Getting more vaccines to more people
ASIAN VACCINE CONFERENCE
ASVAC 2022

IMMUNISATION IN THE ERA OF PANDEMICS

THE 8TH ASIAN VACCINE CONFERENCE

16 – 18 SEPTEMBER 2022 | SRI LANKA & VIRTUAL

PROGRAMME AND ABSTRACT BOOK

www.asianvaccine.com

Organiser

IPAP
ip-ap.net
Immunisation Partners in Asia Pacific

Host

College of General Practitioners of Sri Lanka 1974

Sri Lanka College of Paediatricians

Event Manager

KENES GROUP

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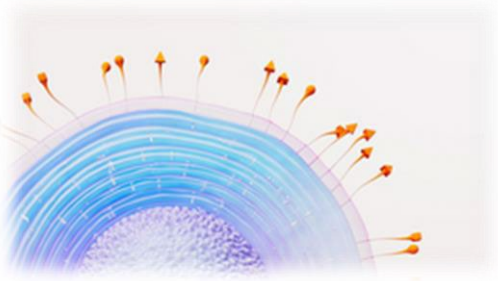

8th Asian Vaccine Conference

Scientific Satellite Symposium
Healthy Aging: Vaccines for Life

Saturday 17th September, 2022
10:45 – 11:30 Colombo (GMT+5:30)
13:15 – 14:00 Hong Kong (GMT+8:00)
16:15 – 17:00 Sydney (GMT+11:00)

Dr. H.T. Wickramasinghe
President of Vaccine and Infectious Disease Forum of Sri Lanka/ Founder Member & Past President of Asian Society of Paediatric Infectious Diseases/ Founder Member & Steering Committee Member of Immunization Partners in Asia Pacific

Dr. George Kassianos
National Immunization Lead and Fellow of The Royal College of General Practitioners (RCGP)/ Founder member, Spokesperson, Fellow & President of 'The British Global & Travel Health Association'

Professor Selim Badur
Director Scientific Affairs & Public Health – GSK Vaccines – Emerging Markets

Time	Session	Speaker
10:45–10:50	Welcome and Introduction	Dr. H. T. Wickramasinghe, Sri Lanka
10:50–11:05	Burden of Vaccine Preventable Diseases (VPDs) in Adults & Elderly	Dr. George Kassianos CBE, The United Kingdom
11:05–11:20	Advancement in Vaccinology: Increasing Vaccine Effectiveness in Adults & Elderly	Professor Dr. Selim Badur, Turkey
11:20–11:30	Q&A	All speakers, moderated by Dr. Wickramasinghe

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WELCOME ADDRESS FROM IPAP PRESIDENT

Dear Colleagues and Friends,

It has been 12 years since a group of Pediatricians and vaccine enthusiasts in the Asia Pacific region started to organise and develop activities to raise awareness on the value of vaccination and sustain vaccine confidence. We were then seeing how vaccine complacency was starting to emerge due to the disappearance of vaccine-preventable diseases in the region. Polio was gone and measles was on the verge of elimination, while diphtheria, pertussis and tetanus were significantly decreasing.

Now, in the midst of a pandemic and with the knowledge that childhood Immunisation in the Era of Pandemics, there is an urgent call for every sector of society, both public and private, as well as national and international agencies, to work together to save lives. According to a recent UNICEF report, there are 20 million children unvaccinated or undervaccinated in the world today. This is mostly due to the COVID19 pandemic coupled with an emerging loss of vaccine confidence and some confusion knowing where to get vaccinated. It is with this objective of putting vaccination at the forefront of health delivery to reduce morbidity and mortality from vaccine-preventable diseases. We are asking all of you, health care workers and professionals as well as policymakers and health enthusiasts, to join us in planning and strategising towards the achievement of greater vaccine accessibility and vaccine resilience.

We welcome your ideas and suggestions to ensure that all our health care systems will be better equipped with the knowledge and skills to implement immunization programmes. There is a need to give facts and evidence based on science and show best practices of countries, especially in the Asia Pacific region. We invite those with expertise and studies to show us how to deal with our present situation and continue our fight against vaccine-preventable diseases.

Please join us in our next Asian Vaccine Conference led by its over-all chair Dr. H.T. Wickramasinghe and his team from Sri Lanka. They have done such a remarkable job on their immunization programmes. Let us all get-together and do something for the public good! This is our mission…

Take care and stay safe!

Lulu C. Bravo
President
Immunization Partners in Asia Pacific (IPAP)

WELCOME ADDRESS FROM STEERING COMMITTEE

It is an honour to invite you to the 8th Asian Vaccine Conference (ASVAC 2022) to be held on 15 – 18 September 2022 virtually globally and in-person in Sri Lanka.

Since the first conference in Siem Reap, Cambodia in 2009, IPAP's biennial "Asian Vaccine Conferences" have drawn strong interest from a broad range of stakeholders involved in vaccines and immunization. In Myanmar in 2019, a very successful EPI managers meeting was held prior to main ASVAC conference and was supported by our speakers participating in the main conference. Then on the day before the main 2 day conference, ASVAC hosts partner workshops and its very popular "Masterclass" which provides concise updates on vaccinology to conference participants and local practitioners.

ASVAC is now one of the best recognised conferences on vaccinology in the Asia Pacific region and our philosophy of working with our many partners has made it possible to provide you with an excellent and succinct scientific programme. ASVAC 2022 will be a single and double track event with 5 plenary lectures, 2 panel discussions and 6 partner-supported symposia with industry partners providing lunch and evening symposia.

The theme of ASVAC 2022 is "Immunization in the Era of Pandemics". COVID-19 has created a global awareness of the potential and importance of vaccines, and there was a race to produce safe and effective COVID-19 vaccines within the shortest possible time. Who got these vaccines first and has their distribution been equitable? The COVID-19 pandemic has also spurred anti-vaccine groups to propose narratives aimed at undermining vaccines and immunization programmes. The pandemic has also had a negative impact on existing immunization programmes and a resurgence of vaccine-preventable diseases has become a real risk. ASVAC 2022 will address these opportunities and challenges through a dedicated scientific programme with distinguished speakers, theme-focused partner symposia and knowledge-sharing opportunities.

We very much look forward to your continued support and we hope to have your participation in ASVAC 2022

Tony Nelson
Chair
IPAP Steering Committee

WELCOME ADDRESS FROM THE PRESIDENT OF THE VACCINE AND INFECTIOUS DISEASE FORUM OF SRI LANKA (VIDFSL)

The Asia Vaccine Conference, has been an important event in the field of Vaccinology in the Asia-Pacific region. On behalf of the Council of Vaccine and Infectious Disease Forum (VIDFSL) of Sri Lanka, I express my gratitude to the Immunization Partners in Asia-Pacific (IPAP) for selecting Sri Lanka to partner with them for organizing the Asian Vaccine Conference (ASVAC) this year. The VIDFSL is honoured to be associated with this international conference which is in line with the efforts and work of VIDFSL.

Immunization is the core of primary health care in any country and the EPI programme is at the forefront of the effort to reach Universal Health Care with strong focus on reaching vulnerable groups. The task of the EPI programme is to ensure equitable immunization coverage for all. Sri Lanka has continued a very successful immunization program due to the unfailing commitment to excellence and perseverance of the Epidemiology Unit, and the Chief epidemiologists who have headed the Unit with the support of a robust, active epidemiologists network in the country. The established primary health care network with the associated staff has worked tirelessly to achieve this status. Sri Lanka is proud to be requested to organize the EPI managers meeting this year.

The ASVAC offers a comprehensive program comprising of many lectures on diverse vaccine associated topics starting with a pre-congress event, followed by the EPI managers meeting, vaccine master class and 2 days of scientific meeting with a comprehensive coverage of important vaccine related subjects. The faculty consists of prestigious speakers both of international and local arena who have worked tirelessly in the vaccine development, sustainability and the implementation areas.

I wish the proceedings every success.

Geethani Galagoda
Consultant Virologist and Head of Laboratories of Lanka Hospitals Diagnostics
President / VIDFSL

WELCOME ADDRESS BY THE MINISTER OF HEALTH (SRI LANKA)

Given Sri Lanka's history with immunization, we are proud to host the 8th Asian Vaccine conference.

Since its inception in 2009, the Asia Vaccine Conference has drawn the attention and interest from professionals from the field of vaccinology from all across the Asia- Pacific region as it is one of the most sought after events for those in the field.

I thank the chief organizers of this conference, the Immunization Partners in Asia-Pacific (IPAP), for entrusting Sri Lanka to host the event this year. The conference will bring together global experts and it will be a hub to share knowledge, expertise and best practices of the diverse aspects of vaccinology.

The world has come a long way from 1796 when Edward Jenner used cowpox to inoculate a child to protect against the deadly disease, smallpox, to seeing its eradication in 1980. Vaccines have since saved tens of millions of lives globally. Many pandemics, epidemics and global medical catastrophes have since been avoided and eradicated by eliminating many infectious diseases through immunization.

Most recently with the COVID 19 pandemic the world witnessed the power and effects of immunization. Research was conducted and vaccines were produced in record time which led to avoiding a global catastrophe. With the Covid 19 pandemic awareness regarding vaccines once again came to the forefront. Even those of us not from the medical field learnt about the RNA vaccines and viral vector vaccines amongst other details

Compared to many developed and developing nations Sri Lanka holds a special place when it comes to vaccination. We have one of the most successful immunization programs in South East Asia. This has led to the reduction of many childhood diseases and as a result Sri Lanka has a very low infant mortality rate. We have been able to maintain high levels of childhood immunization even during challenging times the country has faced such as, during the 30+ year terrorist conflict and the dreaded tsunami in 2004.

More recently, while the world was grappling with COVID-19, Sri Lanka set an example to the world by implementing the COVID-19 vaccination program very early on in the day. In the span of three months we managed to vaccinate over 80% of our vulnerable and elderly population. It would be amiss if I don't take this opportunity to acknowledge the hard work of our frontliners and health care workers for attaining this gigantic task.

As with any good venture an unfortunate fallout of the pandemic was the rise of the anti-vaccine lobby. Many nations currently face this issue and Sri Lanka too has seen the rise of the anti vaccine voice in recent times. I believe with awareness and more information this issue too can be addressed and minimized. Once again I thank the organizers for entrusting Sri Lanka to host the 8th Asian Vaccine conference. Please accept my best wishes for a fruitful dialog and a successful completion of the conference.

