Francis Ndowa

23rd IUSTI 2022 Congress President, Zimbabwe
Director, Skin & GU Medicine Clinic, Harare, Zimbabwe
Regional Director, IUSTI Africa-MENA Region



Jo-Anne Dillon

Chairperson, International Scientific Committee, Canada
President-elect of the International Union against Sexually Transmitted Infections, University of Saskatchewan



Amina Hançali

Morocco, Regional Chair of the IUSTI Africa-MENA,
National Reference laboratory on STI at the National
Institute of Hygiene, Ministry of Health of Morocco



Laith Abu-Raddad

Professor of Infectious Disease Epidemiology at the Weill
Cornell Medicine–Qatar, Cornell University, Qatar. WHO
Collaborating Center for Disease Epidemiology Analytics
on HIV/AIDS, Sexually Transmitted Infections, and Viral
Hepatitis



Janet Wilson

23rd IUSTI 2022 Congress co-President
Leeds Teaching Hospitals and University of Leeds, United
Kingdom; President of the International Union against
Sexually Transmitted Infections



Remco Peters

co-Chairperson, International Scientific Committee,
South Africa Head of Research at the Foundation for
Professional Development



Hicham Oumzil

Assistant Professor at the Medical School, University
Mohammed V in Rabat, Head of the Virology Department,
at the National Institute of Hygiene (MoH, Morocco)

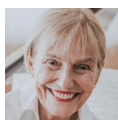


Sara Lowe

IUSTI/Newlands Clinic, Zimbabwe Department of
Medicine at the University of Zimbabwe



Scientific Committee



Jo-Anne Dillon

Chairperson, International Scientific Committee, Canada
President-elect of the International Union against Sexually Transmitted Infections, University of Saskatchewan



Remco Peters

co-Chairperson, International Scientific Committee,
South Africa Head of Research at the Foundation for
Professional Development



Laith Abu-Raddad

Chairperson Track 3: Epidemiology & Surveillance
Professor of Infectious Disease Epidemiology at the Weill
Cornell Medicine–Qatar, Cornell University, Qatar. WHO
Collaborating Center for Disease Epidemiology Analytics
on HIV/AIDS, Sexually Transmitted Infections, and Viral
Hepatitis



Tania Crucitti

Chairperson Track 1: Basic and Laboratory Science,
Madagascar. Institut Pasteur Madagascar



Sinead Delany-Moretlwe

Chairperson Track 2: Prevention and Behavioural Science,
South Africa. Research Professor and Director: Research,
Wits RHI, University of the Witwatersrand, Johannesburg



Carmen Logie

Chairperson Track 5: Community Engagement & Policy,
Canada. Associate Professor at the Factor-Inwentash
Faculty of Social Work, University of Toronto



Philippe Mayaud

Chairperson Track 4: Clinical & Implementation Science
- UK. Professor of Infectious Diseases & Reproductive
Health at the London School of Hygiene & Tropical
Medicine (Faculty of Infectious & Tropical Diseases)

Organising Committee



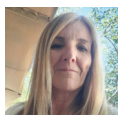
Francis Ndowa

23rd IUSTI 2022 Congress President, Zimbabwe
Director, Skin & GU Medicine Clinic, Harare, Zimbabwe
Regional Director, IUSTI Africa-MENA Region



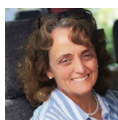
Cleophas Chimbetete

President, Zimbabwe College of Public Health Physicians



Frances Cowan

Professor of Global Health at the Liverpool School of Tropical Medicine, Executive Director, Centre for Sexual Health and HIV/AIDS Research (CeSHHAR) Zimbabwe



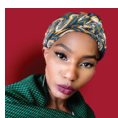
Ingrid Landman

College of Primary Care Physicians of Zimbabwe



Sara Lowe

IUSTI/Newlands Clinic, Zimbabwe Department of Medicine at the University of Zimbabwe



Fortunate Machingura

Research Director – Key Populations, Centre for Sexual Health and HIV/AIDS Research (CeSHHAR) Zimbabwe



Evaristo Marowa

Director, Skin & GU Medicine Clinic



Bismark Mateveke

Secretary-General, Zimbabwe Medical Association



Brian Nachipo

Communications Officer, AIDS & TB Programme, Ministry of Health & Child Care, Zimbabwe



Simangaliso Ndlovu

Skin & GU Medicine Clinic



Margaret Pascoe

Medical Director Newlands Clinic, Harare



Tarisai Rabana

Skin & GU Medicine Clinic

Fundraising Committee



Jo-Anne Dillon

Chairperson, Canada
President-elect of the International Union against Sexually Transmitted Infections, University of Saskatchewan



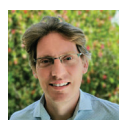
Francis Ndowa

ex-officio Zimbabwe
Director, Skin & GU Medicine Clinic, Harare, Zimbabwe
Regional Director, IUSTI Africa-MENA Region



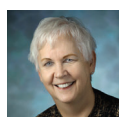
Max Chernesky

Professor emeritus of Pediatrics, Pathology and Molecular Medicine at McMaster University in Hamilton, Ontario, Canada



Remco Peters

co-Chairperson, International Scientific Committee, South Africa Head of Research at the Foundation for Professional Development



Charlotte Gaydos

Professor in the Division of Infectious Diseases of the Johns Hopkins University School of Medicine, USA



Janet Wilson

ex-officio, UK
Leeds Teaching Hospitals and University of Leeds, United Kingdom; President of the International Union against Sexually Transmitted Infections



Scholarship Committee



David Lewis

Chairperson, Australia
Director of the Western Sydney Sexual Health Centre and Professor at the University of Sydney.



Daniel Richardson

Clinical professor of sexual health & HIV in Brighton, UK



Amina Hançali

Morocco, Regional Chair of the IUSTI Africa-MENA, National Reference laboratory on STI at the National Institute of Hygiene, Ministry of Health of Morocco



Kees Rietmeijer

USA, retired STI clinician, researcher, and educator. Past president of the American Sexually Transmitted Diseases Association and past regional director of IUSTI North America



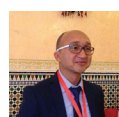
Dumisile Venessa Maseko

South Africa. Medical technologist and Laboratory Manager at the Centre for HIV and STIs at the National Institute for Communicable Diseases, Johannesburg



Henry de Vries

Professor Amsterdam UMC & PHS Amsterdam Netherlands



Hicham Oumzil

Assistant Professor at the Medical School, University Mohammed V in Rabat, Head of the Virology Department, at the National Institute of Hygiene (MoH, Morocco)

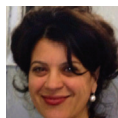
TRACK 1

Basic and Laboratory Science



Tania Crucitti

Chairperson, Madagascar, Institut Pasteur Madagascar



Monica Lahra

University of New South Wales, Australia
Senior Staff Specialist Microbiologist and Director of the
WHO Collaborating Centre for STI and AMR



Yukari Manabe

USA/Uganda, Professor of Medicine, and infectious
diseases clinician researcher within the Johns Hopkins
University School of Medicine.



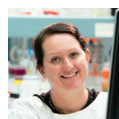
Pascale Ondoa

Ethiopia/the Netherlands
Director of Science and New Initiatives of the African
Society for Laboratory Medicine (ASLM)



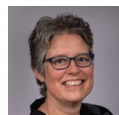
Jo-Ann Passmore

South Africa, Associate Professor in the Institute for
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Kate Seib

Associate Director (Research) , Institute for Glycomics,
Griffith University, QLD, Australia



Janneke van de Wijert

Netherlands/UK, Professor in the Institute of Infection
and Global Health, University of Liverpool and the Julius
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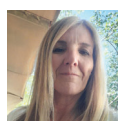
TRACK 2

Prevention and Behavioural Science



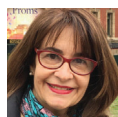
Sinead Delany-Moretlwe

Chairperson, South Africa, Research Professor
and Director: Research, Wits RHI, University of the
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Frances Cowan

Professor of Global Health at the Liverpool School of
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Maria Eugenia Escobar

Argentina, Specialist in Gynecology and Obstetrics,
Ministry of Health of Argentina. Specialist in Child and
Adolescent Gynecology, SAGIJ. Argentina President of
ASAIGO ITS. Argentine Society for the Study of Ob-Gyn
Infections and STI Control. Argentina



Sami Gottlieb

Geneva/WHO, Medical Officer in the Department of Sexual
and Reproductive Health and Research, World Health
Organization, Geneva



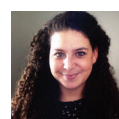
Nelly Mugo

Kenya, Senior Principal Clinical Research Scientist, Kenya
Medical Research Institute (KEMRI). Associate Research
Professor, Department of Global Health, University of
Washington



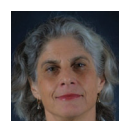
Kenneth Ngunjiri

Kenya, Associate Professor of Global Health and the Chair,
Department of Community Health of Jomo Kenyatta
University of Agriculture and Technology (JKUAT), Kenya



Danielle Travill

South Africa, Research clinician, Wits RHI, Johannesburg,
South Africa



Ariane van der Straten

USA, adjunct Professor, University of California San
Francisco (UCSF) School of Medicine, Center for AIDS
Prevention Studies

TRACK 3

Epidemiology & Surveillance



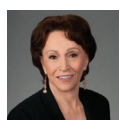
Laith Abu-Raddad

Chairperson, Professor of Infectious Disease Epidemiology at the Weill Cornell Medicine–Qatar, Cornell University, Qatar. WHO Collaborating Center for Disease Epidemiology Analytics on HIV/AIDS, Sexually Transmitted Infections, and Viral Hepatitis.



Saidi Kapiga

Tanzania, Professor of Epidemiology and International Health at the London School of Hygiene and Tropical Medicine (LSHTM). Scientific Director of the Mwanza Intervention Trials Unit (MITU) in Mwanza, Tanzania



Sevgi Aral

USA, Associate Director for Science in the Division of STD Prevention, Centers for Disease Control.



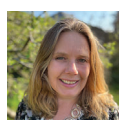
Ghina Mumtaz

Lebanon, Assistant Professor at the Department of Epidemiology and Population Health at the American University of Beirut.



Ivana Bozicevic

Croatia/UK, Director of the WHO Collaborating Centre for HIV Strategic Information in Zagreb



Katy Turner

Honorary Professor, Bristol Medical School, University of Bristol, UK
Managing Consultant, Aquarius Population Health



Patty Garcia

Peru, Professor at the School of Public Health at Cayetano Heredia University (UPCH) in Lima-Peru



Lei Zhang

Australia, Experienced modeller and epidemiologist in HIV/STI research



TRACK 4

Clinical & Implementation Science



Philippe Mayaud

Chairperson, UK, Professor of Infectious Diseases & Reproductive Health at the London School of Hygiene & Tropical Medicine (Faculty of Infectious & Tropical Diseases)



Saiqa Mullick

South Africa, Reader/Associate Professor and Director of Implementation Science at Wits RHI



Jason Ong

Australia, Associate Professor, Academic sexual health specialist and health economist, Melbourne Sexual Health Centre



Sushena Reza-Paul

Canada/India, Doctor of Public Health (DrPH). Assistant Professor at the Community Health Sciences Department, University of Manitoba, Canada



Bea Vuylsteke

Belgium, Senior researcher and lecturer at the Institute of Tropical Medicine, Antwerp, Belgium



Teodora Wi

Geneva/WHO, Medical Officer, Sexually Transmitted Infections, Department of Global HIV, Hepatitis and STIs Programmes, World Health Organization (WHO), Geneva



Daniel McCartney

UK, Research Assistant and Doctor of Public Health (DrPH) candidate at the London School of Hygiene & Tropical Medicine (LSHTM)



Isidore Tiandiogo Traore

Burkina Faso, Lecturer in Epidemiology and Biostatistics at the Department of Public Health, of the Université Nazi Boni.

Community Engagement & Policy



Carmen Logie

Chairperson, Canada. Associate Professor at the Factor-Inwentash Faculty of Social Work, University of Toronto



Harrell Chesson

USA, Health Economist, Division of STD Prevention, Centers for Disease Control and Prevention, Atlanta, Georgia, United States.



Sarah Bernays

Australia, Lecturer at the University of Sydney and Associate Professor at the London School of Hygiene and Tropical Medicine.



Meg Doherty

Geneva/WHO, Director of the Department of Global HIV, Hepatitis and Sexually Transmitted Infections Programmes (HHS), World Health Organization (WHO) Headquarters in Geneva.



Marc Steben

Canada, Family Medicine Group la Cité du parc Lafontaine. President elect of the 2023 International Society for STD research



Objectives

The objectives of the Congress are multi-fold, to be addressed under the theme, Confronting Inequities in STI Prevention, Diagnostics and Care. There are four main objectives as follows.

1. To highlight the burden of sexually transmitted infections (STIs) and need for effective responses, not only in sub-Saharan Africa, but also elsewhere, despite the paucity of surveillance data from many of the countries in the developing world.
2. To advocate open discussion about STIs and HIV in countries constituting the IUSTI Africa-MENA region, particularly among key populations at high risk for STIs and HIV, and among adolescents.
3. To highlight the global need for improved access to packages of interventions for the prevention and care of STIs, including HIV, particularly STI diagnostic tests, medicines and vaccines.
4. To share new scientific knowledge and the latest technological innovations pertaining to diagnosis, therapeutic management, epidemiology and sexual behaviour relevant to STIs and HIV.



About

The International Union against Sexually Transmitted Infections (IUSTI) was founded in 1923 and it is organized on both a global and regional basis. It is the oldest international organization with the objective of fostering international cooperation in the control of sexually transmitted infections including HIV/AIDS. IUSTI is concerned with the medical, scientific, social and epidemiological aspects of sexually transmitted infections and their control.

IUSTI is on the Roster of the United Nations Economic and Social Council. It is an Official Non-Government Organization in Consultative Status with the World Health Organization. IUSTI organizes frequent international and regional conferences on sexually transmitted infections and, in collaboration with the International Journal for STD and AIDS, publishes expert clinical guidelines for their management.

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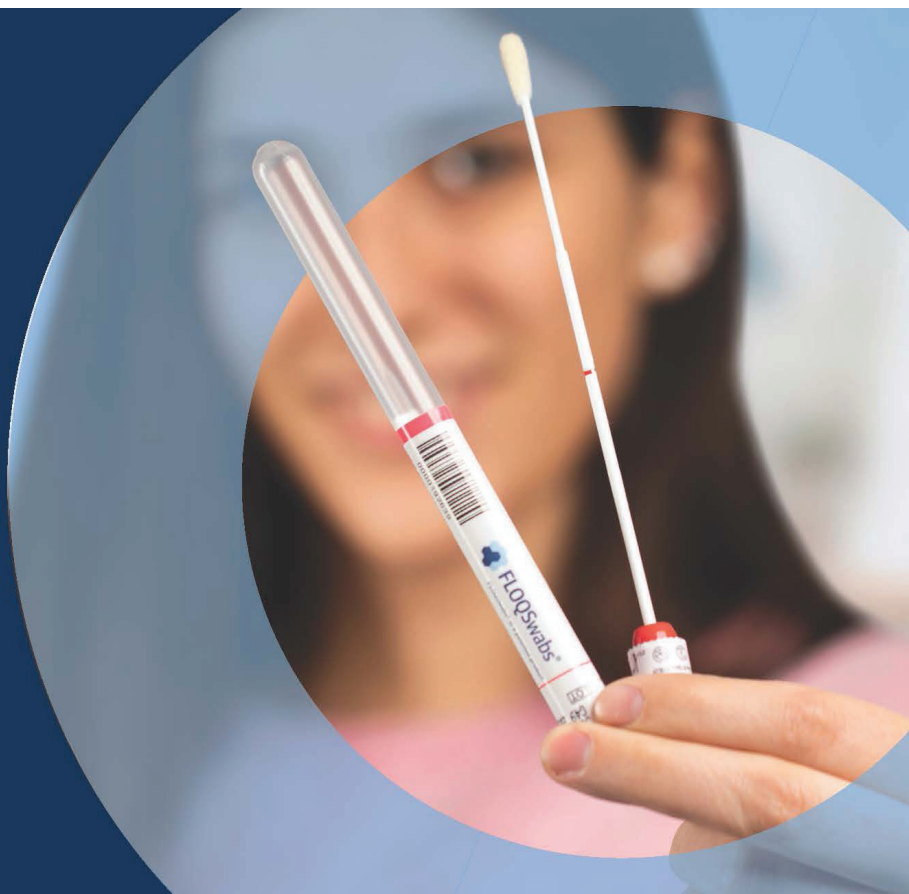
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Chairpersons & Office Bearers

The President and Co-President of the 23rd IUSTI World Congress convey their heartfelt gratitude and appreciate the willingness of all the chairpersons for the plenaries and symposia without whom the running of the conference to schedule would be found wanting.

Plenary 1: STIs in key and vulnerable populations

Laith Abu-Raddad
Angelica Espinosa Miranda

Plenary 2: Understanding STIs: from basic biology to prevention

Jo-Ann Dillon
Henry de Vries

Plenary 3: New diagnostic and therapeutics for STIs

Charlotte Gaydos
Remco Peters

Plenary 4: Addressing inequalities to STI care

David Lewis
Ivana Božičević

Plenary 5: Advances in STI vaccines and prevention

Deborah Watson-Jones
Sami Lynne Gottlieb

Debate 1: Mathematical models are useless in predicting antimicrobial resistance in STIs

Nicola Low

Debate 2: Rapid diagnostic testing for STIs will make syndromic management a thing of the past

Philippe Mayaud

Symposium 1: Antimicrobial resistance and vaccines

Bradley Stoner
Fortunate Machingura

Symposium 2: Addressing STIs in Pregnancy

Barbara van der Pol
Chelsea Morroni

Symposium 6: Late Breakers

Angelica Stary
Yaw Ardu-Sarkodie

Symposium 7: Burden of STIs in vulnerable populations

Carmen Logie
Chido Dziva Chikwari

Symposium 8: Vaginal biology and microbiome

Ellen Kersh
Jo-Ann Passmore

Symposium 13: Advances in diagnostics

Magnus Unemo
Dumisile Venessa Maseko

Symposium 14: Engaging diverse communities in care

Margaret Pascoe
Elizabeth Foley

Symposium 15: Integration of STI care in PrEP services

Saiqa Mullick
Marc Steben

Opening Ceremony

Evaristo Marowa

Closing Ceremony

Francis Ndowa
Janet Wilson

Panel of Judges for Oral and Poster Abstracts

Frances Cowan - Chairperson

Ivana Božičević

Chris Kenyon

Sara Lowe

Dumisile Venessa Maseko

Gilbert Yang

Programme

03 / 09 / 2022

13:00–14:00	IUSTI Executive Committee Lunch and Networking <i>Venue: Gwayi Conference Room</i>
14:00–18:00	IUSTI Executive Committee Meeting <i>Venue: Gwayi Conference Room</i>
19:00hrs	IUSTI President's Dinner (Victoria Falls Hotel)

