THEVELI

THE MALDIVES NATIONAL UNIVERSITY

THEVELI INTERNATIONAL CONFERENCE 2026

Transformative Innovation in the 21st Century: Science, Technology, and Society

17 - 19 AUGUST | The Maldives National University

UNDERGRADUATE STUDENT RESEARCH SYMPOSIUM

Contents

About Theveli Conference 2026

Theveli is a multidisciplinary research conference, held annually since 2017, with an overarching theme for each year. The theme for 2026 is "Transformative Innovation in the 21st Century: Science, Technology, and Society".
For this year, papers are categorized under the following sub-themes:

- Sustainable Futures and Climate Action
- Innovation, Technology, and Digital Transformation
- Science, Health, and Human Well-Being
- Global Governance, Peace, and Development
- Education, Knowledge, and Future of Work
- Gender, Equity, and Social Transformation
- Resilient Economies and Future Markets
- Interdisciplinary Research and Global Collaboration
- Artificial Intelligence, Ethics, and Human Futures
- Patient Safety and Healthcare Quality
- Metabolism of Islands - Advancing an Island Circular Economy for Climate Adaptation in SIDS

"Theveli" is a Dhivehi (Maldivian language) word which means rays spread on the sea (or water) at sunset or sunrise. The Maldives National University strives to spread rays of knowledge throughout the nation, region and beyond.

Keynote Speakers

Dr. Sean McMinn

Dr Sean McMinn is the Director of the Center for Education Innovation at the Hong Kong University of Science and Technology (HKUST) and an Adjunct Associate Professor in the Division of Emerging Interdisciplinary Areas. He leads institutional strategy and initiatives in digital education, including AI for education, AI literacy, and innovative pedagogy, with a focus on integrating emerging technologies into teaching, learning, and assessment. He has served on several international committees, including the AI and Education International Panel, the Digital Education Council, the Cyber-Physical Learning Alliance, and the Higher Education Planning Alliance (HEPA). His work in digital education has been recognised through multiple awards, including the 2024 Global MOOC and Online Education Alliance Award for AI Education, the 2016 SHSS Teaching Excellence Award, and the 2007 Teaching Innovation Award at HKUST. His research interests include educational technology, AI and digital literacies, and networked learning.

Professor Dr. Mohd Mizan Aslam

Dr. Mohd Mizan Aslam is a Professor of International Security Studies at the United Arab Emirates University (UAEU) in Abu Dhabi, UAE. He previously served as Professor of Security and Strategic Studies at the National Defense University of Malaysia (NDUM). Professor Aslam is also a Senior Fellow at the Global Peace Institute (GPI) in London, United Kingdom. He is also a member of the National Panel for Deradicalization in Malaysia. He previously held the position of Professor of Counter Terrorism Studies at the Naif Arab University for Security Sciences (NAUSS) in Riyadh, Saudi Arabia. Professor Aslam also serves as a member of the Board of Trustees of the Perdana Global Peace Foundation (PGPF). He is a Country Expert with the Middle East Institute (MEI) in Washington, D.C., USA, specializing in terrorism and extremism issues in Southeast Asia (SEA) and the Middle East and North Africa (MENA). His international academic appointments include visiting scholar positions at the University of Hawaii at Manoa (USA), Ibn Haldun University (Istanbul, Turkey), and Universitas Sultan Yusuf (Jakarta, Indonesia).

Dr. Hassan Shafeeq, MBBS, MD, MPH

Dr. Hassan Shafeeq is a Senior Consultant in Internal Medicine with over 30 years of clinical experience in the United States and the Maldives. He holds an MBBS from Tribhuvan University, Nepal, an MPH in Clinical Epidemiology from Johns Hopkins University, and an MD in Internal Medicine from Mount Sinai School of Medicine/New York University. His career has included appointments at the University of Minnesota Medical Center, University of California, Davis Medical Center, and St. Mary's Hospital, Arizona, where he specialized in hospital medicine, chronic disease management, and preventive care. Between 2015 and 2025, he maintained a private practice focused on preventive medicine, health screening, and healthy aging. He currently serves as a Senior Consultant in Internal Medicine at the Male' City Group of Hospitals, including IGMH, while also working as a Visiting Hospitalist at Northwest Medical Center, Arizona. His interests include preventive medicine, clinical epidemiology, cardiovascular risk reduction, healthcare quality improvement, and medical education.