Keheliya Rambukwella
Honorable Minister of Health, Sri Lanka

ORGANISING COMMITTEE

LOCAL ORGANISING COMMITTEE

Conference Chairperson Asian Vaccine Conference 2022

H.T. Wickramasinghe

President, Vaccine and Infectious Disease Forum of Sri Lanka (VIDFSL)

Geethani Galagoda

Members

Jennifer Perera

Lucian Jayasuriya

Kanthi Nanayakkara

BJC Perera

Dulmini Kumarasinghe

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Kyaw Lin

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President

Lulu Bravo

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Maria Rosario Z. Capeding

Charissa Fay Corazon B. Tabora

May Emmeline B. Montellano

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We chase
the *miracles* of science
to *improve* people's
lives

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TIMEZONE REFERENCE SHEET

DATE	COUNTRY			
	Colombo UTC+5:30	Singapore UTC+8:00	South Korea UTC+9:00	Boston UTC-4:00
16 September	08:00	10:30	11:30	15 September, 22:30
16 September	10:30	13:00	14:00	01:00
16 September	11:00	13:30	14:30	01:30
16 September	11:30	14:00	15:00	02:00
16 September	12:00	14:30	15:30	02:30
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17 September	09:00	11:30	12:30	16 September, 23:30
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18 September	14:00	16:30	17:30	04:30
18 September	14:30	17:00	18:00	05:00
18 September	15:00	17:30	18:30	05:30

PRE-CONGRESS: EPI MANAGERS MEETING

15th September 2022, Thursday

TIMING (IST / UTC+5.30)	TOPIC	SPEAKER
10:00 – 10:05	Welcome Message	**Geethani Galagoda** (Sri Lanka)
10:05 – 10:10	Address from Chief Guest	**Susie Perera** (Sri Lanka)
Session I – INFLUENZA AND PCV		
10:10 – 10:30	Influenza Disease Burden and Vaccine Uptake in SEARO Chairperson: **Kanthi Nanayakkara** (Sri Lanka)	**Ranjan Wijesinghe** (India)
10:30 – 10:35	**Q&A**	
10:35 – 10:55	Pneumococcal Disease Burden in the Asia Pacific Region Chairperson: **Sanath Lamabadusuriya** (Sri Lanka)	**Chiu Cheng Hsun** (Taiwan)
10:55 – 11:00	**Q&A**	
11:00 – 11:20	Country Updates	**Samitha Ginige** (Sri Lanka) **Prima Yosephine** (Indonesia)
Session II – ROTAVIRUS & HPV		
11:20 - 11:40	Rotavirus Vaccines in Asia Pacific Chairperson: **Geethani Galagoda** (Sri Lanka)	**Tony Nelson** (China)
11:40 - 11:45	**Q&A**	
11:45 - 12:05	Cervical Cancer Burden and HPV Vaccine Uptake WPRO/SEARO Chairperson: **Kanishka Karunarathne** (Sri Lanka)	**Paba Palihawadana** (Sri Lanka)
12:05 - 12:10	**Q&A**	
12:10 - 12:30	Country Updates	**Rozita Ab Rahman** (Malaysia) **Kim Patrick Tejano** (Philippines)
12:30 – 13:30	Break	
Session III – PROGRAMMATIC UPDATES		
13:30 – 13:50	Integrated Immunization Programme: Overcoming Challenges During Pandemics Chairperson: **Jayantha Weeraman** (Sri Lanka)	**Samitha Ginige** (Sri Lanka)
13:50 – 13:55	**Q&A**	

*Programme is accurate as at time of dissemination

PRE-CONGRESS: EPI MANAGERS MEETING

15th September 2022, Thursday

Timing (IST / UTC+5.30)	TOPIC	SPEAKER
13:55 – 14:15	COVID Vaccine Supply WPRO/SEARO Chairperson: **Manuj Weerasinghe** (Sri Lanka)	**Jayantha Liyanage** (Sri Lanka)
14:15 – 14:20	**Q&A**	
14:20 – 14:40	Country Updates	**S Chaninan** (Thailand) **Naveed Jafri** (Pakistan)
Session IV – TECHNICAL UPDATES		
14:40 – 15:00	DPT Vaccine; Should Countries Change the Existing DTP Vaccine Schedule? Chairperson: **Guwani Liyanage** (Sri Lanka)	**H.T. Wickramasinghe** (Sri Lanka)
15:00 – 15:30	AEFI/Strategies to Tackle Hesitancy WHO Chairperson: **Rajiva de Silva** (Sri Lanka)	**Ananda Amarasinghe** (Philippines)
15:30 – 15:40	**Q&A**	
15:40	Closing Remarks	**H.T Wickramasinghe** (Sri Lanka)
15:50	End of EPI Managers Meeting	

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PRE-CONGRESS WORKSHOPS

16 September 2022, Friday

TIMING (IST / UTC + 5.30)	**ASAP SYMPOSIUM: UPDATES ON PNEUMOCOCCAL VACCINES DEVELOPMENT** Chair: Lulu C. Bravo (Philippines), Zulfikli Ismail (Malaysia)	**HPV WORKSHOP** Chair: Kirthini Muralidharan (United States of America)
08:00 – 10:30	Egemen Ozbilgili (Pzifer) Olakunle Oladehin (GSK) Jin Oh Kim (MSD) Nitin Shah	Daniel Chulwoo Rhee (United States of America) Didik Setiawan (Indonesia) Kurnia Eka Wijayanti (Indonesia)

PRE-CONGRESS: ASVAC VACCINOLOGY MASTERCLASS

16 September 2022, Friday

The Vaccinology Masterclass is a signature session at the Asian Vaccine Conference (ASVAC). It is intended to be a concise and intensive workshop to provide an overview on everything you need to know about vaccines and vaccination. The areas covered range from the history and impact of vaccination, vaccine immunology, vaccine development and implementation, to the current spectrum of vaccines through the ages.

A highlight is the quiz where one can learn to apply the knowledge shared. It closes with a glimpse into the future and the developments in the field of vaccinology.

This masterclass is targeted primarily at the local audience, but is relevant and useful for all delegates at ASVAC - all clinicians, nurses and allied health practitioners, policy makers and anyone working in the healthcare services, as well as medical, nursing and pharmacy students will find this programme relevant and useful in their daily practice.

TIMING (IST / UTC + 5.30)	TOPIC	SPEAKER
10:30 – 10:40	Welcome Address	**Daniel Goh** (Singapore)
10:40 – 11:00	History and Impact of Vaccination	**Mathu Santhosham** (United States of America)
	Basic Vaccine Immunology	
11:00 – 12:20	How & Why Vaccines Work: Basics of Immune Responses and Mechanisms of Vaccines	**Philippe Buchy** (Singapore)
	Fundamentals of Vaccine Clinical Development – Safety, Efficacy and Effectiveness	**Alberta Di Pasquale** (Singapore)
	Importance of Disease Surveillance in Vaccination Strategies	**Philippe Buchy** (Singapore)
	Concept of Cross-Protection and Herd Immunity	**Jin Oh Kim** (South Korea)
12:20 – 12:30	Break	
12:30 – 13:00	Communications - Addressing Vaccine Hesitancy	**Zulkifli Ismail** (Malaysia)
	Vaccination Through the Ages – Vaccines in Each Stage of Life	
13:00 – 13:30	Vaccinations in Infants	**Elizabeth Gallardo** (Philippines)
13:30 – 14:00	Vaccination in Adolescents	**Pramod Jog** (India)
14:00 – 14:30	Vaccination in Pregnancy	**Sybil Bravo** (Philippines)
14:30 – 15:00	Vaccination in Elderly	**Jean-Pierre Michel** (Switzerland)
15:00 - 15:30	Clinical Application	**H.T. Wickramasinghe** (Sri Lanka) **Rajiva de Silva** (Sri Lanka)
15:30 – 15:50	Vaccines: What Lies in the Future?	**Jerome Kim** (South Korea)
15:50 – 16:00	Concluding Remarks	**Daniel Goh** (Singapore)
16:00	End of Pre-Congress Programme	

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PROGRAMME AT A GLANCE

DAY 1: 17 SEPTEMBER 2022, SATURDAY

TIMING (IST / UTC + 5.30)	ACTIVITY	
	Stream 1	**Stream 2**
08:30 – 08:40	**Welcome Address** Lulu Bravo (Philippines)	
08:40 – 08:50	**Introduction to ASVAC 2022** H.T. Wickramasinghe (Sri Lanka)	
08:50 – 09:00	**Opening Message** Keheliya Rambukwella (Hon. Minister of Health, Sri Lanka)	
09:00 – 09:30	**Plenary Lecture 1** Chair: Lulu C. Bravo (Philippines)	
	Equity and COVID Kim Mulholland (Australia)	
09:30 – 10:45	**Symposium 1: Vaccines through the Ages** Partners: International Federation of Aging Chair: Susie Perera (Sri Lanka)	**Symposium 2: Respiratory Vaccines** Partners: Asia Pacific Alliance for the Control of Influenza (APACI) Chair: Neelika Malavige (Sri Lanka)
09:30 – 09:50	**Implementing Life Course Immunisation Schedules: What Needs to be Done** Jane Barrat (Canada)	**Flu Vaccine Updates** Pushpa Ranjan Wijesinghe (India)
09:50 – 10:10	**Pregnancy & Missed Opportunities** Sybil Bravo (Philippines)	**Pneumococcal Disease Prevention** Chiu Cheng Hsun (Taiwan)
10:10 – 10:30	**Travel Vaccines** Pornthep Chanthavanich (Thailand)	**Respiratory Syncytial Virus (RSV)** Lien Anh Ha Do (Australia)
10:30 – 10:45	**Q&A**	**Q&A**
10:45 – 11:45	**Industry Symposia 1: AstraZeneca** **COVID-19 Vaccine Effectiveness: Myths vs RWE. Are Current Vaccines Optimal to Protect the Most Vulnerable?** Chair: Bruce Mungall (Singapore) AstraZeneca	**Industry Symposia 2: GSK** **Healthy Aging: Vaccines For Life** Chair: H.T. Wickramasinghe (Sri Lanka) GSK
	Expert Global Review of COVID-19 Vaccine Effectiveness: Booster Doses Versus Omicron Anna Ong-Lim (Philippines) **Third and Fourth Dose Effectiveness of COVID-19 Vaccines in Chiang Mai, Thailand** Suwat Chariyalertsak (Thailand) **The Unmet Need in High-Risk Groups Despite Vaccination: Leaving No-One Behind** Barnaby Young (Singapore)	**Burden of VPDs in Adults & Elderly** George Kassianos (United Kingdom) **Advancement in Vaccinology: Increasing Vaccine Effectiveness in Adults & Elderly** Selim Badur (Turkey)