04 / 09 / 2022

IUSTI-EUROPE STI Course Diagnosis and Management of STIs: from best practice to practical availability. In cooperation with IUSTI-World and World Health Organization. <i>Venue: Gwayi Conference Room</i>		Hosted by Connie Celum INSIGHT Study Investigators Meeting <i>Venue: Kalundu Conference Room</i>	
SESSION 1 – DIVERSITY OF STIs: THE AFRICAN AND GLOBAL VIEW Chairs: Jo-Anne Dillon & Charlotte Gaydos			
08:00-08:15	Welcome and Introduction – Angelika Stary & Marco Cusini		
08:15-08:35	Epidemiology of STIs in Africa/MENA: is there a difference to other regions? – Francis Ndowa		
08:35-08:55	Global impact of COVID-19 on STIs – Bradley Stoner		
08:55-09:35	New and emerging causes of proctitis in MSM: lymphogranuloma venereum & monkeypox (MPXV) – Henry De Vries	09:00-10:30	Session I
09:35-09:45	STI diagnostic practices in Asia – Somesh Gupta	10:30-11:00	Refreshments Break
09:45-09:55	STI diagnostic practices in Africa – Amina Hançali	11:00-12:30	Session II
09:55-10:20	Questions and discussion	12:30-13:30	Lunch
10:20-10:50	Coffee break		
SESSION 2 – MANAGMENT OF RECURRENT AND PERSISTENT STIs Chairs: Janet Wilson & Jackie Sherrard			
10:50-11:10	Managing NGU without access to M. genitalium and/or C. trachomatis testing – Kees Rietmeijer		
11:10-11:30	Managing gonorrhoea that persists following ceftriaxone treatment – David Lewis		
11:30-11:35	Neisseria but not gonorrhoea: case report – Angelika Stary		
11:35-12:05	Managing vaginal discharge syndrome in settings with minimal resources – Remco Peters		
12:05-12:10	Recurrent vaginal discharge: case report – Janet Wilson		
12:10-12:30	Managing recurrent genital herpes – Liz Foley		
12:30-13:00	Questions and discussion		
13:00-14:00	Lunch break		
SESSION 3 – MANAGEMENT GUIDELINES: Syphilis and Joint Session with WHO Chairs: Teodora Wi & Francis Ndowa			
14:00-14:20	Syphilis: Diagnostic and treatment standards – Angelical Espinosa		
14:20-14:25	Extragenital primary syphilis: case report – Marco Cusini		
14:25-14:30	Questions and discussion		
14:30-15:10	What’s the evidence and what’s new? WHO Guidelines on the Management of Symptomatic STIs in resource-constrained settings. Overview of the STI case management – Teodora Wi		
15:00-15:10	Ulcer management - David Lewis		

15:10-15:25	Implementation considerations – Philippe Mayaud	
15:25-15:40	Laboratory considerations – Magnus Unemo	
15:40-15:50	Perspectives from health-care provider – Anna Machiha & Van Thi Thuy Nguyen	
15:50-16:00	Questions and discussion	
17:00-18:30	Opening Ceremony Chairperson: Evaristo Marowa Venue: Kalala Conference Room 1. Welcome by the Master of Ceremonies 2. Welcome to Victoria Falls – Security briefing 3. Welcome Remarks by Conference Co-Presidents of the Conference 4. Guest of Honour – Remarks 5. Keynote Address – Meg Doherty – World Health Organization 6. Vote of thanks by Co-Chairperson 7. Last words of welcome by the Master of Ceremonies	
19:00-21:00	Welcome Reception (Pooldeck)	



05 / 09 / 2022			
08:30-10:00	Plenary 1: STIs in key and vulnerable populations Chairpersons: Laith Abu-Raddad, Angelica Espinosa Miranda <i>Venue: Kalala Conference Room</i> Speaker: Ghina Mumtaz (Lebanon). Epidemiology of STIs among refugees and displaced persons Speaker: Rashida Ferrand (Zimbabwe). “By youth for youth” : Working meaningfully with youth to improve sexual and reproductive health Speaker: Henry de Vries (Netherlands). Strategies to scale up HIV/STI PrEP for key populations (sex workers, MSM).		
10:00-10:30	Refreshments Break		
10:30-12:00	Symposium 1 Antimicrobial resistance and vaccines Chairpersons: Bradley Stoner, Fortunate Machingura <i>Venue: Kalala Conf Rm</i>	Symposium 2 Addressing STIs in Pregnancy Chairpersons: Barbara van der Pol; Chelsea Morroni <i>Venue: Gwayi Conf Rm</i>	Symposium 3: WHO-sponsored Increasing challenges of STIs: The need to act now <i>Venue: Kalundu Conf Rm</i>
12:00-13:30	Lunch break	Symposium 4: WHO-sponsored WHO STI Research Priority Setting and Monkeypox <i>Venue: Kalundu Conference Room</i>	
13:30-15:00	Plenary 2: Understanding STIs: from basic biology to prevention Chairpersons: Jo-Anne Dillon, Henry De Vries <i>Venue: Kalala Conference Room</i> Speaker: Jo-Ann Passmore (South Africa). Genital microbiome, inflammation, STIs and HIV prevention Speaker: Kate Seib (Australia). Gonococcal virulence factors and vaccine development. Speaker: Odile Harrison (UK). Informing on bacterial STIs through pathogen genomics.		
15:15-16:00	Debate 1: Mathematical models are useless in predicting antimicrobial resistance in STIs Chairperson: Nicola Low <i>Venue: Kalala Conference Room</i> For the motion: Yonatan Grad (USA) Against the motion: Katy Turner (UK)		
16:00-16:30	Refreshments Break		
16:30-18:00	Poster viewing <i>Residents Hall/Falls View</i>	Symposium 5 Sponsored Session 16:30-18:00 Sponsored by: The Health Research Unit Zimbabwe at BRTI <i>Venue: Gwayi Conference Room</i> Topic: The STICH TRIAL – Disclosing results of the STI management trial for youth in Harare and Bulawayo	
19:00-22:00	Speakers Dinner Victoria Falls Safari Lodge (by invitation only)		Dinner in Elephant Hills Hotel Restaurant

07:00-08:30	FIND Sponsored Breakfast Session I <i>Venue: Kalundu Conference Room</i> Challenges and opportunities for addressing Neisseria gonorrhoeae Antimicrobial Resistance			
08:30-10:00	Plenary 3: New diagnostics and therapeutics for STIs Chairpersons: Charlotte Gaydos, Remco Peters <i>Venue: Kalala Conference Room</i> Speaker: Yuka Manabe (USA). Existing point-of-care tests and future developments for diagnosis and antimicrobial resistance testing (Selected as the 2022 IUSTI Prestigious Lecture) Speaker: Michael Marks (UK). The end of line: AMR, genomics and novel treatment options for syphilis Speaker: Jonathan Ross (UK). Beyond cephalosporins – what are the options for managing N. gonorrhoeae?			
10:00-10:30	Refreshments Break			
10:30-12:00	Symposium 6 LATE BREAKERS Chairperson: Angelika Stary; Yaw Ardu-Sarkodie <i>Venue: Kalala Conf Rm</i>	Symposium 7 Burden of STIs in vulnerable populations Chairpersons: Carmen Logie; Chido Dziva Chikwari <i>Venue: Gwayi Conf Rm</i>	Symposium 8 Vaginal biology and microbiome Chairpersons: Ellen Kersh; Jo-Ann Passmore <i>Venue: Matetsi Rm</i>	Symposium 9: WHO-sponsored “Don’t let the opportunity pass: including STI services for people on HIV PrEP” <i>Venue: Kalundu Conf Rm</i>
12:00-13:30	Lunch break	Symposium 10: WHO-sponsored The role of brief behavioural interventions in a combination prevention approach to sexually transmitted infections, including HIV: current achievements, challenges and way forward <i>Venue: Kalundu Conference Room</i>	Symposium 11 Hologic Sponsored Session Harnessing HIV diagnostic infrastructure to address the burden of sexually transmitted infections in Africa <i>Venue: Matetsi Room</i>	
13:30-15:00	Plenary 4: Addressing inequalities to STI care Chairpersons: David Lewis; Ivana Božičević <i>Venue: Kalala Conference Room</i> Speaker: Nicola Lowe (Switzerland). Epidemiology and transmission of monkeypox Speaker: LaRon Nelson (USA). Community engagement and inequities in STI services, including HIV: transformative visions for future Speaker: Frances Cowan (Zimbabwe/UK). Implementation science & Integration of services for STIs and HIV.			
15:15-16:00	Debate 2: Rapid diagnostic testing for STIs will make syndromic management a thing of the past Chairperson: Philippe Mayaud <i>Venue: Kalala Conference Room</i> For the motion: Jeff Klausner (USA) Against the motion: David Lewis (Australia)			
16:00-16:30	Refreshments Break			
16:30-18:00	Poster viewing Residents Hall/Falls View		Symposium 12: WHO-sponsored WHO HHS: Triple Elimination: Addressing STI towards the elimination of new paediatric HIV and Hepatitis B and Congenital Syphilis (EMTCT) <i>Venue: Kalundu</i>	
19:00-22:00	Congress Gala Dinner Boma Restaurant (Shuttle Buses)			

07 / 09 / 2022

07:00-08:30	Program Science Initiative: Sponsored Breakfast Session II Improving the effectiveness of HIV/STI prevention and treatment in sub-Saharan Africa through Program Science <i>Venue: Kalundu Conference Room</i>		
08:30-10:00	Plenary 5: Advances in STI vaccines and prevention Chairpersons: Deborah Watson-Jones, Sami Lynne Gottlieb <i>Venue: Kalala Conference Room</i> Speaker: Carolyn Deal (USA). Priorities in STI and HIV vaccines – product development and considerations for access in LMICs Speaker: Nelly Mugo (Kenya). Access to HPV vaccination – progress towards elimination of cervical cancer in LMICs		
10:00-10:30	Refreshments Break		
10:30-12:00	Symposium 13 Advances in diagnostics Chairpersons: Magnus Unemo; Dumisile Venessa Maseko <i>Venue: Kalala Conf Rm</i>	Symposium 14 Engaging diverse communities in care Chairpersons: Margaret Pascoe; Elizabeth Foley <i>Venue: Gwayi Conf Rm</i>	Symposium 15 Integration of STI care in PrEP services Chairpersons: Saiqa Mullick; Marc Steben <i>Venue: Kalala Conference Room</i>
12:15-13:30	Closing Ceremony Chairpersons: Janet Wilson; Francis J Ndowa 1. Master of Ceremonies 2. Keynote address: David Mabey, (London School of Hygiene and Tropical Medicine, UK). Are we ready to move on from Syndromic Management of sexually transmitted infections? 3. Closing remarks by Co-Presidents of the Conference		
13:30-15:00	Buffet Lunch (Pooldeck)		



Networking Events

Saturday, 3rd September 2022

19:00hrs

President's Dinner (By Invitation Only)

Location: Victoria Falls Hotel

Dress Code: Business / Traditional

Sunday, 4th September 2022

19:00-21:00

Welcome Reception

Location: Elephant Hills Hotel – Pooldeck

Dress Code: Business /Casual

Monday, 5th September 2022

19:00–22:00

Speakers Dinner (By Invitation Only)

Location: Victoria Falls Safari Lodge

Dress Code: Smart Casual

Tuesday, 6th September 2022

19:00–22:00

Congress Gala Dinner

Location: Boma Restaurant

Dress Code: Traditional / Smart Casual

Busses will depart at 18:30hrs from Elephant Hills Hotel – Main Entrance



Keynote & Plenary Speakers



Meg Doherty
World Health Organization

Dr Doherty is the Director of the Department of Global HIV, Hepatitis and Sexually Transmitted Infections Programmes (HHS) at the World Health Organization (WHO).

Appointed on the 1 February 2020, Dr Doherty was previously the Coordinator of Treatment and Care in the Department of HIV at WHO Headquarters starting in 2012. She has more than 25 years of experience working in HIV and infectious diseases, including leading WHO's normative and programmatic work focusing on expanding HIV treatment to all and reducing inequalities in access to the most effective anti-retroviral drugs for people living with HIV. She brings many years of diverse country experience to this role, having spent 10 years living and working in low- and middle-income countries, advising ministries of health and international partners on implementing comprehensive HIV and infectious disease programmes, including 5 years in Ethiopia as the Director of Clinical and Training services for JHUTSEHAJ, a PEPFAR implementing partner supported by the US Centers for Disease Control and Prevention.

Prior to joining WHO, Dr Doherty was faculty member of the Department of Medicine, Division of Infectious Diseases and School of Public Health at Johns Hopkins University School of Medicine where she was responsible for the treatment and care of people living with HIV, hepatitis and other infectious diseases. Dr Doherty is a trained epidemiologist and infectious disease specialist and has published over 110 peer-reviewed articles and book chapters. She received her MD from Harvard Medical School and her MPH and PhD in Infectious Disease Epidemiology from JHU Bloomberg School of Public Health.

Under her leadership as Director, HHS department, the department will maintain and expand global efforts to eliminate HIV, hepatitis and STIs by 2030 with a strong emphasis on service integration and strengthening primary health care within the framework of UHC, while focusing on vulnerable populations and countries with the highest burden. The HHS department is committed to reaching the global targets through intensified engagement with WHO and partner regional and country offices to achieve impact and will be bringing new Global health sector strategies on HIV, viral hepatitis and sexually transmitted infections, 2022-2030, for review and approval at the 75th World Health Assembly, May 2022.



David Mabey
United Kingdom

David Mabey worked as a clinician in The Gambia for 8 years before moving to the London School of Hygiene & Tropical Medicine, where he is Professor of Communicable Diseases.



Ghina Mumtaz
Lebanon

Ghina Mumtaz is an Assistant Professor at the Department of Epidemiology and Population Health at the American University of Beirut. She holds a PhD in Infectious Disease Epidemiology from the London School of Hygiene and Tropical Medicine. The primary focus of her research is on characterizing the epidemiology of HIV, other sexually transmitted infections, and hepatitis C virus in the Middle East and North Africa, with a special focus on key populations and, more recently, refugees and internally displaced populations.



Rashida Ferrand
Zimbabwe

I am a physician specialising in HIV and sexual health a clinical epidemiologist at the London School of Hygiene and Tropical Medicine. I have been based in Zimbabwe for 20 years and I work on strategies to incorporate STI testing in different healthcare settings and on integrating STI, HIV and SRH services.



Henry de Vries
Netherlands

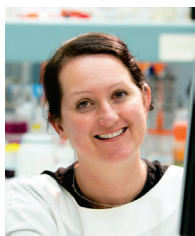
Henry de Vries is a dermatologist and Professor of skin infections. In addition to his work at the Amsterdam UMC (location AMC), he works at the Public Health Service (GGD Amsterdam) and is expert at the Dutch Institute for Public Health (RIVM). He is expert in clinical, epidemiological and diagnostic aspects of STI and emerging tropical skin infections.

His research topics are: cutaneous leishmaniasis, leprosy, STI in men who have sex with men (MSM), biomedical and behavioural interventions to curb HIV and STI transmission, gonorrhoea, lymphogranuloma venereum, and HPV related anal dysplasia.



Jo-Ann Passmore
South Africa

Jo-Ann Passmore is an Associate Professor in the Institute for Infectious Diseases and Molecular Medicine, University of Cape Town. She heads the Mucosal Infections Group in the Division of Medical Virology. Jo-Ann's research focuses on the role of genital tract inflammation and cellular activation on HIV risk in women, associated most commonly with undiagnosed sexually transmitted infections and bacterial vaginosis.



Kate Seib
Australia

Professor Kate Seib is a Research Leader and the Associate Director (Research) at the Institute for Glycomics, Griffith University, Australia. Her expertise is in the field of molecular microbiology, with a focus on characterising virulence mechanisms and developing vaccine antigens for human mucosal pathogens including *Neisseria gonorrhoeae*.



Michael Marks
United Kingdom

Dr Marks an Associate Professor at LSHTM and an Honorary Consultant in Infectious Diseases at the Hospital for Tropical Diseases, University College London Hospital.

A major research interest is infections caused by *Treponema pallidum* including work on diagnostics and genomics.

Odile Harrison



United Kingdom

My research focusses on bacterial whole genome sequence data (WGS) which I use for the high-resolution characterisation of bacteria causing infectious diseases. I exploit WGS to catalogue, collect and forensically dissect bacterial pathogens. Such indexing allows properties conferring virulence and antimicrobial resistance to be investigated. It provides opportunities for diagnostics, vaccine development and molecular epidemiology. It facilitates a much richer understanding of individual genes and their role in bacterial virulence and fitness. Using WGS, I develop the methodology to define bacterial lineages to enhance surveillance. Importantly, the tools I develop are all available on online, publicly accessible databases that benefit the research community.

My work analyses WGS belonging to the sexually transmitted pathogens *Neisseria gonorrhoeae* and *Chlamydia trachomatis* as well as meningitis causing pathogens *Neisseria meningitidis*, *Haemophilus influenzae* and *Streptococcus agalactiae*. More recently, through collaborations, we have implemented online platforms for the analysis of *Treponema pallidum* subspecies and *Mycoplasma genitalium*.



Jonathan Ross
United Kingdom.

Jonathan Ross is Professor of Sexual Health and HIV in Birmingham, UK.

His research interests relate to gonorrhoea, *Mycoplasma genitalium*, pelvic inflammatory disease, bacterial vaginosis and the delivery of sexual health services. He is a National Institute for Health Research (NIHR) journal library editor and treasurer of the International Union against Sexually Transmitted Infections. He is an associate editor of the journal *Sexually Transmitted Infections* and a member of the editorial board for the European Sexually Transmitted Diseases Guidelines.

Professor Ross is the author of UK and European Guidelines on Pelvic Inflammatory Disease, and has written a number of chapters on pelvic infection for medical textbooks. He is a member of the Editorial Board of the Cochrane Collaboration Sexually Transmitted Diseases Collaborative Review Group



Yukari Manabe
USA

Dr. Manabe is a Professor of Medicine, Department of Medicine, Division of Infectious Diseases within the Johns Hopkins University School of Medicine. As the Associate Director of Global Health Research and Innovation within the Johns Hopkins Center for Global Health and the Director of the new Center for Innovative Diagnostics for Infectious Diseases, she is dedicated to accelerating infectious disease diagnostic development and particularly frugal innovation for rapid and point-of-care to increase diagnostic certainty and targeted treatment. She has published on a wide range of infectious disease diagnostics for HIV, TB, STI's, and respiratory viruses (COVID-19, influenza) and their impact on patient-centered outcomes.

Dr. Manabe is an author of more than 250 peer-reviewed publications. She obtained her undergraduate degree from Yale University and her MD from Columbia University College of Physicians and Surgeons. She joined the Johns Hopkins School of Medicine faculty in 1999 after completing her residency in internal medicine and fellowship in infectious diseases at Johns Hopkins Hospital.



Nicola Low
Switzerland

Nicola Low is an infectious disease epidemiologist and public health physician. She leads a research group on Sexual and Reproductive Health, specialising in the epidemiology, prevention and control of sexually transmitted infections, with a special interest in infections caused by emerging and re-emerging sexually transmissible pathogens. Her ongoing research studies are in Switzerland, Papua New Guinea, and southern Africa and prioritise open science methods, living systematic reviews, field epidemiology and mathematical modelling. She is Professor of Epidemiology and Public Health and chair of the Epidemiology Cluster of the Multidisciplinary Center for Infectious Diseases at the University of Bern, Switzerland. Prof. Low is the vice-chair of the World Health Organization Emergency Committee concerning the international spread of monkeypox.



LaRon Nelson
USA

Dr. Nelson is the Independence Foundation Associate Professor of Nursing and Associate Dean of Global Affairs and Planetary Health at Yale School of Nursing. He is also an affiliate scientist with MAP Centre for Urban Health Solutions in Unity Health Toronto - St. Michael's

Hospital in Canada.

Dr. Nelson is public health nurse whose research began in STI clinical practice. His work now spans multiple countries where he is focused on efforts to reduce racial disparities in HIV incidence, treatment and viral suppression. Currently, he is the protocol co-chair for HPTN 096—a community-randomized controlled trial testing the efficacy of a multi-level intervention to increase rates of pre-exposure prophylaxis use and HIV viral suppression among Black men who have sex with men (MSM) in 16 communities in the US. He is also leading an NIH-funded RCT in Ghana evaluating the effect of multi-level intersectional stigma-reduction on HIV testing among MSM.



Frances Cowan
Zimbabwe/UK

Frances Cowan is a clinical epidemiologist and Professor of Global Health at the Liverpool School of Tropical Medicine. She is based in Zimbabwe where she is the Executive Director of the Centre for Sexual Health and HIV AIDS Research (CeSHHAR) Zimbabwe, leading a portfolio of HIV prevention research, which includes large scale impact evaluations of national HIV programmes.



Carolyn Deal
USA

Carolyn D. Deal, Ph.D. is the Branch Chief of the Enteric and Sexually Transmitted Infections (STIs) Branch, National Institute of Allergy and Infectious Diseases, NIH.