Professor Alister Jones

Professor Alister Jones is Deputy Vice-Chancellor of the University of Waikato and currently leads international engagement and delivery with a strong focus on the Asia-Pacific regions including development of off-shore programmes and campuses. He is a former Dean of Education and was previously Research Professor and Director of the Wilf Malcolm Institute of Educational Research. He has managed and directed research projects that have informed policy, curriculum, and teacher development in New Zealand and internationally. His main areas of research are curriculum, teaching, learning and assessment and he has over 300 publications. In 2000, he was awarded the NZ Science and Technology Medal for his significant contribution to the development of technology education both nationally and internationally. Professor Jones also holds an Hon. Doc. from Kasetsart University in Bangkok.

Associate Professor Dr. Siti Aqlima Ahmad

Associate Professor Dr. Siti Aqlima Ahmad is an environmental biotechnologist and polar scientist at the Faculty of Biotechnology and Biomolecular Sciences, Universiti Putra Malaysia (UPM). She leads the Eco Remediation Technology (EcoRemTech) Laboratory, where her research focuses on environmental biotechnology, particularly bioremediation of hydrocarbon pollution using microorganisms from polar and tropical environments. Her work integrates microbial biotechnology, nanobiotechnology, and sustainable environmental remediation to address global pollution challenges. Dr. Siti Aqlima has published over 200 Scopus-indexed publications and actively collaborates with researchers across Antarctica, Asia, Europe, Africa, and South America. She serves as Malaysia's representative to the Scientific Committee on Antarctic Research (SCAR) Life Sciences Group and is a recipient of the Young Polar Scientist Award. Her research contributes to advancing innovative, nature-based solutions for environmental sustainability and global resilience.

Sub-theme 1: Sustainable Futures and Climate Action

4 Abstracts

Performance And Practical Feasibility of Selected Carbon Negative Construction Material in Sustainable Infrastructure Applications

Naisan Yauqoob
The Maldives National University

This study presents a comparative assessment of selected carbon-negative and low-carbon construction materials for sustainable infrastructure applications, focusing on biochar concrete, hempcrete, geopolymer concrete, and carbonation-cured concrete. The research addresses the growing need to reduce greenhouse gas emissions associated with Ordinary Portland Cement (OPC)-based construction, which significantly contributes to global CO_2 emissions. A mixed-method research framework integrating systematic literature review (SLR), life cycle assessment (LCA), and multi-criteria decision analysis (MCDA) was employed to evaluate the materials based on compressive strength, embodied carbon, cost, and scalability. The findings indicate that geopolymer concrete demonstrates the highest overall feasibility for structural infrastructure due to its high compressive strength (20–80 MPa), relatively low embodied carbon, and moderate scalability. Carbonation-cured concrete also exhibited strong structural performance and compatibility with existing concrete production systems, although its carbon reduction potential remains limited compared with fully carbon-negative materials. Biochar concrete showed the greatest carbon sequestration potential, with some systems achieving net-negative embodied carbon values, but scalability and performance variability remain significant challenges. Hempcrete demonstrated excellent carbon-negative characteristics through biogenic carbon storage and lime carbonation; however, its low compressive strength restricts its application primarily to non-structural uses. The study concludes that no single material optimizes all sustainability and engineering criteria simultaneously. Instead, material selection should balance environmental performance, structural functionality, economic feasibility, and scalability to support sustainable infrastructure development.

Keywords: *Carbon negative construction material, Sustainable infrastructure, Embodied carbon assessment, Low-carbon concrete technologies, Biochar concrete*

A Pragmatic Analysis of Former President Mohamed Nasheed's 2009 Climate Address

Aishath Nabaha
The Maldives National University

Political discourse frequently relies on highly ritualized, standardized techniques that prioritize diplomatic preservation over immediate action. This study provides a qualitative discourse analysis of former Maldivian President Mohamed Nasheed's pivotal 2009 speech at the United Nations climate change summit. The main objective is to examine how an existential threat allows a speaker to intentionally subvert established diplomatic conventions to manage high-stakes international relationships and construct a complex dual political identity. Utilizing a systematic qualitative design, the text was evaluated through two foundational pragmatic frameworks: Searle's speech act taxonomy, and Brown and Levinson's politeness theory. The results reveal a highly calculated distribution of speech acts that challenges traditional diplomatic patterns. The text dynamically shifts from introductory expressive of environmental frustration to dense assertive mapping extreme geographical vulnerability, before transitioning into binding commissive acts. Furthermore, interpersonal pragmatics reveal a calculated disruption of diplomatic norms through bald-on-record-statements regarding mortality, balanced carefully with inclusive positive politeness strategies to build global solidarity. In conclusion, the study demonstrates that strategically disrupting conventional diplomatic rhetoric can create a far more persuasive political message, masterfully blending pragmatic choices to effectively project an identity that positions the speaker simultaneously as both a vulnerable victim and a proactive global leader.