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PROGRAMME AT A GLANCE

DAY 1: 17 SEPTEMBER 2022, SATURDAY

TIMING (IST / UTC + 5.30)	ACTIVITY	
	Stream 1	**Stream 2**
11:45 – 13:00	**Symposium 3: COVID Vaccines** Chair: BJC Perera (Sri Lanka)	**Symposium 4: Communication and Advocacy** Chair: Dineshani Hettiarachchi (Sri Lanka)
	COVID-19 Vaccinations for Children: Following the Evidence Ben Cowling (Hong Kong) **"Special Population Groups" - Cancer Patients on Chemo, Transplant Patients, Dialysis Patients and Patients with Immune Deficiency** Neelika Malavige (Sri Lanka) **Routine Childhood Immunizations during COVID** Anna Ong-Lim (Philippines)	**Latest Strategies to Communicate Vaccine Safety** Pramod Jog (India) **Communicating Impact of COVID on Childhood Immunisation** Lois Privor (United States) **Immunisation Agenda 2030: Geneva Learning Foundation** Charlotte Mbuh (Switzerland) **The Ethics of Challenge Studies to Fast Track Vaccine Development** Julian Savulescu (United Kingdom)
	Q&A	**Q&A**
13:00 – 13:30	**Plenary Lecture 2** Chair: Tony Nelson (China)	
	Bats, Viruses and Pandemics Linfa Wang (Singapore)	
13:30 – 14:15	**Panel 1:** **Pooled Procurement - Lessons Learned during COVID and Future Opportunities** Partners: National Vaccine Institute, UNICEF Chair: Tony Nelson (China)	**Panel 2:** **Vaccine Confidence in the Asia Pacific Region** Partners: APAC coalition Chair: Daniel Goh (Singapore) Lulu C. Bravo (Philippines)
	ASEAN Initiatives for Pooled Procurement Nakorn Premsri (Thailand) **UNICEF's Pooled Procurement Mechanism** Andrew Jones (Denmark)	Zulkifli Ismail (Malaysia) H.T. Wickramasinghe (Sri Lanka) Iqbal Ahmad Memon (Pakistan) Naveen Thacker (India)
14.15 – 15.15	**Industry Symposia 3: Takeda** **Takeda Dengue Symposium: Latest Update on Dengue** Chair: Puneet Kalra (India) Takeda	**Industry Symposia 4: Sanofi** **Sustaining Immunization for Children in the Current Era** Chair: Anna Ong-Lim (Philippines) sanofi
	Current Status of Dengue in Sri Lanka and Asian Countries Neelika Malavige (Sri Lanka) **Clinical Managment of Dengue** A. LakKumar Fernando (Sri Lanka) **Brief Overview of Takeda Dengue Vaccine (TAK -003) with 4.5 year data results** Vianney Tricou (Switzerland)	**Addressing the Challenges of Increasing Immunization Rates with Combination Vaccines** Federico Martinon Torres (Spain) **Global Polio Eradication Initiative: Role of wP Combination Containing IPV Vaccine** Mouloud Khris (Morocco)
15:15	**End of Day 1 Programme**	

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PROGRAMME AT A GLANCE

DAY 2: 18 SEPTEMBER 2022, SUNDAY

TIMING (IST / UTC + 5.30)	ACTIVITY	
	Stream 1	**Stream 2**
09:00 – 09:30	**Plenary Lecture 3** Chair: Zulkifli Ismail (Malaysia)	
	Priority Vaccines for Developing World (Malaria, HIV) Peter Hotez (United States of America)	
09:30 – 10:45	**Symposium 5: Enteric Vaccines** Partners: ROTA Council/ PATH/ IVI Chair: Shaman Rajindrajith (Sri Lanka)	**Symposium 6: Unfinished Business** Chair: Jennifer Perera (Sri Lanka)
09:30 – 09:50	**Cholera Vaccine Landscape** Julia Lynch (South Korea)	**HPV Vaccine Updates: Evidence towards Use of Single Dose** Daniel Chulwoo Rhee (United States of America)
09:50 – 10:10	**Typhoid Vaccines: Experience from Early Introducers** Aziza Mwisongo (United States of America)	**Dengue Vaccine Updates** Ooi Eng Eong (Singapore)
10:10 – 10:30	**Current Status Oral Rotavirus Vaccines** Carl Kirkwood (United States of America)	**Polio** Somia Iqtadar (Pakistan)
10:30 – 10:45	**Q&A**	**Q&A**
10:45 – 11:45	**Industry Symposia 5: MSD** **Challenges and Prospects of Pneumococcal Prevention in Adults Within Asia Pacific** Chair: Rontgene Solante (Philippines) MSD	
	Key Considerations in Pneumococcal Prevention in Adult Population and Future Prospects Paul Van Buynder (Australia) **Challenges and Prospects of Pneumoccoal Prevention in Adults in the Asia Pacific Region** Terepong Tantawichien (Thailand)	
11:45 – 11:55	**FREE PAPER SESSION A** Chair: Dilini Nakkawita (Sri Lanka) **Vaccines in Development: Immunogenicity and Safety of Hexavalent DTwP-IPV-HB-PRP~T Vaccine Compared With Licensed Pentavalent DTwP-HB-PRP~T Vaccine in Healthy Infants In Thailand: A Phase III Randomized Study** Leilani Sanchez (Philippines)	**FREE PAPER SESSION B** Chair: A. H. Hazari (Sri Lanka) **Disease-Specific Vaccines: Correlation Between Patient-reported and Clinician-assessed Symptoms and Case Definition to Capture Moderate-to-Severe RSV Disease in Adults Aged ≥65 Years: A Randomized, Placebo-controlled, Phase 2b Study** Esther Heijnen (United States of America)
11:55 – 12:05	**Disease-Specific Vaccines: Effectiveness of COVID-19 vaccine booster doses against Omicron-related serious disease** Rontgene Solante (Philippines)	**Monitoring and Surveillance: Effectiveness of heterologous 3rd and 4th dose COVID-19 vaccine schedules for SARS-CoV-2 infection during delta and omicron predominance in Thailand.** Suwat Chariyalertsak (Thailand)
12:05 – 12:15	**Vaccines in Development: Antibody Persistence After Primary Series With DTwP-IPV-HB-PRP~T Compared With Separate DTwP-HB-PRP~T and IPV Vaccines, and Booster Response to DTwP-IPV-HB-PRP~T in Healthy Toddlers in India** Somnath Mangarule (India)	**Targeted Vaccination Strategies: Literature review on the knowledge, attitude and practice regarding herpes zoster and zoster vaccination in Asia-Pacific** Jing Chen (Singapore)

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PROGRAMME AT A GLANCE

DAY 2: 18 SEPTEMBER 2022, SUNDAY

TIMING (IST / UTC + 5.30)	ACTIVITY	
	Stream 1	**Stream 2**
12:15 – 12:25	**Disease-Specific Vaccines: IgG antibody response among recipients of the ChAdOx1 nCoV-19 Vaccine: A single center experience from Sri Lanka** Dhanuka Dhanaratna (Sri Lanka)	**Evidenced-based Introduction of New Vaccines: Capturing the value of vaccination within health technology assessment and health economics - Literature review and novel conceptual framework** Yu-Fan Ho (Singapore)
12:25 – 12:35	**Disease-Specific Vaccines: Regimen Selection and 1.5-year Immunogenicity Evaluation of Prophylactic Ad26.RSV.preF Vaccine Combinations: A Randomised, Double-Blind, Placebo-Controlled, Adaptive Design Phase 1/2a Study in Adults Aged ≥60 Years** Arangassery Rosemary Bastian (United States of America)	**Monitoring and Surveillance: Covid 19 Immunization Tracking in low resource setting using Opensource information systems** Gumindu Kulatunga (Sri Lanka)
12:35 – 12:45	**Vaccines in Specific Settings: Evaluation of immunity against hepatitis B virus infection and factors associated with anti-HBs levels among vaccinated haemodialysis patients at two major Nephrology-Units in Sri Lanka** Mohamed Asmir (Sri Lanka)	**Targeted Vaccination Strategies: The epidemiology and cost of dengue disease in Sri Lanka: a systematic literature review** Jing Shen (Switzerland)
13:00 – 13:30	**Plenary Lecture 4** Chair: Dhanuska Dasanayake (Sri Lanka)	
	The Next Pandemic - Are We Prepared? Paul Anantharajah Tambyah (Singapore)	
13:30 – 14:15	**Panel 3: MEET THE VACCINE EXPERTS** Partners: Philippine Foundation for Vaccines, IPAP, APPA, Immunise for Life (Malaysia) Chair: Lulu C. Bravo (Philippines)	
	Rose Capeding (Philippines) Piprim (Indonesia) Zulkifli Ismail (Malaysia) Usa Thisyakorn (Thailand)	
14:15 – 14:45	**Closing Plenary Lecture** Chair: Kim Mulholland (Australia)	
	Vaccines: What Does the Future Hold? Jerome Kim (South Korea)	
14:45 – 15:15	**Prize Presentation** **IPAP & Organising Chair of ASVAC 2023 Speech** **Closing Ceremony** Lulu C. Bravo (Philippines)	

Disclaimer: The Organising Committee may, in its discretion, amend any part of the programme without prior notice.

*Programme is accurate as at time of dissemination

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Takeda Dengue Symposium : Latest updates on Dengue

Saturday, September 17th 2022

8th ASIAN VACCINE CONFERENCE (VIRTUAL)

16-18 SEPTEMBER 2022, Sri Lanka

17 SEP 2022

Colombo Time	Hong Kong Time
14:15 - 15:15 pm	16:15 - 17:15 pm

Speakers

Dr. A. LakKumar Fernando

MBBS, DCH, MD(Paed), MRCP(UK), MRCPCH(UK), FRCP(Lond), FSLCP

- Senior Consultant Pediatrician & Dengue expert
- Principal Investigator TIDES study Sri Lanka
- Founder Clinical Head of the Centre for Clinical Management of Dengue & DHF; Negombo Sri Lanka

Dr. Vianney Tricou

Pharm D (University of Lyon, France), PhD (University of Oxford, UK)

- Medical Director- Takeda Vaccines- Zurich, Switzerland
- A clinical development professional specialized in infectious diseases
- Involved in development of TAK-003, a novel dengue tetravalent vaccine candidate

Prof. Neelika Malavige

MBBS, MRCP, FRCPath (UK), FRCP (Lond), D. Phil.(Oxon), FNAAS (SL), Member of ISID Executive Committee

- Head of Dengue Global Programme and Scientific Affairs, DNDi
- Immunologist and a well recognized leader in the field of Dengue research

Moderator

Dr. Puneet Kalra

Therapy Area Lead Vaccines – Takeda India

Agenda

Topic	Speaker
Current status of Dengue in Sri Lanka and Asian countries	Prof. Neelika Malavige
Clinical Management of Dengue	Dr. LakKumar Fernando
Brief overview of Takeda Dengue vaccine (TAK -003) with 4.5 year data results	Dr. Vianney Tricou
Q & A, Key Takeaways & Way Forward	All

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VV-MEDMAT-72676, Date of preparation 10-08-2022

ABSTRACT (POSTER PRESENTATION)