Dr. Deal's work in product development includes vaccines, therapeutics, and diagnostics. She works with the World Health Organization on efforts to advance the development of these products for STIs and Enteric Infections and the global monitoring of emergence of gonococcal antimicrobial resistance.

Prior to NIAID, she served as the Deputy Director for the Division of Bacterial Products, Office of Vaccines Research and Review, Center for Biologics Evaluation and Research, USA FDA and conducted research at the Walter Reed Army Institute of Research.



Nelly Mugo
Kenya

Professor Nelly R. Mugo is a Senior Principal Clinical Research Scientist at the Kenya Medical Research Institute (KEMRI), Associate Research Professor, Department of Global Health at the University of Washington and a reproductive health specialist with three decades of work experience. Her research focus has been on prevention of HIV and cervical cancer. She has been an investigator on the Partners PrEP study that contributed evidence to inform the change of indication for use of Truvada as HIV prevention pre-exposure prophylaxis (PrEP), and a protocol lead for the on-going 'Kenya Single-dose HPV Vaccine-Efficacy (KEN SHE) Study' that has provided evidence on efficacy of single dose HPV vaccination.

JOIN US IN CHICAGO IN 2023

Join the American Sexually Transmitted Diseases Association (ASTDA) in Chicago for the
STI & HIV World Congress 2023

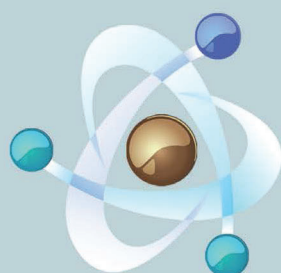
ASTDA will host the 2023 World Congress in Chicago, IL, USA, focused on the theme
Local Engagement/Global Impact



ASTDA and IUSTI World members will
receive a **registration discount**

SAVE THE DATES

24-27 JULY, 2023



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astda.org

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General Information

Abstracts

Abstracts selected for the IUSTI World Congress 2022 are presented in Oral and Poster Sessions. All abstracts approved for presentation will be published in this abstract book and on the congress website.

Attire

Business casual is appropriate. Room temperature can vary in session rooms.

Badges

Your personalised badge is your admission card to the Congress. For organisational and security reasons, badges must be always worn at the congress venue.

Cell Phones

As a courtesy to fellow attendees, please turn cell phones on silent during scientific sessions.

Certificate of Attendance

Congress attendees can request a 'Certificate of Attendance' by contacting the Congress Organisers. The congress organisers details can be found on the congress website.

CME Accreditation and CME Certificate

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME). The Zimbabwe Medical Association (ZIMA), represented by Dr Bismark Mateveke, The Zimbabwe College of Public Health Physicians, represented by Dr Cleophas Chimbetete and The College of Primary Care Physicians of Zimbabwe, represented by Dr Ingrid Landman, awarded 20 CME points for full congress attendees. You will be able to download your CME Certificate via the congress website.

Emergency Services and First Aid Emergency Number

Observe the Notices at reception and in your room for emergency situations or Dial Reception

Evaluation Survey

A Congress Evaluation Survey will be available on the congress mobile app and will be e-mailed to all delegates after the Congress. Please help us to improve the Congress by completing your Survey.

Exhibition

The exhibits are in the Residents Lounge, Ground Level of the Elephant Hills Hotel.

We have invited local vendors to allow attendees the opportunity to support our local traders from Monday – Wednesday (10:00 – 17:30).

Exhibition Show Hours

Sunday, 4th September	(08:00 – 17:30)
Monday, 5th September	(08:00 – 18:00)
Tuesday, 6th September	(08:00 – 18:00)
Wednesday, 7th September	(08:00 – 13:00)

Lost and Found

Lost and Found items should be returned/claimed at the Registration Desk.

Lunches

Lunches will be in the Restaurant at Elephant Hills Hotel, Ground floor from (4 – 7 September 2022).

Refer to the congress programme for the allocated times.

Networking Breaks

Refreshments will be provided in the Exhibition Area, Ground Level from 4 – 7 September 2022 during the allocated programme time slots.

Mobile App

IUSTI2022 World Congress mobile app for a convenient way to stay up to date via your phone or tablet. View the full scientific schedule, abstracts, exhibit information, speakers, and general Conference and venue information on our easy-to-use app! The app is compatible with all iOS devices (iPhone, iTouch and iPad) and all Android mobile devices. Timely updates on programme or room changes will be distributed through the mobile app via notification alerts.

Search "Event App" in the App Store (for Apple) or Google Play Store (for Android). Your personalised username and password were emailed, but should you require assistance, please visit the registration desk.

Poster Viewing

Elephant Hills Hotel, Ground Floor, Falls View.

Monday and Tuesday. Posters will be on display for the entire day, but presenters will be standing by their poster during the poster viewing sessions.

Official Poster Viewing Sessions

Monday, September 5th	- 16:30 – 18:00
Tuesday, September 6th	- 16:30 – 18:00

Poster can be viewed during coffee breaks.

Registration Counter Hours

Located in the lobby of the Elephant Hills Hotel. Ground Level.

Saturday, September 3rd	- 15:00 – 19:00
Sunday, September 4th	- 07:00 – 18:30
Monday, September 5th	- 07:00 – 18:30
Tuesday, September 6th	- 06:30 – 17:00
Wednesday, September 7th	- 06:30 – 13:30

Speaker Preparation Room

Boardroom on the first level is the designated Speaker Preparation Room. Only digital material will be allowed for oral presentation (PowerPoint files).

- All presenters are advised to visit the speaker's preview room at least a day before the presentation to upload their talk or to ensure that their pre-loaded talk has been received and is ready.
- If not able to do so, please provide the technical team with your PowerPoint slides on a memory stick, at least 2-3 hours before your presentation timeslot.
- Please bring your presentation on USB for upload to the presentation laptops.
- Computers will be available for you in the Speaker Preparation Room for your final check.
- Once the presentation has been checked, the technical staff will be responsible for its delivery to the session rooms in preparation for your presentation.

Hours of Operation

Ground Level.

Saturday, September 3rd	- 15:00 – 19:00
Sunday, September 4th	- 07:00 – 18:30
Monday, September 5th	- 07:00 – 18:30
Tuesday, September 6th	- 06:30 – 17:00
Wednesday, September 7th	- 06:30 – 13:30

Transportation

Daily shuttle will be available between the Kingdom Hotel and the Elephant Hills Hotel. Time schedule will be in line with the congress programme. Please visit the transport desk on site for the time schedule or view the mobile app for regular updates.

Wireless Internet

The Congress is happy to provide delegates with complimentary Wi-Fi.

Disclaimer

The organizers have made every attempt to ensure that all information in this publication is correct. The organizers take no responsibility for changes to the programme or any loss that may occur because of changes to the programme. Some of the information provided in this publication has been provided by external sources. Although every effort has been made to ensure the accuracy, currency and reliability of the content, the organizers accept no responsibility in that regard. Please view the mobile app for regular updates.

Abstracts

7. Female Urine Is a Poor Specimen for Chlamydia and Gonorrhea Testing

Van Der Pol B¹, Aaron K¹, Griner S¹, Footman A¹, Boutwell A¹

¹University Of Alabama At Birmingham

BIOGRAPHY

Dr. Van Der Pol is a Professor of Medicine and Public Health at the University of Alabama at Birmingham and the Director of the UAB STD Diagnostics Laboratory. She has been active in the field of the biology, epidemiology and diagnostics of sexually transmitted infections (STI) for nearly 40 years. Her behavioral research focuses on delivery, utilization and implementation of new diagnostic technologies. Dr. Van Der Pol currently serves as the President of the International Society for STD Research.

BACKGROUND

The use of female urine with first generation nucleic acid amplification tests (NAATs) was a breakthrough in support of non-invasive, rather than endocervical, sample collection for Chlamydia trachomatis (CT) and Neisseria gonorrhoeae (GC) screening and diagnosis. Subsequently, vaginal swabs, including self-obtained specimens, were demonstrated to be the optimal minimally invasive sample type for women. However, the most commonly used specimen for CT/GC testing for women continues to be urine. Here we present a meta-analysis of the performance of urine compared to vaginal swabs based on >20 years' worth of data across many testing platforms.

METHODS

Following established guidelines we performed a literature search for peer-reviewed publications describing the performance of urine and vaginal swab specimens from the same women. We focused on assays that are commercially available with a particular focus on those with US FDA clearance due to the rigorous evaluation requirements. Data were extracted from relevant articles and pooled sensitivity and 95%CI were calculated and compared using a fixed effects model.

RESULTS

26 and 11 articles, published from 1996 through 2019, provided CT and GC data respectively. The pooled CT sensitivity was 92.6% (95%CI 91.6, 93.4%) for vaginal swabs and 84.4% (83.2, 85.6%) for urine (p<.001). For GC, the pooled sensitivity was 96.0% (93.9, 97.3%) for vaginal swabs and 89.2% (86.5, 91.4%) for urine (p<.001).

CONCLUSIONS

Female urine performs substantially worse than vaginal swabs which can be self-collected, easily transported and have been shown to be acceptable to women. We need to maximize case finding in order to impact CT/GC rates and using a poorly performing sample type reserved for special circumstances in which vaginal sampling is not appropriate.

17. Integrating diagnostic STI testing for youth within HIV care services at the Mpilo Centre of Excellence in Zimbabwe

Dziva Chikwari C^{1,2}, Bandason T², Tshuma N³, Sibanda T³, Machiha A⁴, Musiyandaka P², Musomekwa K³, Kranzer K^{1,2}, Hayes R¹, Francis S¹, Ferrand R^{1,2}

¹London School of Hygiene and Tropical Medicine, ²Biomedical research and Training Institute, ³AIDS Healthcare Foundation, ⁴Ministry of Health and Child Care

BIOGRAPHY

Chido is an epidemiologist with experience developing, coordinating and evaluating

implementation research studies with particular focus on projects evaluating the provision of sexual and reproductive health services for adolescents and young people in facility and community-based settings, HIV testing interventions as well as community based psychosocial support for children and adolescents living with HIV and their caregivers. This work has also involved validation of oral HIV tests for children and evaluating the use of assisted HIV testing for children by their caregivers. She holds a PhD in Infectious and Tropical Diseases from the London School of Hygiene and Tropical Medicine where she is currently an Assistant Professor. Chido is based in Zimbabwe at the Biomedical Research and Training Institute.

BACKGROUND

Effective STI control must include youth. In low and middle-income countries syndromic management is currently the standard of care despite most infections being asymptomatic. We conducted a study offering STI testing to youth aged 16-24 years living with HIV and accessing HIV care at Mpilo Hospital in Zimbabwe.

METHODS

Between November 2021 and March 2022, youth presenting for HIV treatment at Mpilo were offered STI testing. Consenting participants were asked to complete a demographic questionnaire and to provide a urine sample for Chlamydia trachomatis (CT) and Neisseria gonorrhoeae (NG) testing with GeneXpert. Women were asked to provide a self-collected vaginal swab for Trichomoniasis vaginalis (TV) for testing with the OSOM lateral flow assay. Results and treatment for TV were provided on the same day. Those with positive CT/NG tests were contacted by telephone within 24 hours and followed up for up to three months for treatment initiation. Youth testing positive for an STI were offered partner notification (PN) slips. Testing and treatment were free of charge.

RESULTS

Overall 399 youth were approached for participation in the study, 88 (22.0%) did not consent to take part and 11 (2.8%) did not return samples. Among 300 participants recruited (median age 19 years, 54.3% female) 46 (15.3%) tested positive for at least one STI. Prevalence was highest among females (24.5%). CT prevalence was 10.0% (14.7% - females, 4.4% - males), NG 2.0% (3.6% - females, 0.7% - males), and TV was 11.0%. While index treatment completion was high (38/46, 82.6%) only 9 youth with STIs (19.5%) took PN slips. No partners presented for treatment.

CONCLUSIONS

Our study found high uptake of STI testing and high prevalence STIs among youth living with HIV. Importantly four in five young people with an STI received treatment. More work needs to be done to facilitate PN.

24. Chlamydia trachomatis and Neisseria gonorrhoea among 14-19-year-old Adolescents from Urban Slums in Kampala, Uganda.

Mayanja Y^{1,2}, Lunkuse J¹, Kalungi H¹, Kukundakwe C¹, Nyanzi R¹, Matovu G¹, Kamushaaga Z¹, Ruzagira E^{1,2}

¹MRC/UVRI & LSHTM Uganda Research Unit, ²London School of Hygiene and Tropical Medicine

BIOGRAPHY

Dr. Yunia Mayanja is a scientist at the Medical Research Council/ Uganda Virus Research Institute and London School of Hygiene and Tropical Medicine (MRC/UVRI and LSHTM) Uganda Research Unit. She has postgraduate training (MPH) and has worked with women behaviorally vulnerable to HIV including female sex workers

(FSWs) in Kampala for 8 years. She has been co-investigator on several studies including: studies of sexually transmitted infections (STIs) among FSWs, Hepatitis B prevalence and vaccination studies, HIV-1 superinfection studies. Current STI work involves validating new rapid point of care tests for chlamydia and gonorrhoea against Genexpert.

In 2016, she was awarded an adolescent research fellowship by the Desmond Tutu HIV Foundation in Cape Town, South Africa. She gained experience working with adolescents and young people, and in 2017, won an EDCTP career development fellowship to work with adolescent cohorts back home in Uganda. STI outcomes are among the data collected from the adolescent cohorts that have reproductive health interventions for STIs, pregnancy and HIV interventions i.e. daily oral pre-exposure prophylaxis (PrEP).

For the last 4 years, Yunia has been part of the STI Research Interest Group (STIRIG) of the LSHTM.

Interests: key and priority populations, infectious diseases (STIs, HIV, Hepatitis B).

BACKGROUND

Sexually transmitted infections (STIs) remain a public health concern yet are preventable and curable. We studied STI prevalence and associated factors among adolescents from urban slums in Kampala, Uganda.

METHODS

We conducted a cross-sectional study among 14–19-year-old adolescents enrolled from March 2019 to March 2020. We collected data on socio-demographics, behavior and STI symptoms using interviewer-administered questionnaires. Chlamydia trachomatis (CT) and Neisseria gonorrhoea (NG) tests were performed on endo-cervical and penile swabs using real-time polymerase chain reaction assay. Outcomes were positive tests for CT and/or NG. We analyzed data using logistic regression.

RESULTS

We enrolled 490 participants (60.0% female), median age 18 years (Interquartile range 17–18 years) of whom 91.0% had primary school education, 48.4% had their sexual debut before 15 years and 87.8% were employed. The main sources of income were sex work (17.5%) and selling fruits/snacks (9.1%) for females; and sale of metal/plastic scrap (28.5%) for males. HIV prevalence was 3.3% (15 females, 1 male). Overall, 128 (26.1%) individuals had changed residence in the past year with a higher frequency among females than males (82% vs 18%, $p < 0.001$). Of 111 (27 males; 84 female) participants diagnosed with CT and/or NG, 38.7% had one or more STI symptoms mainly: pain on passing urine ($n=18$), lower abdominal pain ($n=17$) and abnormal genital discharge ($n=41$). STI prevalence among females was [CT (22.9%), NG (12.7%)] and was associated with having ≥ 10 sexual partners in the past 3 months (aOR 2.17; 95% CI 1.05–4.52) and changing residence at least once in the past 12 months (aOR 2.04; 95% CI 1.19–3.49). STI prevalence among males was [CT (11.9%), NG (3.1%)], associated with older age (≥ 18 years) (aOR 2.88; 95% CI 1.14–7.24).

CONCLUSIONS

STIs are highly prevalent in this population. STI interventions that particularly target female and older male adolescents in urban slums are urgently needed.

26. Epidemiology of sexually transmitted infections among female sex workers in the Middle East and North Africa: Systematic review and meta-analysis

Chemaitelly H^{1,2,3}, Weiss H^{4,5}, Smolak A¹, Majed E¹, Abu-Raddad L^{1,2,3,6}

¹Infectious Disease Epidemiology Group, Weill Cornell Medicine-Qatar, Cornell University, ²World Health Organization Collaborating Centre for Disease Epidemiology

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BIOGRAPHY

Dr. Chemaitelly holds a Ph.D. in Epidemiology and Population Health from the London School of Hygiene and Tropical Medicine in the UK. Since joining WCM-Q in 2010, her research interests were focused on studying the epidemiology of infectious diseases using conventional epidemiologic study designs, advanced statistical techniques, and mathematical modeling. Her research work was key in informing infectious disease epidemiology in the Middle East and North Africa and contributed to the designation of the Infectious Disease Epidemiology Group as a World Health Organization Collaborating Centre for Disease Epidemiology Analytics. She further contributed to multiple successful research grant applications.

She is an accomplished scientist with a distinguished publication record including close to 100 publications, several of which appeared in leading high impact journals such as the New England Journal of Medicine, Nature Medicine, JAMA, Lancet Global Health, Nature Communications, PLOS Medicine, Clinical Infectious Diseases, BMC Medicine, and Emerging infectious Diseases.

BACKGROUND

The epidemiology of sexually transmitted infections (STIs) and the role of commercial heterosexual sex networks in driving STI transmission in the Middle East and North Africa (MENA) region remain poorly understood.

METHODS

We systematically reviewed ten international, regional, and country-level databases for Treponema pallidum (syphilis), Chlamydia trachomatis, Neisseria gonorrhoeae, Trichomonas vaginalis, and herpes simplex virus type 2 (HSV-2) epidemiological measures among female sex workers (FSWs) in MENA. Pooled prevalences of current and/or ever infection for each STI were estimated using meta-analyses. Sources of heterogeneity were investigated through meta-regressions.

RESULTS

One T. pallidum incidence study and 144 STI prevalence studies were identified for 45,812 FSWs in 13 MENA countries. Pooled prevalence of current infection was 12.7% (95% confidence interval-CI=8.5–17.7%) for T. pallidum, 14.4% (95% CI=8.2–22.0%) for C. trachomatis, 5.7% (95% CI=3.5–8.4%) for N. gonorrhoeae, and 7.1% (95% CI=4.3–10.5%) for T. vaginalis. Pooled prevalence of ever infection (seropositivity using antibody testing) was 12.8% (95% CI=9.4–16.6%) for T. pallidum, 80.3% (95% CI: 53.2–97.6%) for C. trachomatis, and 23.7% (95% CI=10.2–40.4%) for HSV-2. Multivariable meta-regression for T. pallidum infection demonstrated strong subregional differences, with the Horn of Africa and North Africa showing, respectively six-fold (adjusted odds ratio (AOR)=6.4; 95% CI=2.5–16.7) and five-fold (AOR=5.0; 95% CI=2.5–10.6) higher odds of infection than Eastern MENA. There was strong evidence for declining T. pallidum odds of infection at 7% per year (AOR=0.93; 95% CI=0.88–0.98). Study-specific factors including diagnostic method, sample size, sampling methodology, and response rate, were not associated with syphilis infection.

CONCLUSIONS

STI infection levels among FSWs in MENA are considerable, supporting a key role for commercial heterosexual sex networks in transmission dynamics, and highlighting the health needs of this neglected and vulnerable population. Syphilis prevalence in FSWs appears to have been declining for at least three decades. Gaps in evidence persist for multiple countries.



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32. Characterization of Antimicrobial Resistance Determinants in *Neisseria gonorrhoeae* from Patients Attending a Medical Laboratory, Institut Pasteur de Madagascar, Antananarivo

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¹Institut Pasteur de Madagascar

BIOGRAPHY

Graduated in Veterinary Medicine since 2015, I'm working as Laboratory Coordinator at Experimental Bacteriology at Pasteur Institute of Madagascar. I work mostly on antimicrobial resistance in Gram negative bacteria. Actually, I'm preparing to be enrolled in PhD program focused on Sexually Transmitted Infections in Madagascar, particularly the antimicrobial resistance in *Neisseria gonorrhoeae*.