Poster No	Abstract No	Abstract Topic	Abstract Title
1	ASVAC1009	Vaccines in Development	Immunogenicity and Safety of Hexavalent DTwP-IPV-HB-PRP~T Vaccine Compared With Licensed Pentavalent DTwP-HB-PRP~T Vaccine in Healthy Infants In Thailand: A Phase III Randomized Study
2	ASVAC1010		Antibody Persistence After Primary Series With DTwP-IPV-HB-PRP~T Compared With Separate DTwP-HB-PRP~T and IPV Vaccines, and Booster Response to DTwP-IPV-HB-PRP~T in Healthy Toddlers in India
3	ASVAC1042		Efficacy and Immunogenicity of an Ad26.RSV.preF-based Vaccine in the Prevention of RSV-mediated Lower Respiratory Tract Disease in Older Adults: A Randomized, Placebo-controlled, Phase 2b Study
4	ASVAC1043		Efficacy and Immunogenicity of an Ad26.RSV.preF-based Vaccine for Prevention of RSV-mediated Respiratory Tract Disease by Age/Risk Level in Older Adults in a Phase 2b Study
5	ASVAC1020	Monitoring and Surveillance	Effectiveness of heterologous 3rd and 4th dose COVID-19 vaccine schedules for SARS-CoV-2 infection during delta and omicron predominance in Thailand.
6	ASVAC1037		Covid 19 Immunization Tracking in low resource setting using Opensource information systems
7	ASVAC1026	Disease-Specific Vaccines	Effectiveness of COVID-19 vaccine booster doses against Omicron-related serious disease
8	ASVAC1023		IgG antibody response among recipients of the ChAdOx1 nCoV-19 Vaccine: A single center experience from Sri Lanka
9	ASVAC1039		Regimen Selection and 1.5-year Immunogenicity Evaluation of Prophylactic Ad26.RSV.preF Vaccine Combinations: A Randomised, Double-Blind, Placebo-Controlled, Adaptive Design Phase 1/2a Study in Adults Aged >=60 Years
10	ASVAC1040		Correlation Between Patient-reported and Clinician-assessed Symptoms and Case Definition to Capture Moderate-to-Severe RSV Disease in Adults Aged >=65 Years: A Randomized, Placebo-controlled, Phase 2b Study
11	ASVAC1035		Baseline surveillance of intussusception among children under 2 years of age at three tertiary hospitals in Myanmar; vital information for rotavirus vaccine introduction plan
12	ASVAC1039		Multi-center surveillance of rotavirus gastroenteritis in hospitalized children under five years of age in Myanmar
13	ASVAC1024		Side effects reported by the residents of Malabe, Sri Lanka after the Covid 19 vaccination
14	ASVAC1038		Side effects of four COVID-19 vaccines: A systematic review and meta-analysis
15	ASVAC1012	Targeted Vaccination Strategies	Literature review on the knowledge, attitude and practice regarding herpes zoster and zoster vaccination in Asia-Pacific
16	ASVAC1018		The epidemiology and cost of dengue disease in Sri Lanka: a systematic literature review
17	ASVAC1022		Phase one results from a multi-country study on public and physician's knowledge, attitude, and practice towards herpes zoster (HZ) and HZ vaccination in Asia
18	ASVAC1034		COVID-19 Vaccine communication project: identifying causes and addressing factors related vaccine hesitancy among 12–19-year-olds
19	ASVAC1016	Evidenced-Based Introduction of New Vaccines	Capturing the value of vaccination within health technology assessment and health economics - Literature review and novel conceptual framework
20	ASVAC1032	Vaccines in Specific Settings	Evaluation of immunity against hepatitis B virus infection and factors associated with anti-HBs levels among vaccinated haemodialysis patients at two major Nephrology-Units in Sri Lanka
21	ASVAC1028		The COVID-19 vaccine: Knowledge and compliance among nurses in a selected hospital in Sri Lanka
22	ASVAC1033		COVID-19 Vaccine communication project: identifying causes related vaccine hesitancy among 12-19 year olds
23	ASVAC1035	Vaccine Implementation	Assessment of attitude and hesitancy toward vaccine against COVID-19 in a Pakistani population: A mix methods survey
24	ASVAC1041	Vaccine Implementation	Determinants of Acceptance of COVID-19 vaccine among the General Population of U.P., North India

*Programme is accurate as at time of dissemination

ABSTRACT TOPIC: VACCINES IN DEVELOPMENT

ASVAC1009

Immunogenicity and Safety of Hexavalent DTwP-IPV-HB-PRP~T Vaccine Compared With Licensed Pentavalent DTwP-HB-PRP~T Vaccine in Healthy Infants In Thailand: A Phase III Randomized Study

[1]Leilani Sanchez, [2]Supattra Rungmaitree M.D., [3]Assoc. Prof. Pope Kosalaraksa MD, [4]Watsamon Jantarabenjakul, M.D., [5]Julie Leclercq, [6]Yuvadee Yaiprayoon, [7]Venkata Jayanth Midde, [8]Kucku Varghese, [9]Somnath Mangarule, [10]Fernando Noriega

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[2]Pediatric Infectious Diseases Unit, Department of Pediatrics, Siriraj Hospital, Mahidol University, Thailand
[3]Department of Pediatrics, Srinagarind Hospital, Khon Kaen University, Thailand
[4]Department of Pediatrics, Chulalongkorn Hospital, Thailand
[5]Biostatistics, Aixial, France
[6]Global Clinical Study Management, Sanofi , Thailand
[7]Global Pharmacovigilance, Sanofi , India
[8]Global Clinical Immunology, Sanofi , United States
[9]Global Clinical Development, Sanofi , France
[10]Global Clinical Development , Sanofi , United States

Objectives:
To demonstrate the non-inferiority of a hexavalent DTwP-IPV-HB-PRP~T vaccine to a licensed antigen-matched pentavalent DTwP-HB-PRP~T vaccine administered concomitantly with bivalent oral polio vaccine (bOPV) and IPV

Methods:
This Phase III, randomized, active-controlled, open-label, multi-center study was conducted in 460 healthy infants and toddlers in Thailand (NCT04429295). Infants who received a birth dose of BCG vaccine received either DTwP-IPV-HB-PRP~T or DTwP-HB-PRP~T given with bOPV at 2, 4, and 6 months of age and IPV at 4 months of age. Pneumococcal 13-valent conjugate vaccine was co-administered at 2, 4, and 6 months of age, while the oral rotavirus vaccine was co-administered at 2 and 4 months of age.

Non-inferiority of DTwP-IPV-HB-PRP~T to DTwP-HB-PRP~T given with bOPV and IPV vaccines was assessed using seroprotection rates (anti-D, anti-T, anti-HB, anti-Hib conjugate vaccine antigens [anti-PRP], and anti-polio 1, 2, 3) and adjusted geometric mean concentrations for the pertussis antigens, anti-pertussis toxin (anti-PT) and anti-fimbriae (anti-FIM). Anti-pneumococcal antibodies and anti-rotavirus IgA antibodies were evaluated in randomized subsets. Safety was assessed based on parental reports.

Results:
Non-inferiority of DTwP-IPV-HB-PRP~T versus DTwP-HB-PRP~T given with bOPV and IPV was demonstrated as 95% CIs for seroprotection rate differences and adjusted geometric mean concentration ratios were within pre-defined clinical margins. Seroprotection rate was ≥98.6% for anti-D (≥0.01 IU/mL), anti-T (≥0.01 IU/mL), anti-HB (≥10 mIU/mL), anti-PRP (≥0.15 µg/mL), and anti-polio 1, 2, and 3 (≥8 [1/dil]). Vaccine response rate was 63.6% for anti-PT and 94.9% for anti-FIM in DTwP-IPV-HB-PRP~T group. The safety profiles were similar across both groups and no evidence of any effect of pneumococcal conjugate and oral rotavirus vaccine co-administration was reported.

Conclusions:
DTwP-IPV-HB-PRP~T demonstrated non-inferiority to DTwP-HB-PRP~T given with bOPV at 2, 4, and 6 months and IPV at 4 months of age. There were no safety concerns. Results support the use of DTwP-IPV-HB-PRP~T to facilitate compliance and introduction of IPV on immunization programs.

ABSTRACT TOPIC: VACCINES IN DEVELOPMENT

ASVAC1010

Antibody Persistence After Primary Series With DTwP-IPV-HB-PRP~T Compared With Separate DTwP-HB-PRP~T and IPV Vaccines, and Booster Response to DTwP-IPV-HB-PRP~T in Healthy Toddlers in India

[1]SOMNATH MANGARULE, [2]Prashanth Siddaiah, [3]Anand Kawade, [4]Inumarthi Vara Padmavathi, [5]Virendranath Tripathi, [6]Mandyam Dhati Ravi, [7]Sonali Palkar, [8]Raghvendra Singh, [9]Ranjitha S Shetty,[10]Monjori Mitra,[11]Palvi Kudyar,[12]Julie Leclercq,[13]Midde Venkat Jayanth,[14]Kucku Varghese,[15]Sreeramulu Reddy Kandukuri,[15]Darshna Kukian,[16]Fernando Noriega

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[11]Department of Clinical Pharmacology, Seth GS Medical College and KEM Hospital, Mumbai, India
[12]Biostatistics, Aixial, Boulogne-billancourt, France
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Objectives:
Combining multiple antigens in a single vaccine enhances vaccine coverage and improves compliance. The present study evaluated a hexavalent vaccine (DTwP-IPV-HB-PRP~T) containing diphtheria (D), tetanus (T), whole-cell pertussis (wP), hepatitis B (HB), Haemophilus influenzae type b (Hib), and inactivated poliomyelitis (IPV) antigens, administered as a booster dose with or without a concomitant measles, mumps, and rubella (MMR) vaccine.

Methods:
This Phase III, randomized, open-label study included healthy toddlers from India (n=676), who had received either DTwP-IPV-HB-PRP~T or separate DTwP-HB-PRP~T and IPV vaccines in primary infant series and 1st dose of measles-containing vaccine earlier (CTRI/2020/04/024843). All participants received booster dose of DTwP-IPV-HB-PRP~T at 12–24 months of age. MMR vaccine was co-administered concomitantly (n=336) or 28 days after (n=340) the booster. For pertussis, the antibody persistence (pre-booster) was presented as titers >lower limit of quantification of assay (LLOQ) while booster responses (post-booster) were defined as titers ≥4x-pre-booster-concentration and ≥2x-prebooster-concentration when pre-booster concentration was <4xLLOQ and ≥4xLLOQ, respectively. All participants were observed for safety. Immunogenicity was assessed in randomized subsets.

Results:
In full analysis set, pre-booster, 100% of participants exhibited antibody persistence for anti-T (≥0.01 IU/mL), anti-polio 1 and 3 (≥8 1/dil), and ≥96.9% of participants for anti-D (≥0.01 IU/mL), anti-Hib (≥0.15 µg/mL), anti-HB (≥10 mIU/mL), and anti-polio 2 (≥8 1/dil). Antibody persistence against pertussis (≥2 EU/mL) ranged from 87.4–90.3% (anti-PT), 95.5–99.7% (anti-FIM), 75.5–77.5% (anti-PRN), and 94.7–97.3% (anti-FHA). Irrespective of the primary series or MMR co-administration, post-booster seroprotection rates were 100% for anti-D and anti-T (≥0.01 IU/mL), anti-Hib (≥0.15 µg/mL), and anti-polio 1, 2, and 3 (≥8 1/dil), and ≥97.2% for anti-Hib (≥1.0 µg/mL) and anti-HB (≥10 mIU/

mL, ≥100 mIU/mL). Booster responses for pertussis antigens ranged from 72.0–74.6% (anti-PT), 80.1–84.3% (anti-FIM), 77.6–81.5% (anti-PRN), and 79.2–80.6% (anti-FHA). All participants demonstrated similar anti-measles, anti-mumps, and anti-rubella immune response regardless of whether the MMR vaccine was administered concomitantly or 28 days after DTwP-IPV-HB-PRP~T booster. No safety concerns were reported in any group.

Conclusions:
This study showed good antibody persistence after primary series and demonstrated good immunogenicity and safety in toddlers post-DTwP-IPV-HB-PRP~T booster co-administered with MMR vaccine.

ABSTRACT TOPIC: VACCINES IN DEVELOPMENT

ASVAC1042

Efficacy and Immunogenicity of an Ad26.RSV.preF-based Vaccine in the Prevention of RSV-mediated Lower Respiratory Tract Disease in Older Adults: A Randomized, Placebo-controlled, Phase 2b Study

Ann R. Falsey[1], Kristi Williams[2], Efi Gymnopoulou[3], Stephan Bart[4], John Ervin[5], Arangassery Rosemary Bastian[6], Joris Menten[3], Els De Paepe[3], Hilde de Boer[7], Sjouke Vandenberghe[3], Eric K. H. Chan[8], Jerald Sadoff[6], Macaya Douoguih[6], Benoit Callendret[6], Christy Comeaux[6], Esther Heijnen[6], on behalf of the CYPRESS Investigators

[1]University of Rochester School of Medicine, Rochester, NY, USA; [2]Janssen Research and Development, Spring House, PA, USA; [3]Janssen Infectious Diseases, Beerse, Belgium; [4]Optimal Research, LLC/Synexus Clinical Research/AES, Woodstock, MD, USA; [5]AMR Kansas City, Kansas City, MO, USA; [6]Janssen Vaccines & Prevention BV, Leiden, Netherlands; [7]Janseen-Cilag, Breda, Netherlands; [8]Janssen Global Services, LLC, Raritan, NJ, USA

Objectives:
Respiratory syncytial virus (RSV)-mediated lower respiratory tract disease (LRTD) causes a high burden in older adults; however, no licensed vaccine exists. We report the primary efficacy and immunogenicity results from a Phase 2b trial of an Ad26.RSV.preF-based vaccine for the prevention of RSV-mediated LRTD in older adults.

Methods:
CYPRESS (NCT03982199) is a randomized, double-blind, placebo-controlled, proof-of-concept trial. Prior to the RSV season, adults aged ≥65 years were randomized 1:1 to receive an Ad26.RSV.preF-based vaccine or placebo. The primary endpoint was the first occurrence of RT-PCR-confirmed RSV-mediated LRTD according to any of 3 case definitions: (1) ≥3 lower respiratory tract infection (LRTI) symptoms, (2) ≥2 LRTI symptoms, or (3) ≥2 LRTI symptoms or ≥1 LRTI symptom with ≥1 systemic symptom. The secondary endpoint was the first occurrence of any RT-PCR–confirmed RSV-mediated acute respiratory infection (ARI). Symptoms were captured via the RSV-specific patient-reported Respiratory Infection Intensity and Impact Questionnaire (RiiQ) and/or clinician assessment through the end of the RSV season. Immunogenicity was evaluated a subset of approximately 200 participants.

Results:
Overall, 5782 participants (2891 in each study arm) received study treatment (57.7% female, 92.5% white, median age 71 years). Vaccine efficacy was 80.0% (94.2% CI, 52.2-92.9%), 75.0% (50.1-88.5%), and 69.8% (43.7-84.7%) for case definitions 1, 2, and 3, respectively (all P<0.001), and 69.8% (42.7-85.1%) for any RSV-mediated ARI. At 14 days postvaccination in the immunogenicity subset vaccine arm, geometric mean fold increase in antibody titers was 13.5 for RSV neutralizing antibodies and 8.6 for RSV preF-specific binding antibodies; median frequency of RSV-F-specific INF T-cells increased from 34 to 444 SFC/106 PBMC. No relevant changes were observed in the placebo arm.

Conclusions:
In CYPRESS, the Ad26.RSV.preF-based vaccine was highly effective against RSV-mediated LRTD through the first RSV season and elicited robust humoral and cellular immune responses in adults aged ≥65 years.

ABSTRACT TOPIC: VACCINES IN DEVELOPMENT

ASVAC1043

Efficacy and Immunogenicity of an Ad26.RSV.preF-based Vaccine for Prevention of RSV-mediated Respiratory Tract Disease by Age/Risk Level in Older Adults in a Phase 2b Study

Ann R. Falsey[1], Kristi Williams[2], Efi Gymnopoulou[3], Stephan Bart[4], John Ervin[5], Arangassery Rosemary Bastian[6], Joris Menten[3], Els De Paepe[3], Sjouke Vandenberghe[3], Eric Chan[7], Jerald Sadoff[6], Macaya Douoguih[6], Benoit Callendret[6], Christy A. Comeaux[6], Esther Heijnen[6], on behalf of the CYPRESS Investigators

[1]University of Rochester School of Medicine, Rochester, NY, USA; [2]Janssen Research and Development, Spring House, PA, USA; [3]Janssen Infectious Diseases, Beerse, Belgium; [4]Optimal Research, LLC/Synexus Clinical Research/AES, Woodstock, MD, USA; [5]AMR Kansas City, Kansas City, MO, USA; [6]Janssen Vaccines & Prevention BV, Leiden, Netherlands; [7]Janssen Global Services, LLC, Raritan, NJ, USA

Objectives:
Respiratory syncytial virus (RSV) can cause serious lower respiratory tract disease (LRTD) in older adults; however, there is no licensed vaccine. We evaluated the efficacy and immunogenicity of an Ad26.RSV.preF-based vaccine in a Phase 2b proof-of-concept trial in adults aged ≥65 years, by age and presence/absence of risk factors for severe disease.

Methods:
CYPRESS (NCT03982199) is a randomized, double-blind, placebo-controlled trial. Prior to the RSV season, adults aged ≥65 years were randomized 1:1 to receive Ad26.RSV.preF-based vaccine or placebo. The primary endpoint was first occurrence of RT-PCR-confirmed RSV-mediated LRTD according to any of 3 case definitions (CDs): (1) ≥3 lower respiratory tract infection (LRTI) symptoms, (2) ≥2 LRTI symptoms, or (3) ≥2 LRTI symptoms or ≥1 LRTI symptom with ≥1 systemic symptom. Vaccine efficacy, safety, and immunogenicity were evaluated in subgroups by age (65-74, 75-84, and ≥85 years) and presence/absence of other risk factors for severe disease (e.g., chronic heart or lung disease).

Results:
Overall, 5782 participants received vaccine or placebo (ages 65-74: 73.6%; 75-84: 23.7%; ≥85, 2.6%; with risk factors: 25.4%). The vaccine was safe and well-tolerated across age/risk subgroups. Efficacy using CD1 was 80.0% (94.2% CI: 52.2-92.9%) overall; 81.7% (95% CI: 46.2-95.4%) and 75.1% (–24.6-97.4%) in participants 65-74 and 75-84 years, respectively; and 60.3% (–142.2-96.2%)/83.9% (53.4-95.9%) in participants with/without risk factors. No RSV-positive LRTI meeting CD1 occurred in participants ≥85 years. Similar efficacy was observed using CDs 2/3. Substantially increased RSV-neutralizing antibody titers, RSV preF-specific binding antibody titers, and RSV-F-specific IFN- ELISpot responses were seen at Day 15 postvaccination across all age/risk subgroups; responses were maintained through Day 169. Baseline Ad26-neutralizing antibodies did not appear to impact vaccine-induced immune responses.

Conclusions:
Ad26.RSV.preF-based vaccine was safe, well-tolerated, highly efficacious against RSV-mediated LRTD, and elicited robust humoral and cellular immune responses in adults aged ≥65 years across age/risk subgroups.

ABSTRACT TOPIC: MONITORING AND SURVEILLANCE

ASVAC1020

Effectiveness of heterologous 3rd and 4th dose COVID-19 vaccine schedules for SARS-CoV-2 infection during delta and omicron predominance in Thailand.

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[7]Department of Disease Control, Ministry of Public Health, Thailand

Objectives:
Aim: The Coronavirus disease 2019 (COVID-19) pandemic has evolved quickly, with numerous waves of different variants of concern resulting in the need for countries to offer continued protection through booster vaccination. The initial clinical trials evaluated efficacy against early variants of concern, using homologous schedules, and high and equivalent effectiveness has been observed by the most widely used vaccines in real world studies, especially against severe COVID-19 outcomes. However, there is limited data available on the real-world vaccine effectiveness (VE) of heterologous schedules, particularly against the newer omicron variants. We aimed to assess the VE of 3rd and 4th dose schedules being used in Thailand.

Methods:
Utilizing a unique active surveillance network established in Chiang Mai, Northern Thailand, we conducted a test-negative case control study to assess the VE of heterologous third and fourth dose schedules against SARS-CoV-2 infection during delta-predominant and omicron predominant periods.

Results:
Effectiveness against delta infection after a third dose was high (adjusted VE 97%, 95% CI 94-99%, Figure 1) in comparison to moderate protection against omicron infection after a third dose (adjusted VE 31%, 95% CI 26-36%) and good protection after a fourth dose (adjusted VE 75%, 95% CI 71-80%, Figure 2). VE was consistent across age groups for both delta and omicron infection. The VE of third or fourth vaccine doses against omicron infection were equivalent for the three main vaccines used for boosting in Thailand suggesting coverage, rather than vaccine type is a much stronger predictor of protection. Additionally, a separate evaluation of a hospital patient management system noted extremely high effectiveness against severe COVID-19 and mortality outcomes after the third and fourth doses.

Conclusions:
Our data suggests that a fourth vaccination dose has a high probability of preventing infection and a very high probability of preventing death and severe COVID-19. This is critically important in preventing severity and unnecessary deaths but will also help to support the ongoing efforts to increase population coverage of booster doses.

ABSTRACT TOPIC: MONITORING AND SURVEILLANCE

ASVAC1037

Covid 19 Immunization Tracking in low resource setting using Opensource information systems

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[1]Ministry of Health, Sri Lanka

Objectives:
COVID-19 vaccination programme was introduced to Sri Lanka in early 2021. There was huge demand for vaccines as well as necessity to tract and follow-up individuals on subsequent vaccinations. One of the main challenges faced was maintaining physical vaccine records for the different types of vaccines given in mass programmes all around the country. Objective of the action research was to design and develop a vaccine tracking Information system in short time with minimum costs.

Methods:
The COVID-19 Immunization Tracker (CIT) was developed using the free and open-source District Health Information Software (DHIS2) platform, and the generic tracker application was contextualized based on the country needs. CIT was developed by a group of health informaticians in Sri Lanka in collaboration with HISP Sri Lanka, WHO country office and implementation was carried out by the ministry of health Sri Lanka. The design of COVID-19 Immunization Tracker is based on the Guidance on Developing a National Deployment and Vaccination plan for COVID-19 Vaccines, published by WHO and UNICEF.

Results:
CIT has the functionalities of recording individual data of vaccine recipients, first and subsequent doses of the vaccine, and adverse events following immunization, data visualization and analysis at different user levels. 15.4 million individuals were registered in the tracker following their first vaccination.

Discussion:
Sri Lanka was the first country in the world to deploy a DHIS2 based COVID-19 information management system and later the same model was used by some other countries. CIT was used effectively in recording of four vaccination events of individuals unto the second booster dose. Extension of the same information systems was used to generate and issue 0.5 million Smart Vaccination Certificate for overseas travellers up to now.

Conclusions:
Opensource CIT was found to be very effective for individual vaccination tacking using minimum financial resources.