BACKGROUND

Neisseria gonorrhoeae is becoming increasingly resistant to all classes of antibiotics. Currently, whole genome sequencing (WGS) has been advanced as a reliable method to predict antimicrobial resistance. We aimed to ascertain the antimicrobial resistance determinants in a selection of *N. gonorrhoeae* isolates stored at the medical laboratory (CBC) of the Institut Pasteur de Madagascar (IPM).

METHODS

We selected all isolates obtained in 2020 and in addition isolates with a decreased susceptibility or resistance to ceftriaxone or azithromycin. We confirmed the minimal inhibitory concentrations (MIC) using the E test method. WGS was performed by the National Institute for Communicable Diseases, South Africa, through funding from Fleming Fund. Bioinformatic analysis was done using TORMES v.1.3.0 and pyngStar script for genome analysis.

RESULTS

We included 46 isolates. According to the confirmation E testing: all isolates were susceptible to ceftriaxone, azithromycin and spectinomycin; 38 and 40 isolates were resistant to penicillin and tetracycline, respectively; all were resistant to ciprofloxacin.

All *N. gonorrhoeae* carried nonmosaic penA alleles, none of them had single nucleotide polymorphisms associated with elevated MIC to ceftriaxone. Three isolates had a mtrR-35 A deletion in the promoter region of the mtrR repressor and the mutation A39T in the coding region was present in 34 isolates. These mutations may result in overexpression of the MtrCDE efflux pump. Mutations in the 23S rRNA gene were not detected. All isolates resistant to tetracycline carried a tet(M) gene, of them 17 were high-level tetracycline resistant (MIC ≥ 16 mg/L). Double GyrA amino acid substitutions (S91F and D95G/D95A) were identified in all isolates and were associated with mutations in parC in 44 isolates.

CONCLUSION

Our study sets the basis for future surveillance and prediction of resistance development of *N. gonorrhoeae* in the patient population of IPM. WGS should be part of a national gonococcal surveillance.

34. Epidemiology of herpes simplex virus type 2 in the Middle East and North Africa: a systematic review, meta-analyses, and meta-regressions

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BIOGRAPHY

Manale Harfouche is an Epidemiologist currently holding the position of Senior Research Specialist at IDEG at the Weill Cornell Medicine - Qatar (WCM-Q). She

is involved in characterizing the epidemiology of different infectious diseases. Manale's current research focuses on systematic reviews, meta-analyses, and meta-regressions, as well as other data syntheses, for sexually transmitted infections and viral hepatitis.

BACKGROUND

Herpes simplex virus type 2 (HSV-2) is a prevalent sexually transmitted infection with a poorly understood disease burden in the Middle east and North Africa (MENA). We aimed to characterize the epidemiology of HSV-2 in this region.

METHODS

HSV-2 related data were systematically reviewed and reported following Cochrane and PRISMA guidelines. We searched PubMed, Embase, and regional databases up to October 2021 with no year or language restrictions. We estimated pooled mean outcome measures using random-effects meta-analyses. We conducted meta-regressions to assess possible predictors of HSV-2 seroprevalence and between-study heterogeneity.

RESULTS

We extracted 59 overall (129 stratified) HSV-2 seroprevalence measures and two overall (4 stratified) proportions of HSV-2 isolation in laboratory-confirmed genital herpes from 36 relevant publications. Pooled mean seroprevalence was 5.2% (95% CI: 3.7-6.9%) among general populations, 13.3% (95% CI: 8.2-19.4%) among intermediate-risk populations, and 19.4% (95% CI: 8.1-34.0%) among higher-risk populations. Compared to the fertile crescent, HSV-2 seroprevalence was 3.45-fold (95% CI: 1.56-7.63) and 3.12-fold (95% CI: 1.69-5.75) higher in Horn of Africa and Maghreb regions, respectively. Remarkably, age and sex were not significantly associated with HSV-2 seroprevalence. HSV-2 seroprevalence appears to be 2.10-fold (95% CI: 1.16-3.83) higher in studies published after the year 2015 compared to those published before the year 2010. Pooled mean proportion of HSV-2 isolation in laboratory-confirmed genital herpes was 73.8% (95% CI: 40.8-96.5%). Conclusion: HSV-2 seroprevalence among general populations in MENA was found lowest compared to other regions. HSV-2 in MENA appears to be the cause of 75% of genital herpes cases. These findings support the need for disease surveillance and monitoring of HSV-2 in MENA.

36. Lessons learned from the introduction of Dual Rapid Diagnostic test (RDT) for HIV and syphilis testing and syphilis treatment for pregnant women during Ante Natal Care (ANC) visits in Ethiopia

Demeke Z¹

¹Clinton Health Access Initiative

BIOGRAPHY

My name is Zelalem Demeke, and I am a Medical Doctor (MD). I have a 25 years' work experience as a medical doctor and been working in different positions in public and nongovernmental organization (NGO) in Ethiopia. Currently I work as a senior Program manager for Reproductive Maternal and Neonatal Health (RMNH) program at Clinton Health access initiative (CHAI) in Ethiopia. I have been working at CHAI for the past 10 years, where I and my team introduced and tested different innovative approaches to improve the lives of mothers and neonates and reduce morbidity and Mortality due to preventable causes in Ethiopia, where most of the introduced approaches were adopted by the Ethiopian Ministry of Health (MOH). I am married and a father of four, and apart from work I enjoy spending time with my family.

BACKGROUND/PURPOSE

Syphilis is one of the most common sexually transmitted infections globally, with approximately 6 million new cases each year. According to the latest WHO data published in 2018 syphilis deaths in Ethiopia reached 6,286 (1.03% of total deaths), and the syphilis prevalence rate among pregnant women ranges from 0.90% to 2.10%, with only 28% of pregnant women tested for syphilis during Ante-natal care (ANC)

and with a 47% testing gap when compared with HIV demonstrating a missed opportunity to screen and treat women with syphilis presenting for ANC contacts. Introduction and rolling out of the dual HIV/syphilis testing plays a key role in the triple elimination plan Ethiopia is set to achieve.

DESCRIPTION/APPROACH

CHAI supported the government of Ethiopia to pilot the implementation of dual HIV/syphilis testing and treatment in 40 health facilities (33 health centers and 7 Hospitals) in Ethiopia to demonstrate the feasibility of using the dual testing to address the key challenges limiting syphilis testing and treatment among pregnant women during ANC visits.

IMPACT/LESSONS LEARNED

A total of 14,146 (97%) pregnant women were tested (out of 14,568 ANC attendees) using dual test kits for both syphilis and HIV and 81 (0.6%) pregnant women were found to be sero-positive for syphilis, out of which 98% were treated for syphilis. The partner testing rate was 75%.

INNOVATION/CONCLUSIONS

Dual HIV and syphilis testing and treatment of syphilis could improve the quality, acceptability, and uptake of testing and treatment of syphilis and HIV in urban and rural areas and accelerate the elimination of Mother to child transmission (MTCT) of syphilis and HIV. The pilot also identified that the dual HIV/syphilis tests, do not require going to the laboratory for syphilis testing, reduces the time to get test results, is simple to use, requires minimal resources and is easy to scale.

40. Investigating the relationship between inflammation in the female genital tract and persistent CT infections in young South African women

Lurie M^{1,2}, Dabee S^{1,7}, Barnabas S^{1,3}, Maseko V^{4,8}, Jaumdally S¹, Gamielidm H¹, Lewis D^{5,6}, Jaspan H^{1,7}, Gill K³, Bekker L^{1,3}, Passmore J^{1,2,8}, Bunjun R¹

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BIOGRAPHY

Micaela Lurie completed her BSc in Biochemistry and Genetics at the University of Cape Town in 2017. She then joined Associate Professor Jo-Ann Passmore's Mucosal Immunology Group (MIG) in 2018 and completed her Honours in Immunology and Infectious diseases, focusing on characterizing T cell responses in peripheral blood mononuclear cells (PBMCs) stimulated with heat killed or lysed Chlamydia trachomatis. She completed her MSc in Medical Virology in 2021, which focused on fluorescent detection methods for Chlamydia trachomatis. She began her PhD in Medical Virology in 2022, where she is part of the Genital Inflammation Test (GIFT) for HIV prevention team and her research will focus on inflammatory cytokine analysis and anti-inflammatories.

45. High incidence of sexually transmitted infections among African adolescent girls and young women using ARV-based methods for HIV prevention

Akello C¹, Valdez M, Palanee-Phillips T, McClure T, Ngure K, Nair G, Macdonald P, Mirembe B, Nakabiito C, Siziba B, Soto-Torres L, Brown E, Celum C, Balkus J

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BIOGRAPHY

Carolyn Agwau Akello, MBChB (MUK), MSc (Epidemiology) is an Investigator with the MTN-034/REACH Adolescent study and a sub-investigator in a number of HIV prevention studies at Makerere University Research Collaboration/ MU-JHU Care LTD. She is a medical doctor and a trained Epidemiologist from the London School of Medicine and Tropical Hygiene (LSHTM) with over 10 years' experience in HIV/AIDS research with a focus on HIV prevention among women of reproductive age including adolescent girls and young women whom she is very passionate about. She has great interest in Sexually Transmitted diseases (STIs) and has been keenly following the incidence of STIs and the associated risk factors among adolescent girls and young women. This ISSTD conference is a perfect place to network with experts in this field and to discuss progress made on STI prevention especially in the era of biomedical HIV prevention.

BACKGROUND

African adolescent girls and young women (AGYW) using antiretroviral (ARV)-based HIV prevention methods remain at risk for sexually transmitted infections (STIs). Most curable STIs are asymptomatic, lacking clinical indication for syndromic management which is the standard of care in Africa. Data on STI prevalence and incidence among African AGYW are needed to guide STI diagnostic testing and prevention interventions and reduce STI-associated sequelae.

METHODS

MTN-034/REACH was a randomized, open-label, crossover study assessing the safety of and adherence to the dapivirine vaginal ring and oral tenofovir disoproxil fumarate/emtricitabine among AGYW from South Africa, Uganda and Zimbabwe. Sexually active HIV-negative AGYW ages 16–21 years were enrolled and tested for Chlamydia trachomatis/ Neisseria gonorrhoeae (CT/GC) by nucleic acid amplification, Trichomonas vaginalis (TV) by rapid test, and syphilis by serology. AGYW who tested positive for an STI received treatment. We calculated STI prevalence at baseline and incidence during 12-months follow-up.

Results: Among 247 AGYW enrolled, 34% were 16-17 years old, 87% were single, and the median number of sexual partners in the prior 3 months was 1 (IQR 1-2). At baseline, 35% of participants tested positive for any STI (29% for CT; 8.5% for GC; 4.9% for TV; 2.4% for syphilis). STI incidence per 100 person-years was 49.1 (95% CI 39.3-58.8) for CT, 21.3 (95% CI 14.8-27.9) for GC, 18.8 (95% CI 12.4-25.1) for TV and 4.2 (95% CI 0.6-7.8) for syphilis. Incidence for each of the four STIs was higher among AGYW who were diagnosed with that STI at baseline, despite receiving treatment, compared to those who were STI-negative.

Conclusion: STI prevalence and incidence were alarmingly high among AGYW using ARV-based HIV prevention in South Africa, Uganda and Zimbabwe. There is an urgent need and ethical imperative to improve STI diagnostic and treatment services for AGYW in the context of PrEP delivery.

56. The population impact of HSV-2 vaccination on HIV, HSV-2 and genital ulcer disease in South Africa: a mathematical modelling study

Stone J¹, Looker K¹, Silhol R², Turner K³, Hayes R⁴, Coetzee J^{5,6}, Baral S⁷, Schwartz S⁷, Mayaud P⁸, Gottlieb S⁹, Boily M², Vickerman P¹

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BIOGRAPHY

Dr Jack Stone is a Research Fellow in infectious disease modelling at the University of Bristol. His research focuses on the use of mathematical modelling, with detailed epidemiological, biological and behavioural data, to help understand and explore the transmission of different infectious diseases and the impact and cost-effectiveness of prevention and treatment interventions.

BACKGROUND

South Africa (SA) has high HIV and herpes simplex virus type 2 (HSV-2) infection rates. These infections interact to affect acquisition and transmission risks. Vaccines targeting HSV-2 could therefore potentially impact both HSV-2 and HIV, as well as genital herpes manifestations (genital ulcer disease; (GUD)). We analysed the potential impact of HSV-2 vaccines on HIV and HSV-2 transmission and days with GUD.

METHODS

We extended an existing dynamic HIV transmission model for SA to include HSV-2, parameterised/calibrated using detailed demographic, behavioural and epidemiological data. We included effects of HSV-2 on HIV acquisition and transmission, and HIV on HSV-2 shedding. Impact over 2020-2060 was estimated for: (i) cohort vaccination of 9-year-olds with a prophylactic vaccine that reduces HSV-2 susceptibility; (ii) vaccination of symptomatically HSV-2 infected individuals with a therapeutic vaccine that reduces shedding.

RESULTS

Prophylactic HSV-2 vaccination was projected to have a moderate to substantial impact on HSV-2/HIV incidence and GUD, depending on efficacy, uptake and duration. An 80% efficacious prophylactic vaccine offering lifetime protection with 80% uptake could reduce HSV-2, HIV and GUD incidence by 84.1% (95% Credibility Interval: 81.2-86.0), 65.4% (56.5-71.6), and 58.8% (52.6-62.8) over 40 years. A much smaller impact is projected for a therapeutic vaccine. With 80% efficacy and 60% coverage among symptomatic individuals, HSV-2, HIV and GUD incidence could reduce by 42.7% (32.0-55.8), 38.1% (28.0-51.7), 67.7% (63.2-73.7), respectively, after 40 years. The number needed to vaccinate to avert one HSV-2 infection, HIV infection or year of GUD over 40 years was 2.3-3.7, 3.4-5.3 and 4.9-16.1 times lower, respectively, for a therapeutic vaccine than a prophylactic vaccine

CONCLUSIONS

Prophylactic and therapeutic vaccines offer two contrasting but promising approaches for reducing HSV-2 burden and could have important additional impact on HIV in South Africa and elsewhere.

57. Characterising Lactobacillus strains from African women with persistently optimal vaginal microbiota - Framework for an African vaginal probiotic product development platform

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BIOGRAPHY

Anika Chicken is a final year MSc student in the Mucosal Infections Group. She completed her undergraduate studies at the University of Stellenbosch (BSc Molecular Biology and Biotechnology). She moved to the Mucosal Infections Group for her Honours in Infectious Diseases and Immunology in 2020.

BACKGROUND

Bacterial vaginosis (BV) is associated with significant health risks in cisgender women. The high rates of BV recurrence following antibiotic treatment necessitates the development of alternative or adjunctive treatments. While live biotherapeutic products (probiotics) are promising in this regard, there is an urgent need for the development of improved vaginal probiotics containing strains with proven health benefit capable of persistently colonising the female genital tract.

METHODS

From a total of 86 cisgender women enrolled in a recently completed study we collected vaginal specimens at three timepoints (16 weeks apart). Vaginal microbial communities were classified using VALENCIA. Lactobacillus spp. were selectively isolated from participants with longitudinally stable Lactobacillus-dominant communities and assayed for their ability to inhibit Prevotella bivia, a BV-associated microorganism, using a soft agar overlay method.

RESULTS

A total of 15 (17.4%) participants had vaginal communities consisting of diverse anaerobes and low Lactobacillus abundance (CSTIV) across all three visits. Longitudinally stable L. iners-dominated (CSTIIL) and L. crispatus-dominated (CSTI) communities were observed in nine participants each (10.5%). The remaining participants showed shifts between community state types, primarily between CSTIIL and CSTI or CSTIV during the study period. A total of 337 isolates were obtained from three participants with longitudinally stable CSTI communities. Almost all isolates (n = 323 [95.8%]) showed some activity against P. bivia (21.6% strong, 26.11% moderate and 48% weak activity). Intrasample variation in inhibitory activity was seen for isolates of the same species. Conclusions: The proportion of cisgender women with longitudinally stable, optimal vaginal communities in our setting is relatively low. However, targeting these women for the isolation of potential probiotic bacteria yielded a large number of isolates with inhibitory activity against a BV-associated pathogen, which can be characterised further. Phenotypic variation among isolates illustrates the importance of screening multiple strains of the same species per sample.

58. Title: "Ladies know it's lipstick and he also knows that it's lipstick;" Perceived Sexual Health Stigma and Pill Carriers to Support Adherence among Young Women in The dPEP Trial.

Kwach B¹, Kwena Z¹, Simoni J², Odoyo J¹, Bukusi E^{1,3,4}, Baeten J^{3,5}, Oware K¹, Stewart J^{3,5}

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BIOGRAPHY

Benn Kwach is a Research Scientist at the Centre for Microbiology Research affiliated with Kenya Medical Research Institute. He received a bachelor's degree in Medical Laboratory Sciences with IT from Maseno University and additional professional development online courses at the University of Washington: Certificates in Leadership and Management in health, Monitoring and Evaluation in Global Health, and Principles of STI HIV Research Course. He has been working in clinical and behavioral research since 2006 with a focus on HIV and STI treatment and prevention among adolescent girls and young women. Mr. Kwach's research interests include care-seeking behavior, role of interpersonal relationships, patient-provider interface, and social aspects of HIV/STI care and prevention.

59. Programmatic Evidence on Sociodemographic Characteristics of Syphilis in Pregnancy from Three High Prevalence states in Nigeria

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BIOGRAPHY

Chiedozie is a Biomedical Scientist and Public Health professional with advanced technical and programmatic expertise in designing and implementing catalytic public health interventions aimed at enhancing healthcare access and outcomes for under-served populations. He holds an MSc. in Biomedicine (with Distinction) from Lancaster University, UK, as well as certifications in Global Health from the Imperial College London and Public Management from The Ohio State University, Columbus, USA.

Chiedozie works with the Clinton Health Access Initiative where he leads the congenital syphilis elimination program in Nigeria.

Nigeria is prioritized by the World Health Organization for the dual elimination of mother-to-child-transmission of HIV and syphilis. Maternal syphilis prevalence in Nigeria is 0.7%. To attain elimination targets, the Federal Ministry of Health (FMOH) is scaling up diagnosis through deployment of dual HIV/syphilis Rapid Diagnostic Tests (RDT) in antenatal clinics, following a successful pilot in collaboration with the Clinton Health Access Initiative (CHAI).

Between September 2019 and March 2021, CHAI and the FMOH piloted dual RDTs across 31 health facilities in Akwa Ibom, Anambra and Rivers, states with maternal syphilis prevalence of 1.6%. 1,678 healthcare workers were trained to use the dual RDTs and administer Benzathine Penicillin G to positive cases. CHAI procured 55,000 dual RDTs and 1,500 vials of BPG to support operationalization. Implementation results were analyzed to characterize sociodemographic and behavioral factors to define epidemiology.

45,413 pregnant women were tested using dual RDTs. Positivity rate for HIV and syphilis was 2.0% and 0.2% respectively. Descriptive analysis revealed 38% of the syphilis positive pregnant women were aged 25 – 29 years, 28% 30 – 34 years and 22% 20 – 24 years. 73% of the positivity yield was in urban areas with 27% in rural areas. 98.6% were married, 73% had a secondary education, 22% tertiary and 5% primary education. Primary Health Centers identified 49% of the syphilis positive PW, 19% tertiary HFs, 16% Faith-based facilities and 14% secondary HFs. 75% of the syphilis PW had gravidity 2 – 4, 21% gravidity 1 and 4% gravidity 4 and over.

Evidence from this study indicates that syphilis is predominant in urban communities and cases are well documented among women in their active sexual age. With growing momentum towards congenital syphilis elimination, MOHs are encouraged to consider these sociodemographic factors in planning targeted interventions for improved efficiency and resource utilization.

60. Point-of-care STI Testing and HIV Pre-Exposure Prophylaxis Initiation Among Pregnant Women in Antenatal Care – Cape Town, South Africa, 2019–2021

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BIOGRAPHY

Dr. Alex de Voux is an infectious disease epidemiologist and public health professional with a strong background in sexually transmitted infections (STIs), network analysis and HIV/STI disease control and prevention. Alex has experience as an Epidemic Intelligence Service (EIS) Officer at CDC with participation in STI outbreak investigations and field epidemiology.