ABSTRACT TOPIC: DISEASE-SPECIFIC VACCINES

ASVAC1026

Effectiveness of COVID-19 vaccine booster doses against Omicron-related serious disease

[1]Rongtene Solante, [2]Erlina Burhan, [3]Suwat Chariyalertsak, [4]Nan-Chang Chiu, [5]Sunate Chuenkitmongkol, [6]Do Van Dung, [7]Kao-Pin Hwang, [8]Sasisopin Kiertiburanakul, [9]Prasad S. Kulkarni, [10]Ping-Ing Lee1, [11]Rommel Crisenio Lobo, [12]Cao Huu Nghia, [13]Anna Ong-Lim, [14]Hinky Hindra Irawan Satari

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Objectives:
The primary objective was to determine vaccine effectiveness (VE) of the world's most widely used vaccines (BNT162b2, mRNA-1273, AZD1222, Ad26.COV2-S, CoronaVac) in preventing Omicron-related severe disease following a booster dose.

Methods:
An international group of experts reviewed VE data extracted from the global, publicly available database maintained by the International Vaccine Access Center (IVAC; Johns Hopkins Bloomberg School of Public Health, US). The analysis focused on the effectiveness of booster vaccination during the emergence of Omicron VOC (studies published between 1 January and 30 June 2022), whether that be third, fourth or in some cases second dose (for Ad26.COV2-S).

Results:
Whilst booster vaccination with all current COVID-19 vaccines showed modest protection against Omicron-related symptomatic infection (Mean VE = 52.2%), homologous and heterologous boosted schedules demonstrated high and comparable protection against severe disease and death (>82%). This was independent of age and vaccine type, except for homologous CoronaVac-boosted schedules and two-dose Ad26.COV2-S schedules, which demonstrated reduced VE against severe disease (74.2%– 75.8%).

Conclusions:
This review reinforces the value of booster vaccination to restore VE against emerging VOCs such as Omicron and its subvariants, including in those at higher risk of severe disease (age >60 years). It also provides reassuring evidence that the world's most widely used vaccines are effective in preventing severe COVID-19 in the Omicron-dominant era.

ABSTRACT TOPIC: DISEASE-SPECIFIC VACCINES

ASVAC1023

IgG antibody response among recipients of the ChAdOx1 nCoV-19 Vaccine: A single center experience from Sri Lanka

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Objectives:
Real-world data on the immunogenicity of vaccines against SARS-CoV-2 are imperative for future immunization decisions. We studied the IgG antibody response among a cohort of ChAdOx1 nCoV-19 vaccine recipients.

Methods:
This prospective study recruited 494 recipients of the ChAdOx1 nCoV-19 vaccine between 30th January to 5th February 2021 at the University Hospital KDU and followed up for nine months. The two doses of the ChAdOx1 nCoV-19 vaccine were administered three months apart, followed by a booster dose with the BNT162b2 vaccine six months later. Serology studies before each vaccine dose determined the seroprevalence of IgG antibodies using a commercially available quantitative ELISA kit (WANTAI SARS-CoV-2 IgG Quantitative ELISA Beijing China).

Results:
The median age of the study population was 33 years (IQR=28-43) and the majority were males (53.6%). Pre-vaccination seropositivity was low (30/494, 6.1%). Seroconversion rate was high (371/382, 97.1%) after the first dose of the ChAdOx1 nCoV-19 vaccine, where a robust immune response was observed among pre-vaccination seropositive participants than in the seronegative group (P=0.002). The mean antibody titers after the first dose were significantly high among females than in males (P=0.041). No significant difference in the post-first dose antibody response was observed considering age and co-morbidities. Subgroup analysis of 196 participants who provided serum samples at all three-time points revealed persisting antibodies nine months after the first dose. A rise in the previously measured antibody levels was noted among 78.1% of them compared to 21.9% with declining titers. A significant association was observed between pre-vaccination seropositivity and antibody waning (P=0.015). The antibody decline showed no significant difference across age groups.

Conclusions:
Post-vaccination high seroconversion and longevity of antibodies suggest the vaccine is immunogenic in our population. Despite robust humoral immune response after the first dose, significant antibody waning at nine months among pre-vaccination seropositive participants warrants further research.

ABSTRACT TOPIC: DISEASE-SPECIFIC VACCINES

ASVAC1039

Regimen Selection and 1.5-year Immunogenicity Evaluation of Prophylactic Ad26.RSV.preF Vaccine Combinations: A Randomised, Double-Blind, Placebo-Controlled, Adaptive Design Phase 1/2a Study in Adults Aged >=60 Years

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Objectives:
Despite high respiratory syncytial virus (RSV) disease burden in older adults, there is no licensed prophylactic vaccine. Ad26.RSV.preF is a replication-incompetent, adenovirus 26-based RSV vaccine encoding conformation-stabilised prefusion RSV F (preF) protein. Immunisation using Ad26.RSV.preF combined with recombinant RSV preF protein might enhance vaccine efficacy.

Methods:
This randomised, double-blind, placebo-controlled, Phase 1/2a study (NCT03502707) evaluated safety and immunogenicity of Ad26.RSV.preF, RSV preF protein, and combination regimens in adults aged ≥60 years. Two doses (low/high) of each component were used: Ad26.RSV.preF (5x1010 viral particles [vp]/1x1011 vp) and RSV preF protein (50 µg/150 µg). Three cohorts (n=667) were enrolled: initial safety cohort (Cohort 1) assessing safety of RSV preF protein and combination regimens; regimen selection cohort (Cohort 2) assessing safety and immunogenicity of Ad26.RSV.preF and combination regimens; and expanded safety cohort (Cohort 3) with selected regimen. Primary analysis was conducted at 28 days post-active vaccination (Cohort 2) for regimen selection; additional analyses were performed through 1.5 years. Humoral responses measured included virus-neutralising antibody (VNA) titres and preF IgG ELISA; cellular responses measured included RSV-F–specific INF-γ ELISpot.

Results:
352 participants were vaccinated in Cohorts 1 and 2. All vaccine combinations were safe and well-tolerated. In Cohort 2, all combination regimens substantially increased humoral responses; VNA titres showed 5.5-10.3-fold increase versus baseline and 1.8-3.3-fold increase versus Ad26.RSV.preF alone at day 28 post-active vaccination, which was maintained at 5.3-10.7-fold higher than baseline at 1.5 years. Results were similar for other measured humoral responses. RSV-F–specific INF-γ ELISpot values were comparable across all regimens, with a favorable binding to neutralizing antibody ratio. Data suggest no impact of pre-existing Ad26 VNA titres on vaccine-induced immune responses.

Conclusions:
All Ad26.RSV.preF- and RSV preF protein-based regimens were safe and well-tolerated. The optimal dosing regimen combines Ad26.RSV.preF (elicits strong T-cell response) with RSV preF protein (increases humoral responses).

ABSTRACT TOPIC: DISEASE-SPECIFIC VACCINES

ASVAC1040

Correlation Between Patient-reported and Clinician-assessed Symptoms and Case Definition to Capture Moderate-to-Severe RSV Disease in Adults Aged >=65 Years: A Randomized, Placebo-controlled, Phase 2b Study

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Objectives:
Respiratory syncytial virus (RSV) can cause serious lower respiratory tract disease (LRTD) in older adults. Exploratory analyses in a Phase 2b trial of an Ad26.RSV.preF-based vaccine for RSV-mediated LRTD prevention (CYPRESS; NCT03982199) evaluated correlations between patient-reported and clinician-assessed acute respiratory infection (ARI) signs/symptoms and assessed a case definition (CD) for LRTD.

Methods:
Adults aged ≥65 years were randomized 1:1 to receive vaccine or placebo. The primary endpoint was first occurrence of RT PCR-confirmed RSV-mediated LRTD according to any of 3 CDs. During an ARI episode, patient-reported signs/symptoms were collected daily using an eDiary including the Respiratory Infection Intensity and Impact Questionnaire (RiiQ™). Clinician-assessed signs/symptoms were collected on Day 3, 4, or 5. Polychoric (symptom severity rated 0-3) and tetrachoric (symptoms rated present/absent) correlations between patient-reported and clinician-assessed symptoms were calculated. Correlations between the selected LRTD CD (new onset/worsening of ≥3 lower respiratory tract infection [LRTI] symptoms) and indicators of moderate/severe RSV infection, clinical evaluation committee [CEC] classification as moderate/severe LRTI, and medical resource utilization (MRU) were assessed.

Results:
Overall, 5782 participants received study treatment. Vaccine efficacy was 69.8â€'80.0% depending on LRTD CD. Polychoric/tetrachoric correlations between clinician assessment and RiiQ™ scores were: cough, 0.76/0.89; shortness-of-breath, 0.76/0.78; sputum production, 0.65/0.77; fatigue, 0.69/0.80; polychoric correlation was 0.74 for wheezing. Of 56 participants with any RSV ARI, the CEC assessed LRTIs as 3 severe, 30 moderate, 7 mild, and 16 as non-LRTI. All severe, 26/30 moderate, and 5/7 mild LRTIs met the selected LRTD CD versus 2/16 participants with non-LRTIs. In the placebo arm, the selected LRTD CD captured most RSV-associated hospitalizations (1/1), complications (7/7), clinically relevant disease (3/3), therapeutic interventions (8/8), and emerging MRU (9/10).

Conclusions:
In CYPRESS, patient-reported RiiQ™ scores strongly correlated with clinician-assessed symptoms. The selected LRTD CD captured most CEC-classified moderate-to-severe RSV-mediated LRTI and most indicators of moderate-to-severe RSV disease.

ABSTRACT TOPIC: TARGETED VACCINATION STRATEGIES

ASVAC1012

Literature review on the knowledge, attitude and practice regarding herpes zoster and zoster vaccination in Asia-Pacific

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Objectives:
To reduce the reported high burden of herpes zoster (HZ), the live attenuated zoster vaccine (ZVL) and recombinant zoster vaccine have been available in several Asia-Pacific countries since 2012 and 2020, respectively. This literature review synthesises public and physician knowledge, attitude, and practice (KAP) regarding HZ and zoster vaccination in these countries.

Methods:
We reviewed English-language publications on KAP regarding HZ and zoster vaccines in Australia, China, Hong Kong, Japan, New Zealand, Singapore, South Korea, and Taiwan, published 01/Jan/2000–01/Oct/2020, identified through PubMed and Embase.

Results:
Eight studies conducted between 2013 and 2017, when only ZVL was available, were identified in Australia, China, Hong Kong, Japan, and South Korea: six surveys included patients hospitalised or visiting outpatient clinics (one included HZ patients only) and two exclusively physicians.

Patient surveys found generally high awareness of HZ and its common symptoms. Main reasons for zoster vaccination were physician recommendation and concerns regarding HZ sequelae. Reasons for refusing zoster vaccination included perceived low risk, lack of physician recommendation, concerns about vaccine side effects, effectiveness, and cost.

In South Korea, physicians generally reported good knowledge about ZVL (which is self-paid) and HZ. Most recommended ZVL to patients; barriers to recommendation were ZVL cost and effectiveness.
In Australia, 98.5% of general practitioners surveyed knew ZVL was funded for people 70–79 years old. Most provided advice regarding funded ZVL vaccination, though 35.5% rarely/never administered ZVL. Perceived challenges included inadequate information on vaccine contraindications, efficacy/safety concerns, and difficulty in applying age criteria in general practice.