BACKGROUND

Pre-exposure prophylaxis (PrEP) programmes present a platform for introducing diagnostic STI testing in low- and middle-income countries, and the availability of STI testing has been hypothesized to influence PrEP use, but data are few. We evaluated the association of STI testing modality (point-of-care [POC] versus laboratory-based) and PrEP initiation among pregnant women in antenatal care.

METHODS

We enrolled consenting pregnant, HIV-negative women (≥16 years) into an observational cohort at first antenatal visit with follow-up through 12 months postpartum. Women received HIV prevention counselling and were offered oral PrEP (daily tenofovir+emtricitabine). Self-collected vaginal swabs were tested for Chlamydia trachomatis (CT) and Neisseria gonorrhoeae (NG) using a POC (Cepheid GeneXpert) between August 2019–November 2020 or laboratory-based test (TaqMan quantitative polymerase chain reaction, Thermofisher) between December 2020–October 2021. STI treatment was administered following receipt of results from either test and integrated into PrEP counselling once available. We described the two STI test results and compared the proportion of women initiating PrEP by test adjusting for a priori confounders.

RESULTS

We evaluated 1194 women with a STI result (46% POC and 54% laboratory-based; median age, 26 years [IQR:22–31]). Prevalence of any STI was the same in POC-tested (28%) and laboratory-tested (28%) women – 25% versus 23% for CT and 7% versus 9% for NG. Mean time from STI testing to result and to treatment was 0 (SD=0) and 2.9 (SD=11.9) days for POC and 26.4 (SD=10.8) and 37.6 (SD=42.5) days for laboratory testing, respectively. More POC-tested women (90%) initiated PrEP than laboratory-tested (78%; adjusted prevalence ratio=2.6; 95% CI:1.9–3.6) controlling for age, gravidity, STI diagnosis, intimate partner violence, gestational age, employment, HIV risk perception, and cohabiting status.

CONCLUSION

While further insights are needed from diverse settings, these findings suggest that POC STI testing may increase PrEP initiation among pregnant women in antenatal care.

63. Syphilis in Pregnancy in Zambia: Gaps in the Treatment Cascade and Adverse Pregnancy Outcomes

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BIOGRAPHY

Dr. Manasyan has 10+ years of experience in Reproductive, Maternal, Newborn, and Child Health (RMNCH) leading complex global health programs in Sub-Saharan Africa, managing cross-functional and multi-national teams, and providing strategic direction in government and nonprofit environments. He has been a leader in the establishment of a research infrastructure within the NICHD-funded Global Network for Women's and Children's Health Research site in Zambia. His research focuses on novel models – community or health facility – aimed at reducing maternal and neonatal mortality, with an emphasis on perinatal mortality among preterm infants.

He is an Associate Professor with UAB, based in Zambia, seconded to work at the Centre for Infectious Disease Research in Zambia (CIDRZ), where he set up and heads the RMNCH Department. He serves as PI on multiple studies in Zambia.

During his tenure, he has successfully implemented numerous programs and research studies and contributed to the development of several national guidelines (Zambia). The Departmental portfolio has expanded to include research studies in the field of neonatal hypothermia, preterm birth, early infants diagnosis of HIV, safe motherhood, post-partum hemorrhage, STI screening among pregnant women and adolescent girls, and cervical cancer, including the use of artificial intelligence.

BACKGROUND

Syphilis in pregnancy remains a critical public health problem in sub-Saharan Africa with prevalence ranging from 0.1-10% among women seeking antenatal care (ANC). The study objective was to quantify syphilis testing and treatment rates, and birth outcomes among pregnant women with syphilis in Zambia.

METHODS

We conducted a retrospective cohort study from medical records for women who accessed ANC between January 2018 and December 2019 at 10 public clinics in Lusaka, Zambia. ANC syphilis testing was performed with a non-treponemal RPR test. Continuous variables were calculated as mean with standard deviation. Categorical variables were calculated as count with percentage and outcomes compared by documented treatment status using Pearson Chi-square test. Main outcomes of interest were syphilis treatment rates and birth outcomes. Results: Among 65,776 women who attended ANC clinic, the syphilis and HIV screening rates were 43% (n=28,480) and 88% (n=57,700) respectively. Syphilis prevalence was 5% (n=1,370). Stockouts of test kits occurred in 32% of calendar months. Treatment was documented in 43% (n=590). Nearly all women (98%) received first line benzathine penicillin G but only 13% of partners were referred for treatment. Among those with syphilis, 42% (n=575) had HIV coinfection. Average gestational age of the initial syphilis test was 19.6 weeks. Adverse birth outcomes were more common in women with syphilis without documented therapy (preterm delivery 44% vs 32% [p<0.01], low birthweight 23% vs 16% [p<0.01], and intrauterine fetal demise 2.8% vs 1% in women with documented treatment [p=0.06]).

CONCLUSION

Major barriers persist in the diagnostic and treatment cascade for syphilis in pregnancy in Zambia. Syphilis test kits are frequently stocked out and treatment rates for women and their partners are inadequate. New ways to ensure access to universal syphilis diagnosis and treatment, particularly in women with HIV are needed to prevent adverse birth outcomes.

63. Integrated point-of-care STI testing, expedited partner therapy, and PrEP provision are acceptable to healthcare providers in Johannesburg, South Africa

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BIOGRAPHY

I am Lydia Mampuru a Research Assistant with a focus on behavioural research at the University of Witwatersrand Reproductive Health and HIV Institute (Wits RHI), based in Johannesburg South Africa. My prior experience as a Research Consultant exposed me to multiple studies dealing with key issues around sexual and reproductive health in South African society. I describe myself as an upcoming African feminist driven by my empathy for those less fortunate and left behind in the economy and my love for adolescent girls and young women (AGYW). I am currently working towards a Master's degree in Sociology specializing in social and behavioral sciences, to get a broader understanding of behavioral research and to better make a sound contribution to scientific knowledge, and the resolution of the concerning health related issues such as STI's in AGYW.

BACKGROUND

Oral pre-exposure prophylaxis (PrEP) is being rolled out in many populations, including adolescent girls and young women (AGYW). South African national guidelines call for syndromic STI management at PrEP visits; however, this can lead to missed opportunities for diagnosis and treatment of asymptomatic infections, limited time for provider-patient interactions, and poor uptake of partner services. Point-of-care (POC) STI testing and expedited partner therapy (EPT) integrated into PrEP provision could streamline STI service delivery, although little is known about provider views on these implementation approaches.

METHODS

Between February-May 2021, we conducted 20 in-depth interviews (IDIs) with providers (n=10) and staff from community organisations (n=10) providing PrEP and STI services to AGYW in Johannesburg. Interviews explored potential benefits, facilitators, and barriers to integrated POC testing, EPT, and PrEP delivery, grounded in the Theoretical Framework of Acceptability. IDI recordings were transcribed in English. We used coding and memo-writing to identify themes.

RESULTS

PrEP providers described conducting syndromic STI management and providing partner notification slips for AGYW who test positive for STIs. However, they liked EPT as an alternative to partner notification because "EPT is very beneficial to healthcare...partner notification doesn't have any tracing, so...what we used to have is reinfection time and again". Providers felt that POC testing was acceptable to quickly diagnose and treat STIs: "It will help us identify STIs at a faster rate. So, we'll be better able to treat adolescents and prevent re-infection". Providers requested additional training on POC testing and EPT and support in demand-creation approaches for AGYW.

CONCLUSION

POC testing and EPT are acceptable to South African PrEP providers and seen as valuable approaches to streamline STI care in the context of PrEP provision. Successful integration of POC testing and EPT with PrEP services will require provider training to best implement these important STI management approaches.

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76. Pre-clinic use of antimicrobials in men with urethral discharge syndrome in Kampala, Uganda

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BIOGRAPHY

Dr. Matthew Hamill is a UK-trained physician with specialist training in the treatment of STI. He is an Assistant Professor in the Division of Infectious Disease at Johns Hopkins School of Medicine, Baltimore MD, US. He also serves as Clinical Chief for STI at the Baltimore City Health Department. His current research focuses on the role of point-of-care tests for STI in resource-limited settings.

BACKGROUND

Antimicrobial resistant sexually transmitted infections (STI) and poor antimicrobial stewardship are interrelated global health emergencies, especially in resource-constrained settings where the burden of STI is high, surveillance is limited, and oversight of antimicrobial use is lacking.

METHODS

A cross-sectional study of men with urethral discharge syndrome (UDS) taking part in an existing enhanced gonococcal surveillance program (EGASP) attending government health centers in Kampala Uganda between October 2019 to November 2020. Demographic, clinical, and behavioral data were collected by questionnaires, and were used to explore associations with antimicrobial use.

RESULTS

Of 250 participants, median age 24.0 [22.0, 32.0] years; 56.8% (142) had culture-confirmed gonorrhea, all were resistant to ciprofloxacin, penicillin, and tetracyclines; 40.0% reported 'never' condom use; 60.5% reported transactional sex in the prior 6 months; and 95.2% reported sex with women only. 40.5% (n=100) men reported antimicrobial use in the 14-days prior to the study visit including tetracyclines (12.6%), penicillin (6.5%), and ciprofloxacin (10.5%). 4.5% had used extended spectrum cephalosporins. In comparison to participants who did not report antimicrobial use (≤ 14 days prior to clinic visit), antimicrobial users were more likely to have received previous treatment for UDS 95.0% vs 8.0%, $p < 0.001$; report sex with men and women 9.0% vs 3.0%, $p = 0.016$; condomless sex since UDS symptom onset 29.3% vs 15.8%, $p = 0.010$; and be living with HIV 29.0% vs 13.6%, $p = 0.003$. There were no differences by age; history of transactional sex; alcohol use; or curable STI diagnosis. Conclusions: Antimicrobial use prior to clinic presentation was common in men with UDS. Those using antimicrobials were more likely to be living with HIV and engage in high risk behaviors; this has the potential to drive ongoing STI AMR transmission. More work is needed to explore drivers of unfettered antimicrobial use in men with UDS in Kampala.

82. Prevalence and characterization of HPV infection among women living with HIV attending public health services in Brazil

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BIOGRAPHY

Dr Mariangela Freitas da Silveira is a gynecologist with doctoral and post-doctoral degrees in epidemiology, based at the University in Pelotas (Brazil). She had and experience working as a consultant to the Pan American Health Organization in several countries in Latin America and the Caribbean, mainly on MTCT of CS and HIV. Her fields of expertise include sexually transmitted diseases, with a focus of mother-to-child transmission, and women and child health. More recently, she had been involved as part of the coordination, in the CeBra trial, coordinated by WHO, and with the EPICOVID Brazil and Rio Grande do Sul. She has over 170 publications in peer-reviewed journals

People living with HIV have a higher frequency of intraepithelial lesions and anogenital neoplasms resulting from HPV infection. HIV-positive women are more likely to be infected by oncogenic HPV genotypes and four to five times more likely to develop invasive cervical cancer, requiring differentiated screening and diagnosis. High-risk DNA-HPV screening detects more than 90% of high-grade intraepithelial neoplasms. Healthcare systems are considering switching cervical cancer screening with cytology to DNA-HPV testing to increase screening sensitivity and allow for longer collection intervals. Self-collection for HPV testing appears to be cost-effective when increasing screening coverage.

Cross-sectional study in 8 Brazilian cities among women living with HIV from 18 to 64 years old, using a questionnaire including sociodemographic, behavioral information, and receptivity of vaginal samples self-collection. Pregnant women, hysterectomized women, women with gynecological cancer were excluded. Anyplex HPV28 Detection SeeGene was used.

Until February 2022 1,515 women living with HIV were already studied in 8 Brazilian cities. Prevalence of HPV infection was 65.9% (ranging from 45% to 80.7%) and that of infection with any high-risk HPV was 51.6% (ranging from 34.1% to 60.9%). The most prevalent high-risk types where HPV 68, 16, 58 and 56. There was a high prevalence of multitype infections. There was a very good acceptance from the women of the self-collection method.

In Brazil, cytology is the only cervical cancer screening tool since its introduction in the Brazilian program in the 1970s. In view of the above, it is considered strategic to provide access to HPV molecular biology tests within the scope of the SUS for the screening of cervical cancer in women living with HIV who have a greater chance of progression of pre-invasive lesions to invasive cancer. This will make it possible to increase the diagnosis of cervical cancer in the population of women living with HIV.

84. HIV infection and risk of COVID-19 death in sub-Saharan Africa. A meta-analysis

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¹University Of Kinshasa

BIOGRAPHY

Specialist in internal medicine and infectious diseases

BACKGROUND

Little is known about COVID-19 outcomes among People living with HIV in sub-Saharan Africa. The goal was to determine the relationship between HIV infection and the risk of coronavirus disease 2019 (COVID-19) mortality in Sub-Saharan African countries.

METHODS

From December 1, 2019 to December 31, 2021, we systematically retrieved papers from PubMed, Google Scholar, Europe PMC, and EMBase. Studies from Niger, the Democratic Republic of the Congo, Uganda, Kenya, and South Africa are all represented in this meta-analysis. The quality of the included studies was assessed using the Newcastle–Ottawa Scale (NOS). To quantify heterogeneity, the Cochran Q test and I² statistics were used. The Egger test and the funnel plot were used to look for potential publication bias.

RESULTS

A total of 560 records were found. Six papers were finally included in this review. In total, 7208 COVID-19 patients with HIV infection and 53073 COVID-19 patients without HIV infection were included. Among COVID-19 patients with HIV, the mortality rate was 10.90% (786/7208). According to one study, those living with HIV have a greater risk of COVID-19 death than those who do not have HIV. According to five studies, there was no link between HIV infection and COVID-19 mortality risk. The OR effect size ranged from 0.03 to 10.27 in the various investigations. There was no substantial heterogeneity among the six studies ($Q=2.92$, $p=0.71$; $I^2=0\%$). In this meta-analysis, the overall effect size (OR) was 1.13 (95% CI 1.04–1.23). The funnel plot analysis revealed symmetry among the research considered. The Egger test revealed that there was no publication bias ($t=0.56$, $P=0.586$).

CONCLUSION

This meta-analysis found a link between HIV infection and the probability of death from the COVID-19. Those with HIV co-infection should be treated as a priority group during COVID-19 clinical treatment to reduce death risk.

87. Archived HIV-1 drug resistance is driven by NNRTI-mutations and associated with viral replication among adolescents in Cameroon

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BIOGRAPHY:

Master degree in medical microbiology obtained at the University of Yaounde 1, Yaounde, Cameroon.

PhD fellow in virology at the Chantal Biya International Reference Centre for Research on HIV/AIDS Prevention and Management, Yaounde, Cameroon with the collaboration of the University of Rome Tor Vergata, Rome, Italy.

Actually working field: HIV in pediatric population.

BACKGROUND

Frequent non-adherence in adolescents living with HIV (ALHIV) leads to viral replication (viremic infection). Of relevance, a viremic infection might prone archived drug resistance mutations (ADRM), known as predictors of Antiretroviral therapy (ART) failure. Our objective was to compare the patterns of ADRMs in viremic versus non-viremic ALHIV.

METHODS

A comparative study was conducted amongst ALHIV (10-19 years) receiving ART at the Chantal Biya International Reference Centre (CIRCB) in Yaoundé-Cameroon, from October-November 2021. Plasma viral load (PVL) was measured and the participants were classified as viremic and non-viremic; HIV-1 genotyping was performed on buffy coat (HIV-1

DNA) and interpreted using HIVdb.v9.0.1. Patterns of HIV-1 ADRMs were compared between the viremic and non-viremic participants.

RESULTS

A total of 25 sequences were successfully obtained out of 32 adolescents enrolled (median age: 18 years); all were on ART for 11[8-14] years since their diagnosis with a mean PVL of 1.39 ± 1.69 Log₁₀ HIV-1 RNA cp/mL; 68%(17/25) were non-viremic (<40 cp/mL) while 32%(8/25) were viremic (≥ 40 cp/mL). Overall rate of ADRMs was 64%(16/25); 44%(11/25) of ALHIV harbored NRTI+NNRTI resistance. Following PVL stratification, ADRMs were found in 87.5%(7/8) viremic vs. 52.9%(9/17) non-viremic ALHIV, (OR: 1.65[95%CI: 0.45-6.04], $p=0.09$); NNRTI ADRMs were found in 87.5%(7/8) viremic vs. 41.2%(7/17) non viremic ALHIV ($p=0.04$), while NRTI+NNRTI resistance was found in 62.5%(5/8) viremic vs. 35.3%(6/17) non-viremic ALHIV (OR: 1.77[95%CI: 0.41-7.5], $p=0.20$). Twenty-two ALHIV were infected with CRF02_AG(88%), 2 F2(8%) and 1 G(4%) subtypes. No significant effect of subtype on the presence of ADRMs was found (ADRM in CRF02_AG ALHIV: 13/22[59.1%]; ADRMs in non-CRF02_AG ALHIV: 3/3[100%], $p=0.28$).

CONCLUSION

The majority of ALHIV receiving ART remains non-viremic, suggesting a good treatment response. However, among viremic populations there is a high burden of ADRMs, driven essentially by resistance to NNRTI. Thus, our findings underscore the use of NNRTI-sparing regimens would contribute in favoring a long-term success of ART in this difficult-to-treat population.

89. Socio-cultural barriers against utilisation of BBVs/STIs services in a multicultural setting: a qualitative study among East Asian and sub-Saharan African international students in Sydney

Okeke S¹

¹University of New South Wales, Sydney

BIOGRAPHY

Sylvester Okeke has expertise in global public health with interest in understanding how adolescents and young adults can be empowered to protect, promote and maintain their sexual and reproductive health and rights. He has committed over ten years of research and community services to strengthening institutional frameworks and mobilizing community efforts in promoting sexual and reproductive health, rights and well-being of adolescents and young adults. He is a volunteer on a wide range of adolescents and youth targeted BBVs/STIs prevention interventions in Nigeria and Australia. Also, he has trained and mentored over 300 adolescents as peer educators in HIV/STI prevention and care. Sylvester has worked in UNICEF, MacArthur Foundation and NSW Health funded projects on SRH and BBVs/STIs prevention initiatives.

BACKGROUND

Globally, university students are known to engage in sexual practices that potentially elevate risks for the transmission of blood-borne viruses and sexually transmissible infections (BBVs/STIs). Available evidence suggests that much is not being done as regards the provision of contextualized sexual health services for international students in Australia. This study aims at providing evidence to inform equitable sexual health services for international students in Australia, who come from more conservative sexual cultures.

METHODS

This qualitative research, guided by the constructivist paradigm, used data generated with 20 international students from East Asian and sub-Saharan African countries and territories. Volunteers were enrolled on student visa in undergraduate and postgraduate courses across five universities in Sydney. Data collection—guided by a semi-structured guide—involved face-to-face and phone interviews between May and

August 2019. The interview sessions were audio-recorded, transcribed verbatim, coded in NVivo and analysed using reflexive thematic analysis.

RESULTS

This study generated three overarching themes revealing how socio-cultural norms constrain participants from engaging with available sexual health services and practising consistent condom use. First, premarital abstinence expectation acts as a barrier against condom access; even though participants know where to get them for free. Notably, some participants' recent condomless sex may be attributed to this barrier. Second, conservative norm associating condoms with sexual permissiveness and sex work affect confidence in negotiating condom use. Finally, some participants who are behaviourally vulnerable to HIV/STIs may not be engaging with screening services because of social stigma and the fear of being judged.

CONCLUSIONS

Existing sexual and reproductive health services for young people in Australia may not consider structural barriers that could impact utilisation of such services among culturally and linguistically diverse population. The results of this study have implications for culturally sensitive and population-specific sexual health services for international students in Australia, from conservative sexual backgrounds.

94. Vulvovaginal yeast infections in pregnancy and perinatal outcomes: a systematic review and meta-analysis

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BIOGRAPHY

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PhD student at Graduate School for Cellular and Biomedical Sciences and the Institute of Social and Preventive Medicine, University of Bern, Switzerland

09.2013 – 09.2019

Medical studies at University of Zurich, Switzerland

09.2009 – 09.2012

Bachelor's degree program in nursing at Zurich University of Applied Sciences in Winterthur, Switzerland

BACKGROUND

Preterm birth is the most common cause of death in infants worldwide and is associated with female reproductive tract infections through inflammatory pathways. Vulvovaginal yeast infection is common in pregnancy and can cause inflammation. Our objective was to investigate associations between both symptomatic and asymptomatic vulvovaginal yeast infections in pregnancy and perinatal outcomes.

METHODS

We conducted a systematic review (PROSPERO: CRD42020197564) and searched eight online databases up to 27 March 2020 without language restrictions. We included studies reporting on our primary outcome, preterm birth, or secondary outcomes (spontaneous abortion, stillbirth, premature rupture of membranes, low birth weight, small for gestational

age, placental inflammation, and neonatal death). Where appropriate, we conducted random effects meta-analysis to calculate summary odds ratios (OR) and 95% confidence intervals (CI) for the association between yeast infection and outcomes.

RESULTS

We screened 6247 references and included 52 different studies (median study size 287, interquartile range 180.5-1165). Two of 52 studies included only symptomatic women, 14/52 included both symptomatic and asymptomatic women, 5/52 asymptomatic women only and 31/52 had no information about symptoms. *Candida albicans* was the most frequently reported yeast species. Vulvovaginal yeast infection was not associated with preterm birth overall in meta-analysis of univariable data in 30 studies (OR 0.96, 95% CI 0.77-1.18, I² 68%), or in studies reporting proportions of symptomatic women: ≥50% symptomatic women (OR 1.49, 95% CI 0.63-3.51, 2 studies); <50% symptomatic women (OR 0.83, 95% CI 0.41-1.69, 6 studies); asymptomatic women only (1.12, 95% CI 0.94-1.35, 4 studies). We did not find associations between vulvovaginal yeast infection and any secondary outcome, reported in 1-11 studies.

CONCLUSION

Reporting about symptom status was poor and should be improved in studies about reproductive tract infections in pregnancy. There is no statistical evidence of association between vulvovaginal yeast infection and perinatal outcomes, irrespective of symptoms.

111. Establishing US National Capacity for Antimicrobial Resistant Threat Detection in *Neisseria gonorrhoeae* by Whole Genome Sequencing Including External Quality Assessment

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¹CDC, ²ORISE Institute

BIOGRAPHY

Ellen Kersh, PhD is the STD Laboratory Reference and Research Branch chief in CDC's Division of STD Prevention. She oversees STI laboratory reference services, research, and diagnostic assay development. She directs CDC's national and international laboratory capacity building to monitor antibiotic resistant *Neisseria gonorrhoeae* and to detect syphilis, chlamydia, and *Mycoplasma genitalium*.

Ellen received a Bachelor's and Master's Degree in Biochemistry from the Freie Universitaet Berlin, Germany, and a PhD in Biomedical Sciences from Washington University in St. Louis, MO. Her postdoctoral studies were with Dr. Rafi Ahmed at the Emory Vaccine Center on memory immune responses to acute and chronic infections. She joined the CDC HIV Laboratory Branch and contributed to studies on Pre-exposure Prophylaxis for HIV prevention, HIV acquisition risk during STI co-infections.

During the COVID-19 response, she served on the HHS Testing and Diagnostics Work Group, addressing national diagnostic testing challenges and developing testing programs and recommendations.

BACKGROUND/PURPOSE

Whole genome sequencing (WGS) for *Neisseria gonorrhoeae* (GC) was implemented with purpose of antibiotic resistance detection in four United States regional public health reference laboratories in 2017. These second-tier laboratories receive approximately 8,000 annual gonococcal isolates from over 60 clinics with associated first-tier, clinical laboratories in three CDC resistance surveillance programs, including the Gonococcal Isolate Surveillance Project (GISP). They have generated over 15,000 sequences to date. To ensure reproducible, high-quality data, we established a biannual external quality assessment (EQA).

DESCRIPTION/APPROACH

Five blinded GC isolates in triplicate are sent to four regional labs. Isolates are sequenced by Illumina MiSeq. Reads and run data are sent to

CDC. Samples are processed through an analytical pipeline for trimming, assembly, quality check, sequence typing, core genome alignment, and single nucleotide polymorphism (SNP) distance calculation. Sequence quality is scored by predefined quality metrics and comparison to high-quality reference sequences of the same strains.

IMPACT/LESSONS

To date, two GC WGS EQA cycles were completed. The pilot assessment succeeded with all labs passing with scores of 100%. Three labs then passed with 100%, however one lab received a score of 66.7%. Sequence data for three samples had coverage values below the minimum cutoff. Multi-locus sequence typing and SNP distances were valuable metrics to identify two specimens which were switched during processing. The regional lab performed a root cause analysis to uncover the source of the errors and implemented corrective actions.

INNOVATION/ CONCLUSIONS

EQA has allowed comparison of sequences from the same isolates among different labs, thus providing a valuable measurement of sequencing accuracy and ensuring that WGS is consistent and of high quality. This is critical for uniformity of GC sequences required for surveillance studies and in-depth application of WGS to higher resolution studies such as resistance marker identification and detection, transmission modeling and tracking outbreaks.

117. Prevalence of anal HPV infection among PrEP users screened through a self-administered Point-of-Care test: data from a community-based PrEP programme in Milan.

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BIOGRAPHY

Lorenzo Biasoli is a specializing doctor in Infectious and Tropical Diseases at San Paolo Hospital in Milan, Italy.

BACKGROUND

In this study we evaluated the prevalence of high-risk HPV strains in the anal site among PrEP users through a self-administered Point-of-Care test (POCT). We then compared the performance of the POCT with laboratory gold standard test.

METHODS

We enrolled PrEP users from a local community-based PrEP programme. They were tested for anal HPV with a PCR POCT capable of detecting 14 high-risk HPV genotypes on a self-performed anal swab. They were also referred to a local clinic to collect a new sample to be analyzed with the standard sequencing assay. The median time elapsed between the two tests was 11.7 months, due to COVID-19-related service interruptions. Associations between demographic/behavioral factors and a positive POCT result were evaluated through logistic regression. Agreement between POCT and gold standard test was measured with Cohen's kappa. POCT performance was expressed through sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) calculation.

RESULTS

200 subjects were enrolled, most of them male (98%) and MSM (88%). 71% of them tested positive for at least one high-risk HPV strain on POCT. Factors associated with a positive POCT result were being non-Italian, previous STI diagnosis and a higher number of sexual partners in the previous 3 months. For 117 subjects, gold standard test was also performed: 83% tested positive for at least one high-risk HPV strain. Agreement between POCT and gold standard was 80.3% (Cohen's

kappa=0.46). POCT showed a sensitivity of 80.4%, a specificity of 83.3%, a PPV of 95.1% and a NPV of 45.7%.

CONCLUSIONS: Prevalence of anal HPV infection in PrEP users was high. Despite the time lapse between the two tests, POCT showed a moderate agreement with gold standard and a discrete sensitivity and specificity, suggesting that it could be an useful additional instrument to reach a wider number of people.

124. Using a two-stage crowdsourcing open call and Designathon to develop interventions for HIV partner services among men who have sex with men in China

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BIOGRAPHY:

I am a research assistant working at the University of North Carolina Project - China. My research interests are HIV partner services, sexual health and mental health among Chinese MSM.

BACKGROUND

Current HIV partner services (PS) in China use passive referral and encourage sexual partners to get tested at health facilities, failing to meet the needs of Chinese men who have sex with men (MSM) living with HIV. More effective partner services for MSM might be developed using crowdsourcing, which solicits ideas from large groups of people and shares the solutions with the public.

DESCRIPTION

We organized a two-stage crowdsourcing event that included an open call and a Designathon to solicit and develop intervention ideas to enhance partner services among MSM in China. The open call was announced online to call for submissions, including protocols addressing PS barriers, successful PS stories, expectations about ideal PS, and media messages for PS promotion purposes. Exceptional submissions were recognized as semi-finalists and later used as the resources for the subsequent Designathon. The Designathon was a 48-hour challenge that brought together participants with different expertise to brainstorm as a team and deliver a comprehensive intervention plan.

LESSONS

The crowdsourcing approach empowered the MSM and people living with HIV (PLWH) communities to voice their demands. Of all participants, 14% (13/94) were MSM living with HIV, who shared their personal PS experiences and struggles. During the Designathon, MSM and PLWH actively interacted with China CDC experts and healthcare professionals to co-create intervention plans and improve the feasibility. Second, the approach generated innovative strategies with minimal cost. The combination of the open call and the Designathon generated eight detailed plans. Promising intervention ideas included PLWH peer sharing and education, Internet-based partner services, third-party-initiated anonymous notification, and testing together without notification.

CONCLUSIONS

The two-stage crowdsourcing approach mobilized MSM and PLWH community and fostered client-provider collaboration. The approach also produced high-quality content that could inform policy design. The effectiveness of the proposed partner service plans requires further evaluation.

128. Increasing incidence of *M. genitalium* infection in PLWHIV and PrEP users.

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BIOGRAPHY

I took my ID specialization in 2008, since then I've always worked in the HIV and viral hepatitis field. After the availability of PrEP in Italy in 2017, I started working in the dedicated Clinic: STIs became my main occupation since our hospital clinic is attended by one of the largest cohort in Italy. I also collaborate with Milano Checkpoint, a community-based, peer-run service for PrEP and STIs medical care. I also work in ID prevention in terms of vaccination and anal HPV-related disease screening

BACKGROUND

Mycoplasma genitalium (Mg) is an emerging pathogen responsible of urethritis, cervicitis, endometritis, and pelvic inflammatory disease. Although Mg is detected in less than 3% of cases in the general population, this infection is a major concern because of its widespread antibiotic resistance. Aims of the present study are to describe Mg prevalence over time and factors associated with its presence in urine samples.

METHODS

This monocentric, retrospective analysis evaluated all urine samples tested for Mg from January 2018 to September 2021. Demographic characteristics were retrieved from hospital electronic patients' records. Samples were grouped in people living with HIV (PLWHIV), PrEP users, and subjects attending other hospital departments. Pearson's Chi-square test to compare groups was applied. Unadjusted and adjusted regression analyses were performed to test factors associated to infection.

RESULTS

The analysis included 9,153 samples: they belonged mainly to females (51.3%), Italians (76.6%), with a median age of 37 (IQR 31-45) years. HIV-positive subjects were tested in 1,836 (20.1%) and PrEP users in 1,367 (14.9%) cases. The overall prevalence of Mg infection was 2.1% but with a significant increase from 1.2% in 2018 to 3.4% in 2021 ($p < 0.001$). The rise was significant for PLWHIV (from 3.0% to 5.7%, $p = 0.003$) and PrEP users (from 1.8% to 8.2%, $p = 0.002$), while it did not reach the statistical significance in the other groups. Adjusted analyses found that factors associated to Mg infection were calendar year (OR 1.32, 95% CI 1.13-1.54, $p = 0.001$), age (OR 0.98, 95% CI 0.96-0.99, $p = 0.002$), HIV-positive status (OR 4.71, 95% CI 1.31-16.87, $p = 0.017$), and PrEP use (OR 8.19, 95% CI 2.31-29.09, $p = 0.001$).

CONCLUSIONS

Mg prevalence is increasing in PLWHIV and PrEP users. Given the alarming reports about antibiotic resistance and the high number of unprotected sexual intercourses observed in these patients, additional efforts for Mg testing and treatment are necessary.

133. A novel lateral flow assay for rapid point-of-care detection of *Neisseria gonorrhoeae*

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BIOGRAPHY

Remco Peters, MD, PhD, is an HIV/STI clinician, epidemiologist, and researcher based in East London, South Africa. He is Head of Research at the Foundation for Professional Development and appointed extraordinary professor in the Department of Medical Microbiology at the University of Pretoria and honorary associate professor in the Division of Medical Microbiology at the University of Cape Town.

Prof Peters leads several clinical research studies on STI programme implementation, STI diagnostics and antimicrobial resistance. He is the site-PI responsible for clinical trials of novel HIV prevention options at the rural FPD-DTHF Ndevana Community Research Site. He is member of the South African STI technical working group, chair of the STI guidelines committee for the Southern African HIV Clinicians Society.

BACKGROUND

A rapid and affordable point-of-care (POC) test is priority for *Neisseria gonorrhoeae* (NG) control. The target product profile of a non-molecular NG POC test requires a clinical sensitivity >80% and specificity >95%; turnaround time should be ≤30 minutes and cost <3 US\$. A novel lateral flow assay (LFA) was developed by FIND in line with that profile.

METHODS

We evaluated the performance of the novel NG LFA in East London, South Africa. Men with urethral discharge syndrome and women with vaginal discharge syndrome were recruited at five primary healthcare facilities. Urine specimens and vaginal swabs were tested in-facility with the NG LFA and Xpert® CT/NG assay. Specimens with discordant results were sent for further laboratory testing using the LightMix Kit CT/NG assay (TIB Molbiol, Germany) and an in-house assay for detection of *Neisseria* species.

RESULTS

We recruited 86 women and 48 men in this interim analysis; prevalence of NG was 16% respectively 63%. Sensitivity of NG LFA compared to Xpert® was 13/14 (93%) in vaginal swabs (95% CI 79% - 100%) and 29/30 (97%) in urine (95% CI 90% - 100%). Specificity was 71/72 (99%) in vaginal swabs (95% CI 96% - 100%) and 17/18 (94%) in urine (95% CI 84% - 100%). Of four participants with discordant results, two had a low-positive Xpert® with negative LFA and further laboratory testing, one had LFA positive urine confirmed by further laboratory testing (false-negative Xpert®), and one swab was only LFA positive. No false-positive reactions due to other *Neisseria* species were identified.

CONCLUSION

The novel NG LFA met the target profile for the POC detection of NG in symptomatic individuals. This POC test shows promise to optimise clinical management in settings where syndromic management is standard of care.

134. Findings from a cluster randomized controlled trial of a mobile health intervention for HIV self-testing with refugee adolescents and youth in Kampala, Uganda

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BIOGRAPHY

Dr. Carmen Logie is an Associate Professor at the Factor-Inwentash Faculty of Social Work, University of Toronto and the Canada Research Chair in Global Health Equity and Social Justice with Marginalized Populations. She is also an Adjunct Professor at the United Nations University Institute for Water, Environment & Health, Research Scientist at the Centre for Gender & Sexual Health Equity, and Adjunct Scientist at Women's College Hospital. Logie's research program advances understanding of, and develops interventions to address, intersectional stigma and other social-ecological factors associated with HIV and STI prevention and care. She has advanced stigma

and health disparities research with >195 peer-reviewed publications. Her current community-based research focuses on HIV prevention and care cascades in Canada, Uganda, and Jamaica with people living with HIV, refugee and displaced youth, LGBTQ communities, sex workers, Indigenous youth, and persons at the intersection of these identities. She is a Deputy Editor at the *Journal of the International AIDS Society (JIAS)* and on editorial boards for *Social Science & Medicine*, *Mental Health* and *PLOS Global Health*. Her 2021 book, *Working with Excluded Populations in HIV: Hard to Reach or Out of Sight?*, was released as part of the *Social Aspects of HIV book series*.

BACKGROUND

Urban refugee youth are underserved by current HIV prevention strategies, including HIV-self testing. We examined the effectiveness of HIV self-testing (HIVST) and mHealth delivery approaches on HIV testing uptake and status knowledge among refugee youth in Kampala, Uganda.

METHODS

We conducted a three-arm cluster randomized controlled trial (cRCT) across five informal settlements grouped into three clusters in Kampala from 2020-2021 with peer-recruited refugee youth aged 16-24 years. The intervention was HIVST alone and HIVST combined with an interactive mHealth intervention, compared with standard of care (SOC). We collected data on HIV testing uptake and status knowledge (verified by point-of-care testing) (primary outcomes), as well as depression, sexual relationship power (SRP), HIV-related stigma, and adolescent sexual and reproductive health (SRH) stigma at three time points (baseline, 8-months, 12-months). We used generalized estimating equation logistic models to estimate crude and adjusted odds ratios (ORs) comparing clusters over time, adjusting for age, gender, and baseline imbalances.

RESULTS

A total of 450 participants (50.7% cisgender men, 48.7% cisgender women, 0.7% transgender women; mean age: 20.0, SD: 2.4) were enrolled across three clusters. Compared to SOC, HIV testing uptake significantly increased at 8-months in both intervention arms (aOR HIVST: 64.5, 95%CI: 26.2-159.0, $p<0.001$; aOR HIVST+mHealth: 106.8, 95%CI: 36.0-316.6, $p<0.001$), and remained high at 12-months ($p<0.001$). HIV status knowledge in intervention arms was also significantly higher at 12-months (aOR intervention arms: 101.2, 95%CI: 18.3-561.0, $p<0.001$). There were modest changes in secondary outcomes in intervention arms, including decreased depression, increased SRP, alongside increased HIV-related stigma and adolescent SRH stigma.

CONCLUSIONS

The highly significant results signal the potential of HIVST and mHealth to address refugee youth HIV testing needs in urban contexts in Uganda. However, optimizing health outcomes appears to necessitate further integration of mental health and intersectional stigma interventions as refugee youth engage with HIV testing.

142. Risk factors associated with bacterial vaginosis among attendees of a tertiary healthcare facility in North India

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BIOGRAPHY

Dr. Somesh Gupta is a Professor in the Department of Dermatology and Venereology. He is currently serving as the Joint Editor for the *Journal, Sexual Health* (CSIRO, Australia). He has been actively associated with the Indian Association for the Study of Sexually Transmitted Diseases and AIDS as President (2018-2019) and the International Union against Sexually Transmitted Infections (IUSTI) as Regional

Direction for Asia Pacific Region (2013-2021). He has recently been invited to serve as a member of World Health Organization (WHO) Technical Advisor on Sexually Transmitted Infections.

BACKGROUND

Bacterial vaginosis (BV) is the most prevalent vaginal disorder among reproductive-age group women. It has been consistently associated with adverse reproductive and sexual health outcomes. The present study was conducted to identify potential social and sexual risk factors of BV among hospital attendees from Delhi, India.

METHODS

This prospective cross-sectional study was conducted between August 2018 and February 2021 at the All India Institute of Medical Sciences, New Delhi. Women in the age group of 18-45 years presenting to the Sexually Transmitted Diseases Clinic or the Obstetrics and Gynecology out-patient department were assessed for BV using Nugent's scoring criteria. Additionally, pre-designed questionnaires were used to obtain information on demographics, sexual behaviors and hygiene practices from all study participants.

RESULTS

A total of 283 women were enrolled in the study, of which 69 (24.4%) participants were positive for BV (Nugent score ≥ 7), 55 (19.4%) were intermediate (Nugent score 4-6), and 159 (65.2%) were negative for BV (Nugent score ≤ 3). Demographic factors such as age ($p=0.55$), marital status ($p=0.69$), duration of marriage ($p=0.10$), gravidity ($p=0.72$), or menstrual status ($p=0.46$) had no significant association with BV. A previous history of infertility ($p=0.02$) was positively associated with BV. Sexual activity ($p=1.00$), number of lifetime partners ($p=0.25$), frequency of intercourse (0.39) and contraception ($p=0.14$) did not impact the BV status. Of the various contraceptive methods, the use of condoms had a strong negative correlation ($p=0.03$) with BV. While increased frequency of sexual intercourse has not effect ($p=0.39$) on BV diagnosis, a recent sexual exposure without the use of barrier contraception ($p=0.01$) was positively associated. The choice of menstrual protection products ($p=0.07$) or use of hygiene products also had no association ($p=0.30$) with BV.

CONCLUSION

History of infertility, recent unprotected sexual exposure, and frequent use of condoms were correlates having significant association with BV.