Conclusions:
Knowledge gaps surrounding HZ and zoster vaccines remain. Educational initiatives are needed to improve public awareness of HZ risk and complications. Patients likely follow physician recommendation on vaccination, which is influenced by physicians' understanding of vaccine efficacy/effectiveness/safety. KAP studies are needed in countries lacking data on country-specific factors influencing zoster vaccine acceptance.

ABSTRACT TOPIC: TARGETED VACCINATION STRATEGIES

ASVAC1018

The epidemiology and cost of dengue disease in Sri Lanka: a systematic literature review

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Objectives:
In Sri Lanka, dengue is endemic and is associated with a high economic burden. In order to better characterize the burden of dengue in Sri Lanka, this study aimed to systematically identify and synthesize existing evidence on the epidemiology and economic burden of dengue in Sri Lanka.

Methods:
Comprehensive electronic database searches for epidemiology and costs were conducted using Embase, MEDLINE, Database of Abstracts of Reviews of Effects (DARE), and Cochrane review database. Epidemiology articles published in English between 2000-2020 and cost articles published between 2010-2020 were included. Reports from the National Ministry of Health and other grey literature sources were also reviewed. Articles reporting incidence, seroprevalence, serotype distribution, dengue severity, expansion factor, cost of illness and vector control were included.

Results:
Seventy-four articles (68 studies reporting epidemiological data and 6 studies reporting cost data) and an additional 81 grey literature were included in the review. From 2000 to 2020, the annual incidence rates of dengue in Sri Lanka ranged from 25.6 to 866 per 100,000 population, with the largest epidemic during the period reported in 2017. The case fatality rates ranged from 0.11-1.0%, with the peak reported in 2009, and the highest number of dengue deaths reported in the 17–49-year-olds. No national seroprevalence surveys were identified however seroprevalence rates at a local level ranged from 3.2% to 100%. All four dengue serotypes co-circulate in Sri Lanka, of which DENV-2 dominated since 2017. Economic impacts are substantial with the total annual aggregated cost of dengue reported as US$136 million.

Conclusions:
In Sri Lanka, the burden of dengue is high. Dengue outbreaks coinciding with other infectious diseases such as COVID-19 will likely place additional pressures on the healthcare system. Therefore it is critical to implement integrated strategies, including vaccination, to reduce the burden of dengue in Sri Lanka.

ABSTRACT TOPIC: EVIDENCED-BASED INTRODUCTION OF NEW VACCINES

ASVAC1016

Capturing the value of vaccination within health technology assessment and health economics - Literature review and novel conceptual framework

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Objectives:
Vaccination can help reduce morbidity and mortality. Vaccine adoption decisions consider disease burden, efficacy, safety, and cost-effectiveness during health technology assessment (HTA) or cost-effectiveness analysis; however, vaccination has further potential benefits. This project's objective was to understand how HTA can more broadly capture the value of vaccination (VoV).

Methods:
A targeted literature review was conducted in Medline in October 2020 for English-language vaccine studies presenting a VoV framework, without restrictions applied for population, comparator, geographical scope, timeframe, or study design. Google Scholar, and international and national health/vaccination websites were searched. Framework types presented in the literature were assessed.

Results:
Of 6,661 abstracts identified and screened, 278 full-text articles were reviewed, and 24 were included. 20 additional studies were included from website searching. Of these 44 studies included, 26 described the framework and their value concepts/elements, and 18 described individual value concepts/elements.

Analyses of the identified framework studies identified three dimensions:
- 1: Standard concepts/elements in current economic modelling practices, using utilities for health benefits and costs, from a healthcare payer perspective. Health gains to vaccinated individuals and healthcare cost-savings were typically included.
- 2: Conventional concepts/elements from a societal perspective. Conventional concepts were defined as well-known, with established methodology for measurement, and/or impacting Quality Adjusted Life Years or costs. Productivity gains to patients and caregivers were typically included.
- 3: Unconventional concepts/elements from a societal perspective. Unconventional concepts were difficult to measure and described qualitatively as quantification methods are yet to be developed/validated. Other productivity gains and benefits (macroeconomic, health system, and community) were typically included.

Conclusions:
Current economic evaluations mostly consider a narrow set of benefits (including individual health and productivity gains, and healthcare cost-savings). This study outlines approaches to broaden the scope of vaccine HTA. Moving from concept to data is crucial to fully capture benefits of vaccination.

ABSTRACT TOPIC: VACCINES IN SPECIFIC SETTINGS

ASVAC1032

Evaluation of immunity against hepatitis B virus infection and factors associated with anti-HBs levels among vaccinated haemodialysis patients at two major Nephrology-Units in Sri Lanka

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Objectives:
Chronic kidney disease (CKD) affects nearly 10% of the population in the world including Sri Lanka. Haemodialysis is a medical technique used to manage patients with chronic renal failure and patients undergoing haemodialysis are more at risk of blood-borne viral infections like hepatitis B. There is no published data available on the protective immunity following HBV vaccination and the factors associated with protective immunity in haemodialysis population in Sri Lanka. Hence, we investigated the immune response to hepatitis B vaccine schedules (A, B & C) practiced by two Nephrology Units and factors associated with protective immunity using anti-HBs levels in haemodialysis patients.

Methods:
A descriptive cross-sectional study was carried out in a sample of 235 haemodialysis patients. Demographic data, HBV vaccination schedules, HBV vaccine dose and history were recorded. Anti-HBs levels were quantified and analyzed with demographic factors and vaccination given in 0, 1, 2 months (schedule A), 0, 1, 3 months (schedule B) & 0, 1, 6 months (schedule C).

Results:
Of the 235 patients tested, 165(70%) had minimum protection levels of anti-HBs (anti-HBs>10mIU/mL) and 80% of those in schedule C had minimum protection levels of anti-HBs. Demographic factors did not show any association with anti-HBs levels, however, females had more sero-conversion in schedule A. Anti-HBs levels dropped in all schedules with time. Those with anti-HBs level >100mIU/mL had levels remaining for a longer duration based on the vaccination dates. Of the 70 participants with no minimum protection with anti-HBs level <10 mIU/mL, two were positive for HBsAg giving a prevalence of 2.8% HBV infection in them.

Conclusions:
Schedule C showed a better sero-conversion compared to schedule A and B. Testing for post-vaccination anti-HBs levels and monitoring the protection by annual testing will help to maintain protection in haemodialysis patients. Taken together these findings, a standard 4 dose schedule would achieve a better protection in these patients and that needs to be practiced in the haemodialysis patients in Sri Lanka.

ABSTRACT TOPIC: DISEASE-SPECIFIC VACCINES

ASVAC1024

Side effects reported by the residents of Malabe, Sri Lanka after the Covid 19 vaccination

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Objectives:
The reactions to the vaccines will be different from person to person. vaccine manufacturers lay out the post vaccination side effects. Side effects of vaccine provide proof of how the immune system of an individual is responding. The study includes the side effects of the Sino pharm and the Pfizer vaccines.

Methods:
A questionnaire was distributed after the first and second vaccine of Sino pharm and the Pfizer vaccines and the data was collected about the common side effects like injection site pain, arm pain ,muscle pain, headache, fever, chills and fatigue. The demographic data such as age, sex, name of the vaccine received, allergic conditions, past medical history such as bronchial asthma, side effects experienced with the time duration, and advised to mention if any uncommon symptoms experienced. The questionnaire was completed by 523 patients and was followed up after the second dose of vaccine. The study included the participants who completed filling the questionnaire after both the first and the second vaccine. The total number of Pfizer vaccine consumers were 175 and the total number of Sino pharm vaccine consumers were 348. The Sino pharm vaccinated consumers were between 30 -60years of age and the Pfizer vaccine consumers were between 20-30 years of age.

Results:
The study included all the participants with completed questionnaire. The 523 consumers included 175 consumers after Pfizer vaccine and the 348 consumers after Sino pharm vaccination. Post vaccination side effects of Sino pharm includes injection site pain (14.65%,12.93%),arm pain (7.7%,4.8%),muscle pain(6.32%,4.8%),headache (3.16%, 3.7%), fever (4.88%,1.4%), chills (14.3%,0%), and fatigue (6.03%, 5.45%) after the first and second dose vaccine consecutively. Post vaccination side effects of Pfizer includes injection site pain (13.14%,6.28%), arm pain (10.85%,9.71 %),muscle pain (6.28% 4.0%), headache (2.85%, 1.7%), fever (4.5%,2.85%), chills (1.71%,0.5%), and fatigue (none has observed) after the first and second dose vaccine consecutively. less side effects were observed by the Pfizer vaccine consumers than the Sino pharm vaccine consumers. The side effects experienced were less with the second dose comparatively to the first dose of vaccine in both the Sino pharm and the Pfizer vaccine administration.

Conclusions:
The side effects were less with the administration of Pfizer vaccine compared to Sino pharm vaccine and also the side effects observed is less with the administration of the second vaccine than the administration of the first vaccine. severe adverse reactions after administration of both the vaccines were not reported.

ABSTRACT TOPIC: DISEASE-SPECIFIC VACCINES

ASVAC1038

Side effects of four COVID-19 vaccines: A systematic review and meta-analysis

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Objectives:
Since the onset of the COVID-19 pandemic, a number of vaccines with diverse mechanisms of action have been developed and are currently in use globally. This systematic review and meta-analysis aims to compare the reported adverse effects of four COVID-19 vaccines (Pfizer BioNTech, Oxford AstraZeneca, Sinopharm BBIBP, and Moderna).

Methods:
A literature search was conducted using PubMed and Cochrane Review databases. Following screening and filtering of 918 publications, an analysis of the safety and reactogenicity data from 9 RCTs investigating either of the four vaccines was conducted. These studies explored the safety and reactogenicity following the administration of 2 homologous doses of any of the four vaccines in healthy Asian participants older than 12 years.

Results:
Pain at the injection site was the commonest local side effect (Pfizer: 86.2% [95% CI: 79.2% – 93.2%]; AstraZeneca: 17.7% [95% CI: 14.4% – 21.1%]; Sinopharm: 22.3% [95% CI: 21.7% - 23.0%]; Moderna: 92% [95% CI: 87.7 % – 96.3%]). Of the systemic side effects, fever and myalgia were most common in those receiving the Pfizer BioNTech (46.8% [95% CI: 36.7% – 56.9%]) and Oxford/AstraZeneca (10% [95% CI: 7.34% – 12.7%]) vaccines respectively. Headache and fatigue were the commonest systemic adverse effects with the Sinopharm BBIBP (12% [95% CI: 11.5% – 12.5%]) and Moderna (64% [95% CI: 56.3% – 71.7%]) vaccines respectively.

Conclusions:
Some side effects were commoner with mRNA-based vaccines compared to the adenovirus vectored vaccines and inactivated vaccines. No severe life-threatening adverse effects were reported.