145. Feasibility of GeneXpert® testing for sexually transmitted infections and same-day treatment in pregnant women

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BIOGRAPHY:

2006-2009 Western Cape College of Nursing, South Africa

2009 Diploma in Nursing and Midwifery

2012-2015 North-West University, South Africa

2015 Bachelor of Nursing Science (Education and Administration)

2017-2020 University of Fort Hare, South Africa

2020 Master of Public Health

BACKGROUND

Testing sexually transmitted infections (STIs) at antenatal care aims to improve timely treatment and, potentially, pregnancy and birth outcomes. The GeneXpert® system (Cepheid, Sunnyvale, California, USA) can detect several STIs and provide results within 90 minutes. It is unclear, however, if the workflow allows for same-day treatment.

DESCRIPTION

Testing was implemented in ongoing studies about STIs in pregnancy in 4 primary healthcare clinics in East London, South Africa. At the baseline antenatal care visit, research staff took vaginal swabs. On the GeneXpert® platform, only one swab is needed to test for *Neisseria gonorrhoeae*, *Chlamydia trachomatis*, and *Trichomonas vaginalis*. Women were asked to wait for their result and those with any positive result were offered same-day treatment according to guidelines. We telephonically contacted those infected who did not wait for their results to return for treatment.

LESSONS LEARNT

We tested 511 women from March 2021 until March 2022. Of the 125/511 (24%) who tested positive for any STI, 49/125 (39%) waited for results and received same-day treatment, 43/125 (34%) returned for treatment within one week, 21/125 (17%) returned for treatment within 2 to 8 weeks, and 12 (10%) did not return for treatment. At one clinic, with a spacious and quiet waiting area, 26 out of 27 (96%) women who tested positive received same-day treatment. At the 3 facilities without a designated waiting area, 7/39 (18%), 9/34 (26%) and 7/25 (28%) received same-day treatment.

CONCLUSIONS

Timely treatment of pregnant women with STIs was feasible. In our setting, however, most women with an STI did not receive same-day treatment, so the GeneXpert® system did not fulfil the requirements of a rapid point-of-care device. Efficient clinic infrastructure with a comfortable designated waiting area may improve provision of same-day treatment.

158. Optimizing social network distribution of syphilis self-testing among men who have sex with men in China: a multi-city pragmatic randomized controlled trial

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BIOGRAPHY

Dr. Wang Cheng, Associate Physician, Master's Student Advisor

Graduated from Sun Yat-Sen University, he has been engaged in STD prevention and control for more than ten years, and has studied at the University of Washington and the University of North Carolina Institute of Global Infectious Diseases for STD and AIDS prevention and control. He is currently a member of the Standing Committee of the STD Prevention and Control Committee of the Guangdong Preventive Medicine Association, and a member of the STD Prevention and Control Group of the Chinese Preventive Medicine Association's Specialized Committee on Prevention and Control of Skin Diseases and STDs.

BACKGROUND

Syphilis testing uptake is low among men who have sex with men (MSM) around the world. Syphilis self-testing (SST) may complement

facility-based testing but alternative distribution models for self-testing have not previously been explored. This study aimed to investigate the effectiveness of social network distribution of syphilis self-testing to promote syphilis testing.

METHOD AND FINDINGS

We conducted a three-arm, non-blinded, parallel individually randomized controlled trial among MSM in three cities in Guangdong, China between December 19, 2020 to August 19, 2021. Inclusion criteria were: men who were born biologically male, aged 18 or above, have ever had sex with a man, willing to refer the intervention tools to peers, and willing to take the follow up survey in 3 months. Enrolled indexes were randomly assigned in a 1:1:1 ratio into three arms: standard of care arm (control arm); standard SST delivery arm (S-SST arm); and a web-based referral link SST delivery arm (RL-SST arm). The primary outcome was the number of alters who returned photo-verified syphilis testing results per index.

RESULTS

A total of 300 indexes were enrolled, with 100 indexes in each arm. After three months, the average follow-up rate among each group was 80%. The number of verified syphilis tests per index conducted by alters was 0.05 (5/100) in the control arm, 0.51 (51/100) in S-SST arm and 0.31 (31/100) in RL-SST arm. The cost per alter tested was \$760.60 for SOC, \$83.78 for S-SST and \$93.10 for RL-SST.

CONCLUSION

This study showed that social network distribution of syphilis self-testing could improve syphilis testing uptake among MSM in China compared to facility-based testing. This approach warrants further consideration as part of expanding syphilis self-testing.

162. High prevalence of asymptomatic gonorrhoea and chlamydia among transgender women in Brazil

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BIOGRAPHY

Daniel McCartney is a Research Assistant and Doctor of Public Health (DrPH) candidate at the London School of Hygiene & Tropical Medicine (LSHTM) where he is conducting research related to STIs among transgender women in Brazil. He has graduated with a MSc in Global Health from the University of Dublin, Trinity College (Ireland), and an Honours BSc in Molecular Biology and Genetic from the University of Guelph (Canada). Until recently, he worked at the International Planned Parenthood Federation (IPPF) as a project director and senior technical adviser with a focus on HIV, STIs, and the sexual and reproductive health and rights (SRHR) of people living with HIV and key populations.

BACKGROUND:

STIs disproportionately affect transgender women (TGW), who often lack access to healthcare due to stigma and discrimination. This study aimed to determine prevalence of *Neisseria gonorrhoeae* (NG) and *Chlamydia trachomatis* (CT) from potential infection sites (urogenital, anorectal, oropharyngeal) among TGW in Brazil.

METHOD:

TransOdara was a cross-sectional study among TGW conducted in five capital cities representing all Brazilian regions from December 2019 to July 2021. A total of 1,317 participants aged >18y were recruited using Respondent Driven Sampling, completed a standard questionnaire, and samples from multiple sites (urine, anorectal, oropharyngeal) were collected and tested for NG/CT using Abbott RealTime CT/NG assay. Participants could choose whether anorectal and oropharyngeal

samples were self-collected or provider-collected.

RESULT:

The overall prevalence of NG, CT, and either NG/CT at any anatomical site were 13.6% (11.8-15.7; 167/1224), 11.9% (95%CI: 10.2-13.9; 146/1223), and 21.7% (19.5-24.2; 266/1223), respectively. Most infections were asymptomatic (NG, 72.3%; CT, 66.4%). In anatomical site-specific analysis, highest prevalence was anorectal NG (9.1%, 7.6-10.8) and anorectal CT (8.9%, 7.3-10.60), followed by oropharyngeal NG (8.1%; 6.6-9.7) and oropharyngeal CT (3.2%, 2.3-4.4), and lowest for urogenital CT (0.7%, 0.3-1.3) and urogenital NG (0.2%, 0.0-0.6). Infections in >1 site were more common for NG (3.5%) than CT (0.9%). Prevalence was significantly higher among young people aged 18-24y (compared to >25y, NG-prevalence ratio(PR)=2.0 [1.5-2.6], CT-PR=1.8 [1.3-2.4]); among those with commercial sex partners in past 6 months (compared to those without, NG-PR=1.6 [1.2-2.1]; CT-PR=1.6 [1.2-2.2]); but not among people living with HIV (compared to non-HIV+ NG-PR=1.1 [0.8-1.7]; CT-PR=1.2 [0.8-1.7]). No significant difference in NG/CT prevalence was observed between self-collected and provider-collected samples.

CONCLUSIONS

This study recorded high prevalence of NG and CT among TGW, which were mostly asymptomatic and often anorectal infections. NG/CT screening should be integrated into HIV/STI prevention and care services offered to TGW, offering self-collection methods.

165. Risk factors of Intimate Partner Violence among female sex workers in Zimbabwe: A cross-sectional respondent-driven sample

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BIOGRAPHY

Dr Fortunate Machingura heads research on Key Populations at the Centre for Sexual Health and HIV AIDS Research (CeSHHAR Zimbabwe). She is a member of the WHO 2022 technical working group on routine HIV surveillance and is co-Principal Investigator in the global consortium on Measurement and Surveillance of HIV Epidemics. She is an Honorary Research Fellow at the Liverpool School of Tropical Medicine in the Department of International Public Health.

BACKGROUND

Intimate partner violence (IPV), defined as sexual, physical, or emotional harm inflicted by a current or former sexual partner, is commonly reported among female sex workers (FSWs). Exposure to IPV among FSWs is associated with an increased prevalence of sexually transmitted infections (STIs). This study examines the prevalence and risk factors of IPV among FSWs in Zimbabwe. The analysis contributes to evidence suggesting multifaceted HIV prevention and care models that address determinants of violence among FSWs.

METHODS

This analysis uses a sample of FSWs recruited from a Respondent Driven Sampling survey conducted in 22 sites in Zimbabwe from September-December 2021. We employed multivariable logistic regression to analyse risk factors associated with IPV. The WHO tool on violence against women, which we adapted in the RDS questionnaire, guided the measures of violence. We asked: "Have you ever had a client physically hurt you?" assessing lifetime physical violence. For lifetime sexual violence, we asked: "Has anyone ever forced you to have sex?" and "Has anyone ever had forced sex with you when you were too drunk?"

RESULTS

The 4444 FSWs who participated had a median age of 31 years, 73.1%

had secondary school education, and the majority were either divorced or separated (55.5%). The weighted prevalence of IPV was 52.6% (95% CI: 50.8-54.4). In univariable analysis, factors associated with IPV included years in sex work, HIV status, PrEP use, common mental disorders (CMD), steady partner, condom use and substance use. In multivariable logistic regression, risk factors of IPV included having CMD (AOR=2.8, 95% CI:2.30-3.44), condomless sex (AOR=1.41, 95%CI:1.01-1.98), substance use - severe (OR=2.33, 95% CI:1.74-3.13) and moderate risk (AOR=1.3, 95%CI: 1.01-1.68).

CONCLUSION

Findings suggest the need for comprehensive structural programming that addresses underlying causes of CMD and substance use, including strengthening STI-focused prevention programs to help reduce FSWs' vulnerability to IPV.

168. Expanding the communication about sexually transmitted infections to the general public – the experience of the Brazilian Ministry of Health

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Biography

Mayra holds medical graduation, a postgraduate course in Family and Community Medicine, a specialist's title in Sexually Transmitted Infections, a master's degree in Collective & Public Health, and an ongoing Infectious Disease Ph.D. at the Federal University of Espírito Santo. Mayra works for the STIs, HIV, and Viral Hepatitis Program at the Ministry of Health of Brazil since 2019.

BACKGROUND/PURPOSE

In the last decade, syphilis has increased in Brazil, especially in adolescents and young adults. The Ministry of Health (MoH) has been innovating in communication strategies to raise awareness about sexually transmitted infections (STI), strategies were planned to reach young population.

DESCRIPTION/APPROACH

There were three innovative strategies: social media; radio broadcasting media and syphilis exhibitions. Publications about STI on the MoH official social media were displayed throughout the year, culminating in constant audience contact with the topic. The publications involved posters and short videos about STI in simple language. The MoH and the Pan American Health Organization (PAHO) carried out a selection process focusing on university students for radio broadcasting media on syphilis prevention, which encouraged communication and healthcare students to participate. Syphilis "History, Science, Art" exhibition was a partnership between MoH, PAHO, the Brazilian STD Society, and universities. This event brought different perspectives on syphilis through documents, scientific records, epidemiological data, art paintings, and historical objects. The exhibition was open for visitation in Rio de Janeiro from November/2021-February/2022, will roam to other states, and remains available online (<http://exposifilis.aids.gov.br/>).

IMPACT/LESSONS LEARNED

There was at least one publication per month on social media about STI prevention. The material from radio broadcasting media was disseminated at MoH events, syphilis exhibitions, national radios, and the PAHO website. The radio broadcasting media was important for effective communication in remote areas with limited internet access. The syphilis exhibition had over 15,000 visits, with testimonials about the usefulness of this initiative for knowledge translation to the general population.

INNOVATION/CONCLUSIONS

Communication to raise awareness of the prevention of syphilis and other STI needs to be constantly innovated, considering the diversity in the country, especially for populations with greater STI vulnerability. It is important to implement strategies to promote health information among young people to encourage self-care.

169. Evaluation of a Novel *Treponema pallidum* Proteomic Array to Improve Understanding of Syphilis Immunology

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Biography

From 1998-2009 Dr. Klausner was a Deputy Health Officer, Director of STD Prevention and Control Services at the San Francisco Department of Public Health, member of the UCSF School of Medicine faculty in the Divisions of AIDS and Infectious Diseases and Attending Physician at San Francisco General Hospital. While in San Francisco Dr. Klausner helped identify key factors associated with the increased spread of HIV and STDs and implemented multiple novel public health prevention programs.

From 2009-2011 Dr. Klausner was Branch Chief for HIV and TB at the Centers for Disease Control in Pretoria, South Africa.

After returning from South Africa, from 2011-2021. Klausner was a senior faculty member in the UCLA Division of Infectious Diseases, David Geffen School of Medicine and the Department of Epidemiology at the Fielding School of Public Health. At UCLA, Dr. Klausner was the Principal Investigator for multiple NIH-funded networks, projects and studies on sexually transmitted infections.

Dr. Klausner's research interests are in applied epidemiology and the prevention and control of infectious diseases of public health importance like HIV, STDs, TB, COVID-19 and cryptococcal infections.

BACKGROUND

Syphilis, caused by *Treponema pallidum* (T. pallidum), continues to be a significant concern for global health. A better understanding of syphilis immunology could be among the keys to devise novel syphilis control strategies and stem the spread of this serious infection. Here, we focused on understanding differences in humoral reactivity to selected T. pallidum antigens in patients diagnosed with their first-ever syphilis episode and in patients with active syphilis who also have a history of previous infection. Sustained antibody levels of protective antigens could lower the risk of reinfection, and differences in reactivity to antigens in these groups could help identify antigens to be tested as possible vaccine candidates.

METHODS

We developed a novel proteomic array carrying 14 T. pallidum encompassing the pathogen's most highly expressed genes and/or putative surface antigens to identify seroreactive proteins and to determine if individuals with and without prior syphilis are differentially reactive to these antigens. Reactivity was assessed via ELISA using sera from 58 patients collected at diagnosis. All these patients were diagnosed with early latent syphilis and 36 had at least one previous episode of syphilis, while 22 did not have history of previous infection. Differences in reactivity were analyzed using ANOVA with significance set at $p < 0.05$.

RESULTS

Samples from syphilis-naïve patients diagnosed with early latent syphilis showed significantly higher reactivity to the putative surface antigens Tp0548, TprJ, and TprL compared to samples from syphilis diagnosed with early latent syphilis but with a history of previous infection.

CONCLUSIONS

Given that immunity to surface antigens is pivotal for pathogen clearance through opsonophagocytosis, a decrease in serum reactivity against OMPs could facilitate re-infection. Additional information on the immune response to prior infection could help identify possible vaccine candidates for syphilis that should be tested for their ability to generate protective immunity to syphilis.

176. Perceptions on pre-exposure prophylaxis among sexually active adolescent girls and young women in Zimbabwe – a qualitative study.

Chidhanguro K¹, Ncube G², Cowan F³, Mugurungi O², Taramusi I⁴, Mpofu A⁴, Sibanda E¹, Cambiano V⁵

¹Ceshhar Zimbabwe, ²Ministry of Health and Child Care, Department of AIDS and TB Unit, ³Liverpool School of Tropical Medicine, Department of International Public Health, ⁴National AIDS Council of Zimbabwe (NAC), ⁵Institute for Global Health, University College London

BIOGRAPHY

Kudzai Chidhanguro is a social science researcher who is based at Centre for Sexual Health and HIV AIDS Research Zimbabwe (CeSHHAR) where she mostly works on implementation research studies in the field of HIV and sexual and reproductive health. She is currently a joint research coordinator/ social science researcher for a project aimed at developing an intervention for promoting use of Pre-Exposure Prophylaxis (PrEP) amongst adolescent girls and young women in Zimbabwe. She has previously worked on several research studies, including on HIV self-testing, as a social science researcher.

BACKGROUND

Adolescent girls and young women (AGYW) in Zimbabwe are at high risk of getting HIV. Despite proven effectiveness of Pre-Exposure Prophylaxis (PrEP), its uptake and continuation among AGYW is low. We aimed to explore views on PrEP and norms around AGYW sexual behavior and how programs can improve PrEP uptake and continuation among AGYW.

METHODS

From December 2021-April 2022 seven focus group discussions were held with 69 (8-12 per group) purposively selected sexually active AGYW in Harare and Mazowe (Zimbabwe). We recruited from programs offering sexual and reproductive health (SRH) services to AGYW. Discussions were participatory and were analyzed thematically.

RESULTS

Participants were aged 16-24 years; 73% had attained some high school education, 9% had never tested for HIV and 70% had never used PrEP. Across all groups there was recognition that AGYW are at risk of contracting HIV. Knowledge of PrEP varied, with AGYW enrolled in the national sex worker program more knowledgeable than the rest. A recurrent theme was that PrEP was viewed as undesirable due to its association with anti-retroviral medication and risky sexual behaviors. For this reason, AGYW thought their parents and partners would find their use of PrEP unacceptable. Factors identified as important for improving uptake and adherence included ensuring privacy & confidentiality during service provision, education of parents and partners on SRH issues for AGYW, friendly attitudes of health workers and provision of services free of charge. Additionally, AGYW indicated preference for the long-acting PrEP formulations, viewed as convenient and more private.

CONCLUSION

AGYW recognize their risk of contracting HIV. However, HIV related stigma and concern about being viewed as having high risk sexual behavior prevents them from taking PrEP. There is need to design youth-friendly PrEP programs that uphold privacy & confidentiality, prevent stigma and minimize opposition from parents and partners.

182. Prevalence of curable sexually transmitted and reproductive tract infections among pregnant women attending antenatal care in Nchelenge, Zambia

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²Department of Disease Control, Faculty of Infectious & Tropical Diseases, London School of Hygiene & Tropical Medicine, London, UK

BIOGRAPHY

I am head of clinical services at the Tropical Diseases Research Centre (TDRC) in Ndola Zambia, a role which I combine with being deputy head of the Clinical Sciences Department. Before joining TDRC, I worked for Ndola Teaching Hospital and Arthur Davison Children's Hospital.

My professional responsibilities are primarily focused on research of interventions for the prevention of tropical infectious diseases in general and particularly in malaria, HIV/AIDS and sexually transmitted infections.

Currently, I am the Zambian Principal investigator for the International Centres of Excellence in Malaria Research (ICEMR). I am also the local Principal Investigator for the MRC-funded project entitled "Effects of metronidazole plus intermittent preventive treatment of malaria in pregnancy on birth outcomes: a randomised controlled trial in Zambia".

I obtained my Medical degree (MBChB) from the University of Zambia and my Master of Science Degree (MSc) in Vaccinology from the University of Siena in Italy. I also hold the Diploma in Tropical Medicine and Hygiene (DTM&H) from Liverpool School of Tropical Medicine in the UK. I am currently a PhD student at London School of Hygiene and Tropical Medicine in the Faculty of Infectious and Tropical Diseases.

BACKGROUND

Curable sexually transmitted and reproductive tract infections (STIs/RTIs) - syphilis, gonorrhoea, chlamydia, trichomoniasis, and bacterial vaginosis - are associated with adverse pregnancy outcomes and disproportionately impact low-resource settings. The present study is part of the ASPIRE Trial (Registration: NCT04189744), a 3-arm, parallel, partially placebo-controlled, individually randomised, phase-3, superiority trial of 5,436 pregnant women in Nchelenge District of Zambia which aims to reduce the dual-burden of malaria and curable STIs/RTIs in pregnancy. Consenting women were eligible if they tested negative for HIV and were between 16-28 gestational weeks measured by sonography. We report here the prevalence at enrolment of curable STIs/RTIs among samples processed to date. Complete results will be presented at the World Congress.

METHODS

Women provided blood samples for syphilis testing by rapid plasma reagin (RPR); RPR-reactive women were treated. Blood samples were stored for confirmatory testing for treponema pallidum. For other STIs/RTIs, per national guidelines, syndromic management has been provided throughout pregnancy. Vaginal swabs were collected for retrospective testing of gonorrhoea, chlamydia, and trichomoniasis by polymerase chain reaction (PCR) methods and for BV diagnosis by Nugent scoring (7-10 and 4-6 in the presence of clue cells).

Results: At antenatal enrolment, 15.2% (95%CI: 14.2, 16.2; 825/5,431) of pregnant women were RPR-reactive for syphilis, of whom 95.9% (791/825) were treated. To date, 38.9% of samples from women at the enrolment have been processed retrospectively by PCR in a reference laboratory; 14.5% (95%CI: 13.0, 16.0; 307/2,115) were positive for gonorrhoea, 7.1% (95%CI: 6.1, 8.3; 151/2,115) had chlamydia, and 20.2% (95%CI: 18.5, 22.0; 427/2,115) had trichomoniasis, and 39.8% were positive for BV (95%CI: 37.8, 41.8; 932/2,342)

CONCLUSION

Curable STIs/RTIs were common among pregnant women in this low-resource setting. New approaches are urgently needed to improve diagnosis and management of STIs/RTIs.

188. Immunobridging single-dose HPV vaccine in Tanzanian girls (DoRIS trial) to Kenyan women in whom single-dose efficacy has been demonstrated (KEN SHE trial)

Baisley K^{1,2}, Kemp T³, Mugo N^{4,5}, Whitworth H^{1,6}, Onono M⁷, Njoroge B⁵, Bukusi E^{4,7}, Lacey C⁸, Indangasi J^{1,6}, Mutani P⁶, Kapiga S^{1,6}, Hayes R¹, Chantalucha J⁶, Pinto L³, Barnabas R^{4,9}, Watson-Jones D^{1,6}

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BIOGRAPHY

Kathy Baisley is an Associate Professor of Medicine and Epidemiology at London School of Hygiene and Tropical Medicine, and head of the Data Science Unit at the Africa Health Research Institute in KwaZulu Natal, South Africa. For the past 16 years, her research has focused on HIV, HPV and other sexually transmitted infections in sub-Saharan Africa, with a particular interest in the design and analysis of intervention trials. She has been the lead statistician and co-PI/co-Investigator on a number of large intervention trials, including three HPV vaccine trials in Tanzania.

BACKGROUND

Cervical cancer is the most common cause of cancer death in women in many low-income countries. Recently, the first randomised efficacy trial of single dose HPV vaccine (KEN SHE) showed high protection against persistent HPV 16/18 infection in sexually-active women. Efficacy studies in young girls are challenging because of time needed to accrue endpoints so WHO recommends immunobridging studies to infer efficacy, with higher antibody responses expected among young girls. We compared HPV16/18 antibody responses after one dose in the DoRIS trial, the first randomised trial of one dose in young girls, to those after one dose in the KEN SHE trial.

METHODS

930 Tanzanian girls aged 9-14 years were randomised to one, two or three doses of Gardasil-9® or Cervarix®(155/arm) (DoRIS). The proportion seroconverting and geometric mean concentrations (GMC) after one dose in DoRIS were compared with those after one dose of the same vaccines in Kenyan women aged 15-20 years (KEN SHE) at month(M) 24. Samples were batched together and tested by L1 VLP ELISA for HPV-16/18 IgG antibodies. Non-inferiority of [DoRIS/KEN SHE] GMC ratios (primary outcome) was pre-defined as the lower bound of the 95% confidence interval >0.50.

RESULTS

For Gardasil-9®; M24 HPV-16/18 antibody GMCs after one dose in DoRIS were higher than those in KEN SHE (GMC ratio=1.44 (95%CI=1.14-1.82) and 1.47 (1.13-1.90) for HPV16 and HPV18, respectively. Cervarix® GMC ratios were 0.90 (0.72-1.14) and 1.02 (0.78-1.33), respectively. HPV-16 seropositivity at M24 after one dose of either vaccine in both trials was ≥99.2%. For HPV-18, it was ≥98.0% (Cervarix®) and ≥91.9% (Gardasil-9®). Non-inferiority of HPV16/18 antibody GMCs and seropositivity was met for both vaccines.

CONCLUSIONS

Our immunobridging results contribute to the evidence that 1 dose of HPV vaccine may provide strong protection against persistent HPV infection, and is a promising strategy towards achieving cervical cancer elimination.

193. Vaginal pH and curable sexually transmitted infections. Is there a benefit in the management of asymptomatic pregnant women?

Babalola C¹, Gigi R², Mdingi M², Mukomana F², Ntwagae N², Peters R², Taylor C⁴, Muzny C⁵, Low N⁶, Medina-Marino A³, Klausner J¹

¹University Of Southern California, ²Foundation for Professional Development, ³Foundation for Professional Development – Desmond Tutu HIV Centre Joint Research Centre, ⁴School of Medicine, Louisiana State University, ⁵School of Medicine, University of Alabama at Birmingham, ⁶Institute of Social and Preventive Medicine, University of Bern

BIOGRAPHY

Chibuzor Babalola is a Nigerian-trained physician with a master's in public health (Emory University). Currently, she is a postdoctoral research associate at the department of population and public health sciences at University of Southern California and a physician scientist mentee under Jeffrey Klausner who is a seasoned investigator in global infectious diseases research. Dr. Babalola leads on research development and implementation projects for the Klausner research group at the intersections between sexual and reproductive health and infectious diseases. Her present focus is in the immuno-pathogenesis and prevention of adverse birth outcomes from sexually transmitted infections.

199. Impairing the TprK antigenic variation system through genetic engineering yields an attenuated *Treponema pallidum* strain

Giacani L¹

¹University Of Washington

BIOGRAPHY:

Dr. Lorenzo Giacani is currently an Associate Professor in the Department of Medicine, Division of Allergy and infectious Diseases, and an Adjunct Professor in the Department of Global Health at the university of Washington. He is also a CDC part-time employee in the syphilis team. His research interests revolve around studying syphilis pathogenesis and evaluating new therapies and vaccine candidates for syphilis. Throughout his career, he has received the ASTDA Developmental Award. He is the first investigator ever to have developed a technique to genetically engineer the syphilis agent. The work presented in this abstract resulted in Dr. Giacani being nominated for the ASTDA achievement award

BACKGROUND

In absence of treatment, syphilis becomes a chronic infection due to the ability of its causative agent, the spirochete *Treponema pallidum* subsp. *pallidum* (*T. pallidum*) to avoid a robust immune response and persist indefinitely in the host. The main immune evasion mechanism for this pathogen is currently believed to be based on the ability of *T. pallidum* to generate variants of the putative surface antigen TprK through non-reciprocal gene conversion. This process uses DNA donor sites in the genome that provide the genetic information to create TprK variants.

METHODS

To confirm the role of TprK in *T. pallidum* persistence, we used genetic engineering to ablate the repertoire of donor sites that recombine into the tprK gene to create variants. Ablation was confirmed through genome sequencing and ddPCR. The knock-out (KO) and wild-type strains were used to infect rabbits intradermally in order to monitor disease development by measuring lesion diameter overtime, and treponemal burden in lesions by qPCR.

RESULTS

In rabbits infected with the KO strain, lesion development was severely attenuated, and treponema burden reduced. KO strain was confirmed to be unable to vary TprK by gene deep sequencing.

CONCLUSIONS

Our approach effectively created the first ever attenuated *T. pallidum*

strain. In the KO strain, TprK was shown to be unable to vary, and the immunity that developed to TprK enhanced treponemal clearance. This attenuated *T. pallidum* strain will be instrumental in understanding syphilis parthenogenesis and informing vaccine development efforts

208. Monkeypox outbreak in The Netherlands: the first case-series from the Centre of Sexual Health, Public Health Service of Amsterdam

Siegenbeek van Heukelom M^{1,2}, Jongen V¹, Welkers M^{1,3}, Schim van der Loeff M^{1,4,5}, Prins M^{2,4,5}, Vergunst C², van Rijckevorsel G², van der Lubben M², Hoornenborh E², de Vries H^{1,2,4}

¹Public Health Service Amsterdam, ²Amsterdam UMC location University of Amsterdam, Dermatology, ³Amsterdam UMC location University of Amsterdam, Medical Microbiology and Infection Prevention, ⁴Amsterdam institute for Infection and Immunity (AII), and Amsterdam Public Health research institute (APH), ⁵Amsterdam UMC location University of Amsterdam, Internal Medicine

BIOGRAPHY

Vita Jongen did her masters degree in epidemiology at the University of Utrecht, during which she specialized in the epidemiology of infectious diseases. During her PhD she focused primarily on human papillomavirus, HIV and HIV pre-exposure prophylaxis, but she has also published on other infectious diseases such as hepatitis C, gonorrhea and chlamydia. She completed her thesis in March 2021 and has been working as a post-doc researcher at the Department of Infectious Diseases of the Public Health Service of Amsterdam, the Netherlands. She also works as a consultant epidemiologist at the Desmond Tutu TB Centre.

BACKGROUND

Since May 18, 2022, an outbreak of Monkeypox infection (MPX) among men of who have sex with men (MSM) in Western Europe has been documented. Our objective was to describe the characteristics of the first 36 MPX positive cases at the Centre of Sexual Health, Public Health Service Amsterdam, the Netherlands.

METHODS

Since May 23, 2022, we tested MSM with (prodromal) systemic symptoms and/or a papular-vesicular-pustular eruption attending the Centre of Sexual Health, Public Health Service Amsterdam, the Netherlands, for MPX virus by PCR on suspected skin lesions, anal and oropharyngeal samples and plasma. We collected demographics, sexual behaviour data, and STI co-infections.

RESULT

Between 19 May and 13 June 2022 we diagnosed 36 MPX cases, of whom 13 (36%) were living with HIV. Median age was 35 years [interquartile range (IQR) 30-42, range 26-57], and median number of sex partners in preceding 6 months was 15 [IQR 7-30, range 2-90]. Thirty (83%) reported condomless insertive, and 32 (89%) receptive anal sex. Twenty of 23 HIV-negative (87%) patients had used HIV pre-exposure prophylaxis in the preceding 3 months. Symptoms reported were: papular-vesicular-pustular eruption (88%), fatigue (44%), malaise (42%), fever (42%), swollen lymph nodes (33%), and headache (19%). Ten (28%) clients had one or more co-infections: 4 (11%) chlamydia, 6 (17%) gonorrhoea, 3 (8%) syphilis, yet none had viremic HCV.

CONCLUSIONS

MSM diagnosed with MPX at the Amsterdam Centre for Sexual Health were older, had a high number of recent sex partners and a high STI positivity rate, and most reported condomless anal sex. Most reported skin lesions and less than half systemic symptoms.

216. Memory B-cell responses to different HPV vaccine regimens: results from a dose-reduction randomised open-label trial (DoRIS) among Tanzanian school girls up to thirty-six months post-vaccination

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BIOGRAPHY

BA Macquarie University, Sydney, Australia, MSc University of Sheffield, UK, PhD University of Bristol, UK Areas of research: sexually transmitted infections, glycobiology, B cell immunology, clinical science

Areas of employment: Clinical trial management, good clinical laboratory practice

BACKGROUND

Memory B-cells, integral to sustaining antibody levels over time, are primed during initial HPV vaccine exposure. WHO recently recommended offering a 1- or 2-dose regimen for individuals aged 9-20 years. We used enzyme-linked immunospot (ELISpot) to determine memory B-cell frequencies in girls randomly allocated to 1,2 or 3 doses of Cervarix® or Gardasil-9®.

METHODS

Samples were taken at Month (M) 12, 24 and 36 post-first vaccination from Tanzanian girls aged 9-14 years participating in the DoRIS trial. Memory B-cell responses for total and antigen-specific (HPV16 or 18 virus-like particles (VLPs)) IgG were evaluated by ELISpot in peripheral blood mononuclear cells (PBMCs). Spots were counted and numbers adjusted to represent 1x10⁵ IgG-producing cells. Memory B-cell frequencies were expressed as percentage VLP-specific/total IgG spots. Analyses exploring the association between memory B-cell responses at M12 and IgG anti-VLP concentrations over time used a mixed-effects regression model.

RESULTS

At M12, M24 and M36, 99.6%, 70.1% and 59.9% of participants had detectable memory B-cell responses to both HPV16 and 18 VLPs. Mean percentage HPV-specific memory B-cells declined by M36 for both vaccines and all doses. At M36, there was no evidence of a difference in HPV18-specific memory B-cell responses between the 1- and 2-dose arms for either vaccine, or in HPV16 responses for Cervarix®. There was strong evidence of an association between M12 B-cell values and anti-HPV16/18 IgG antibody concentrations at M12, M24 and M36, for Cervarix® ($p < 0.001$) and Gardasil-9® ($p = 0.002$). The association varied by dose group (interaction p -value=0.03) but not over time (interaction p -value=0.83).

CONCLUSIONS

Memory B-cell responses were almost universal at M12 then declined over time in all dose groups for both vaccines. Memory-B cell responses at M12 were strongly associated with subsequent anti-VLP antibody responses, suggesting initial memory-B cell responses to vaccination prime the immune system for long-term antibody production.

218. Treponema pallidum predominates as the cause of genital ulcers in Lilongwe, Malawi

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BIOGRAPHY

Dr Mitch Matoga is a physician and epidemiologist working at the University of North Carolina Project in Malawi as the Director of STI Research and Clinical Services. His areas of focus are HIV, STIs and implementation science. The University of North

Carolina Project STI research team has been conducting research for over 25 years. Dr Matoga has been conducting research for over 10 years and his research has contributed to changes to policies and guidelines in Malawi and the region. Dr Matoga has recently dedicated his research efforts to HIV and syphilis vaccine development and is part of the HIV Vaccine Trials Network, HIV Prevention Trials Network, The Syphilis Vaccine Consortium and others. He has also dedicated his research efforts towards *Neisseria gonorrhoeae* research and his team is about to commence an enhanced gonococcal antimicrobial surveillance program with the World Health Organization.

BACKGROUND

Genital ulcer disease (GUD) in Malawi is treated syndromically for *Treponema pallidum* (TP), *Hemophilus ducreyi* (HD) and Herpes simplex virus (HSV). During the last etiologic review of GUD using multiplex polymerase-chain reaction (PCR) in 2013, 6% of ulcers were due to TP. We evaluated the current burden of TP among patients with GUD using quantitative PCR (qPCR).

METHODS

Patients presenting with wet/moist genital ulcers were swabbed and screened for primary syphilis at Bwaila STI clinic in Lilongwe, between January 2020 and May 2022. Initial screening was conducted with darkfield (DF) microscopy, and DF positive participants had Rapid Plasma Reagin (RPR) testing. Lastly, TP DNA was extracted from all samples regardless of DF outcome for qPCR targeting the TP *poA* gene. We calculated the percentage of samples that were TP positive on DF and/or qPCR. For DF positive and PCR negative, only samples with RPR > 1:8 were counted as cases.

RESULTS

Among the 593 participants with ulcers, DF and qPCR results were available for 548 (92%). The median age was 27 years old (IQR: 23-34) and the majority were male (60%). Among those with a recorded HIV status ($n=399$), 14% were living with HIV. 53 (10%) were DF positive, 352 (64%) were qPCR positive with TP *poA* geometric mean of 2382 copies/ μ L, and 42 (8%) were both DF and qPCR positive. Among those who were DF positive and qPCR negative ($n=11$), 2 had titers $\geq 1:8$, resulting in an overall TP prevalence of 65% ($n=354$).

CONCLUSION

There has been an alarming increase in the burden of TP in Malawi among patients with GUD, as determined by qPCRs. The majority of participants with GUD were HIV negative, a high-risk population for HIV acquisition. Syphilis and HIV prevention services, including pre-exposure prophylaxis and active partner tracing should be strengthened in this population.

221. High effectiveness of doxycycline post-exposure prophylaxis in reducing incident STIs among MSM and transgender women on HIV PrEP or living with HIV (PLWH): A randomized open label trial

Celum C¹, Dombrowski J, Cohen S, Donnell D, Grabow C, Brown C, Malinski C, Perkins R, Nasser M, Lopez C, Buchbinder S, Scott H, Charlebois E, Havlir D, Soge O, Luetkemeyer A

¹Univ Of Washington

BIOGRAPHY:

Dr. Connie Celum is an infectious disease physician and epidemiologist whose research focus is HIV and STI prevention trials and implementation. She is Professor of Global Health, Medicine, and Epidemiology at the University of Washington, Director of the International Clinical Research Center and Director of the Center for AIDS Research.

BACKGROUND

With a sexually transmitted infection (STI) epidemic among men who have sex with men (MSM) and transgender women (TGW), interventions to reduce STIs are needed.

METHODS

DoxyPEP is a randomized open-label trial among Seattle and San Francisco MSM/TGW living with HIV (PLWH) or on PrEP who had N. gonorrhoeae (GC), C. trachomatis (CT), or early syphilis in the past year. Randomization was 2:1 to 200 mg doxycycline hyclate within 72 hours of condomless sex or no doxycycline. STI testing was at enrollment, quarterly, and when symptomatic. An independent committee adjudicated STIs. The intent to treat analysis compared relative risk of an STI per quarter. At the single interim analysis at 50% of follow-up time in May 2022, the DSMB recommended stopping the control arm based on prespecified efficacy thresholds measured independently in PLWH and PrEP cohorts.

RESULTS

Of 554 enrolled by March 2022, 360 were on PrEP, 194 PLWH, 65% white, 8% Black, 10% Asian, 30% Latinx. Median sex partners in the past 3 months was 9. Among 360 MSM/TGW on PrEP, 65 primary STI endpoints (29.5%) occurred in the control arm and 47 (9.6%) in doxyPEP arm (RR 0.33; 95%CI 0.23-0.47; $p < 0.0001$). Among 194 PLWH, 30 primary STI endpoints (27.8%) occurred in the control arm and 31 (11.7%) in doxyPEP arm (RR 0.42; 95% CI 0.25-0.75; $p = 0.0014$). Incident GC, CT, and syphilis were each reduced. In the doxyPEP arm, 91% of sex acts (anal/vaginal/frontal) were condomless and 87% were covered by doxycycline within 72 hours. No serious or \geq grade 2 AEs were attributed to doxycycline.

CONCLUSIONS

In the setting of 30% STI incidence per quarter in the control arm, doxycycline 200 mg taken within 72 hours after condomless sex significantly reduced incident STIs by 60% among MSM/TGW PLWH and on PrEP, and could be an impactful STI control intervention.



The clock is ticking.

More than 1 million sexually transmitted infections are acquired every day. That's about 700 new infections every minute.

The clock is ticking.

Three of the most common sexually transmitted infections—chlamydia, gonorrhoea and syphilis—are treatable with antibiotics.

The clock is ticking.

Drug resistance to treatments for these diseases is growing. For gonorrhoea, only one last-line treatment remains. So-called “super-gonorrhoea”—which does not respond to the last-line treatment—has been found all over the world from the UK to Thailand.

The clock is ticking.

GARDP is taking urgent action now to develop and deliver a new treatment for gonorrhoea.

Let's keep this treatable disease treatable.

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Dorcas Obi-Yeboah - Ghana
Jason Ong - Australia
Susheena Reza-Paul - Canada/India
Bernard Sawadogo - Burkina Faso
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Lenka Vodstrcil - Australia
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Sarah Bernays - Australia
Harrell Chesson - USA
Meg Doherty - Geneva/WHO
Ashley Lacombe-Duncan - USA
Mark Gilbert - Canada
Lesley Gittings - Canada
Graham Hoddinott - South Africa
Angela Kaida - Canada
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Catie Oldenberg - USA
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Rob Stephenson - USA
Andrea Wirtz - USA

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3 Development of an Antigen Rapid Diagnostic Test to detect *Neisseria gonorrhoeae* to support the aetiological management of patient with sexually transmitted infections and ensure antibiotic stewardship
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5 The use of the microdilution Sensititre System for antimicrobial susceptibility testing of *Neisseria gonorrhoeae*.
Vicky Cuylaerts, Institute Of Tropical Medicine

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Trevor Crowell, U.S. Military HIV Research Program

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Thibaut Vanbaelen, Institute of Tropical Medicine

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Walter Agingu, Nyanza Reproductive Health Society

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20 Epidemiology of herpes simplex virus type 1 in Canada: Systematic review, meta-analyses, and meta-regressions
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