Keywords: SARS-CoV-2; COVID-19; vaccines; randomised controlled trial; side effect

ABSTRACT TOPIC: TARGETED VACCINATION STRATEGIES

ASVAC1022

Phase one results from a multi-country study on public and physician's knowledge, attitude, and practice towards herpes zoster (HZ) and HZ vaccination in Asia

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Objectives:
To better understand local factors influencing herpes zoster (HZ) vaccine perceptions in Asia-Pacific, a multi-country study is underway to elicit public and physician knowledge, attitude, and practice (KAP) towards HZ disease and vaccination.

Methods:
A cross-sectional study using a 2-phase approach in Hong Kong, Singapore, South Korea, and Taiwan is currently ongoing. In Phase 1, one-to-one qualitative interviews were conducted in 2022, among the public (people aged ≥50 years, working/financially-independent adults with parents aged ≥50 years, HZ patients; n=78) and physicians (n=24). Relevant themes surrounding KAP towards HZ and HZ vaccination were summarised using a thematic analysis approach and are reported here. In Phase 2, these themes will be further validated in a quantitative survey with the same target population.

Results:
There was a substantial knowledge gap among the public about HZ, including its causes, long-term impact, and at-risk population. The public had low general awareness about HZ vaccine availability, although country-specific differences exist. There was a low perceived risk of HZ among the public. Fear of HZ-associated pain contributed toward vaccination intent among HZ patients and adults for their parents. People expected to learn more from healthcare providers, whom the public perceived to be a reliable source of information. Physicians did not always proactively discuss HZ vaccination. Physicians prioritised influenza and pneumococcal vaccination due to their higher prevalence and perceived severity than HZ, respectively. Physicians had time constraints due to workload especially during the COVID-19 pandemic, and had limited vaccine discussions to adult patients despite a general public interest to learn more about HZ and preventative options.

Conclusions:
Knowledge gaps surrounding HZ and HZ vaccination remain. Initiatives are needed to improve public and physician awareness of HZ and its complications in terms of overall burden and impact on individuals and society, and to provide physicians with confidence in recommending HZ vaccination.

ABSTRACT TOPIC: TARGETED VACCINATION STRATEGIES

ASVAC1034

COVID-19 Vaccine communication project: identifying causes and addressing factors related vaccine hesitancy among 12–19-year-olds

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Objectives:
Extensive immunization against the SARS-CoV-2 has a pivotal role in acquiring heard immunity and thereby containing the pandemic and its transmission. However, the vaccine hesitancy prevailed among general public has been a matter of growing concern in achieving this public health goal of an effective disease control. As the threat of the pandemic continues to sustain, with the emergence of new variants, inoculation of adolescent population was initiated adhering to WHO guidance in order to minimize the adverse repercussions the pandemic will has on education sector.

The study aimed to Identify causes for COVID-19 vaccine hesitancy among 12 -19 old school attendees in Sri Lanka and develop a health education massage to address these factors.

Methods:
Qualitative data were collected through Focus-Group-Discussions which focused on the individual perspective, believes and knowledge on the vaccination with the intention of gathering valuable information and an in-depth insight with regard to vaccine hesitancy.

The discussions were conducted among young adolescents aged 12-19 years representing diverse ethnic, economic, geographic backgrounds.

Results:
Themes, and sub-themes were identified which led to COVID-19 vaccine hesitancy. These factors and contents from a thorough literature search helped to develop a script for the animated video, which was the communication modality. A script was developed based on the findings of the FGDs. The content validity of the script was assessed through obtaining insights from key-stakeholders. A story board was developed to assess the characters used for the planned video. Psychological assessment was obtained for the script and the story board to ensure the content was suitable for 12–19-year-olds. Following this an animatic was produced before finalising the video. The animation consisted of non verbal cues to deliver public health safety-messages(PHSM) and well as direct information. This animation will be used at schools as a modality of communication to raise awareness on COVID -19 vaccine.

Conclusions:
Our analysis revealed widespread misinformation on vaccines amongst 12 -19-year-olds. Social-media was the main source of information and misinformation. An animation video was developed and was disseminated via social-media to address the misinformation on COVID-19 vaccine hesitancy.

ABSTRACT TOPIC: VACCINES IN SPECIFIC SETTINGS

ASVAC1028

The COVID-19 vaccine: Knowledge and compliance among nurses in a selected hospital in Sri Lanka

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Objectives:
COVID -19 pandemic has been a major cause of morbidity and mortality globally. Effective vaccination is essential to control it. This study aimed to describe the knowledge and compliance with COVID-19 vaccination among nurses in a government hospital in Sri Lanka.

Methods:
A cross-sectional study was conducted among 378 nurses selected through simple stratified sampling from District General Hospital, Matara in January 2022. A structured, self-administered questionnaire was used to collect data. Ten equally weighted stems were used to categorize participants having good and poor knowledge applying the mean as the cut-off. Those who have taken two primary doses and one booster dose were considered fully compliant while all others were considered as not fully compliant. Findings were summarized with descriptive statistics. The statistical significance considered as $p<0.05$ was evaluated with the chi-square test. The association between good knowledge and full compliance was presented with an odds ratio and 95% confidence interval.

Results:
With a 91.1% response rate, the majority were females (93.9%) and the median age was 41 years (IQR 37-48 years). The normally distributed knowledge score ranged from 20% -100%. The results showed a predominance of poor knowledge (53.7%) below the mean score of 62.3 (SD=15.9). The stems on emergency use listing and the dosing interval of vaccines were the least scored. Full compliance with the COVID-19 vaccine was noted among 51.8%. Good knowledge regarding the vaccine was positively associated with full compliance (OR=2.0; 95%CI 1.3-3.0; p=0.001).

Conclusions:
A gap in knowledge exists regarding the COVID-19 vaccine among nurses in District General Hospital, Matara. Good knowledge of the COVID-19 vaccine was found to have a significance that doubles the likelihood of being fully compliant. It is recommended to improve the vaccine-related knowledge among nurses for better compliance with the COVID-19 vaccine.

ABSTRACT TOPIC: VACCINES IN SPECIFIC SETTINGS

ASVAC1033

COVID-19 Vaccine communication project: identifying causes related vaccine hesitancy among 12-19 year olds

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Objectives:
The inoculation of adolescents against COVID-19 was initiated; adhering to WHO guidance, to reduce the scarring effect pandemic has on the education sector. The success of a vaccination programme is determined by high rate of public acceptance and population coverage.

This study aimed to explore and identifying causes related vaccine hesitancy among 12–19-year-old school attendees in Sri Lanka.

Methods:
A qualitative study was conducted among 12-19 years olds from selected schools representing diverse demographic backgrounds. Ten Focus group discussions (FGDs) consisting of 8-10 adolescents was held. Both the parent/guardian and the adolescent pair were involved for FGDs for 12-15 years old and only the adolescent for 16-19 years olds. Purposive sampling was used . FGDs were conducted using a guide and conducted until saturation point was achieved. The data were analysed thematically.

Results:
Adolescents' had adequate knowledge on COVID-19 vaccines. The key themes identified as causes for vaccine hesitancy were; misconceptions related to vaccine mechanism and effectiveness, long-term or serious side effects, ayurveda or other treatment modalities, natural immunity vs vaccine immunity, fear of vaccination and negative experiences circulated in social media, parental consent not granted, and lack of knowledge on booster dose and herd immunity. The common fears were allergic reaction, fever and body aches. The kids were satisfied with school being the place of vaccination. Social media have played a main role on vaccine related information. The students preffered social media compared to news papers, TV and radio as modalities of information. The students who did not have parental consent for obtaining the vaccine were willing to take the vaccine if given the opportunity. They mentioned the information they received on this COVID-19 vaccination was not adequate.

Conclusions:
Majority of the adolescents were vaccinated despite their fears as they understood the importance and benefits of vaccination. They were worried about the COVID-19 vaccine related short-term and long-term side effects. Few adolescents did not get the vaccination due to lack of parental consent. It is crucial to identify factors associated with vaccine hesitancy and to implement tailored strategies to address these. Social media can be utilised for this purpose.

ABSTRACT TOPIC: VACCINE IMPLEMENTATION

ASVAC1035

Assessment of attitude and hesitancy toward vaccine against COVID-19 in a Pakistani population: A mix methods survey

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Objectives:
The objective of this study was to assess the attitude and hesitancy toward vaccine against COVID-19 in a Pakistani Population.

Methods:
A mix-method, prospective study was conducted and adults (aged ≥18 years) residing in Pakistan were invited to participate. The questionnaire was prepared, hosted in Google Forms and circulated through electronic platforms and was also available to be done in in-person. Data was compiled from 15th September to 30th November 2020.

Results:
The response rate was 80%. A total of 1003 participants were included in the final analysis. Of them, 75% completed survey questionnaire online, while remaining 25% responded in-person. The mean age of the participants was 29.62 ± 10.47 years. The majority of participants were females; 60.9% (n = 611). 57.02% (n = 572) of the participants were employed at the time of survey. Overall, 70.68% (n = 709) of the participants had previous experience of vaccines such as the flu vaccine Only 4.9% (n = 49) participants thought that they will be seriously ill from COVID-19 within six months and 39% (n = 392) participants were confident that they will get COVID-19. A total of 71.29% of the participants reported they would consider getting vaccinated once available. There was statistical association between gender and getting vaccinated ($P < 0.001$).

Conclusions:
This study demonstrated that majority of the participants showed positive attitude toward considering COVID-19 vaccine. However awareness with informed knowledge of efficacy, possible adverse effects and cost would be of added great value to increase the real response of Pakistani population toward COVID-19 vaccination.

ABSTRACT TOPIC: VACCINE IMPLEMENTATION

ASVAC1041

Determinants of Acceptance of COVID-19 vaccine among the General Population of U.P., North India

Objectives:
To assess willingness for the corona virus disease 2019 (COVID-19) vaccine and identify the factors associated with it.

Methods:
A web-based cross-sectional study was conducted among unvaccinated general population of Uttar Pradesh, Northern India adopting an exponential, non-discriminative snowball sampling technique. A bilingual, self-administered anonymous structured questionnaire in google forms was designed and sent to the study participants through social media platforms. Data collected were extracted in excel sheets and analyzed using SPSS software, version 21.0. Bi-variate analysis was performed to identify the key determinants for vaccine acceptance among the participants.

Results:
Out of 254 participants completing the questionnaire, 219 (86.2%) showed willingness to receive a COVID-19 vaccine, whereas 10 (4.0%) admitted hesitancy and 25 (9.8%) were not sure. Younger age-group (18-44 years), female gender, absence of any co-morbidity, lower education level, current employment status, positive history of confirmed COVID-19 infection in the person and positive history of confirmed COVID-19 infection in any family member/friend were the factors found to be significantly associated with the willingness to receive a COVID-19 vaccine.

Conclusions:
During the second wave of COVID-19 pandemic in India, high acceptance for COVID-19 vaccines was found among the general population of Uttar Pradesh, whereas concerns about vaccine safety may hinder the actual vaccine uptake.

Keywords:
COVID-19 vaccine, UP, Acceptance, Perceived risk, Vaccine hesitancy

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Despite being vaccinated, immunocompromised people may still be at risk for COVID-19.[1]

Learn more

Reference: 1. Galmiche S, et al. *Clin Microbiol Infect*. 2021. https://doi.org/10.1016/j.cmi.2021.09.036

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