Keywords: Speech acts, Politeness theory, Climate change discourse, political identity, pragmatics

Assessing the Rehabilitation of Villimalé's House Reef: Community Driven Coral Restoration Using the MARRS Method

Minha Ismail
The Maldives National University

Coral reefs play a crucial role in the Maldives and are among the most biologically diverse and economically valuable ecosystems. Despite this, they are extremely susceptible to the adverse effects resulting frompollution, overexploitation and climate change. Maldivian reefs have shown signs of severe bleaching during the coral bleaching events that occurred in recent decades. This study assesses the effectiveness of the rehabilitation efforts in Villimale' house reef through the community-driven coral restoration program implemented using the MARRS (Mars Assisted Reef Restoration System) method. Ecological data was collected from October 2024 to March 2026. The findings from this study will provide insight into the efficacy of community-led restoration methods such as MARRS as a suitable conservation model for small island nations.

Keywords: *Reef restoration, MARRS method, Community-led, Villimalé, Conservation*

A Pragmatic Analysis of Former President Mohamed Nasheed's 2009 Climate Address

Aishath Nabaha
The Maldives National University

Political discourse frequently relies on highly ritualized, standardized techniques, that prioritize diplomatic preservation over immediate action. This study provides a qualitative discourse analysis of former Maldivian president Mohamed Nasheed's pivotal 2009 speech at the United Nations climate change summit. The main objective is to examine how an existential threat allows a speaker to intentionally subvert established diplomatic conventions to manage high-stakes international relationships and construct a complex dual political identity. Utilizing a systematic qualitative design, the text was evaluated through two foundational pragmatic frameworks: Searle's speech act taxonomy, and Brown and Levinson's politeness theory. The results reveal a highly calculated distribution of speech acts that challenges traditional diplomatic patterns. The text dynamically shifts from introductory expressive of environmental frustration to dense assertive mapping extreme geographical vulnerability, before transitioning into binding commissive acts. Furthermore, interpersonal pragmatics reveal a calculated disruption of diplomatic norms through bald on-record statements regarding mortality, balanced carefully with inclusive positive politeness strategies to build global solidarity. In conclusion, the study demonstrates that strategically disrupting conventional diplomatic rhetoric can create a far more persuasive political message, masterfully blending pragmatic choices to effectively project an identity that positions the speaker simultaneously as both a vulnerable victim and a proactive global leader.

Keywords: *speech acts, politeness theory, climate change discourse, political identity, pragmatics*

Sub-theme 3: Science, Health, and Human Well-Being

9 Abstracts

Role of Global Warming and Climate Change in the Increased Cases of Pathogenic Fungi: A Review

Moosa Raaif Riyaz
The Maldives National University

The emergence of novel infectious agents due to global warming and climate change is widely recognized as a driving cause for the spread of communicable diseases. Among these, fungi show particular abilities to adapt to increasing temperatures., thereby increasing incidence of novel fungal infections in humans. Such fungi pose an imminent threat to humans by developing greater resistance to human body temperature, to which they were previously susceptible. Furthermore, fluctuating weather patterns can enhance the dispersal of fungal spores through air, water and topsoil movement which could potentially amplify the morbidity and mortality. This review examines the profound association between climate change and the emergence and geographic expansion of pathogenic fungi, focusing on species such as; Candida auris, Rhizopus homothallicas, Cryptococcus gatti, and Emergomyces sp. The evidence for our findings was collected from related publications on databases such as EBSCO, PubMed, and Hinari with keywords including; "emerging fungi", "climate change" and "fungal distribution". The selected studies were peer-reviewed medical articles published in the past 5 years, focusing on the effect of climate change on emergence of fungal infections. Our findings identified a relationship between climate change and emergence of novel fungi; however, it is still unclear how these fungi develop thermotolerance to minute temperature changes. Moreover, data remain limited, especially from tropical regions such as the Maldives, and effective management is constrained by finite antifungals. Further research is therefore recommended to fill in these research gaps and expand our understanding on fungal dynamics and its management.

Keywords: *Climate change, Global warming, Novel fungi, Fungal diseases, Mortality*

Flesh-Eating Disease: A Narrative Review on Etiology, Prevalence and Clinical Presentations

Shaibaa Ahmed
The Maldives National University

Flesh-Eating Disease (Necrotizing Fasciitis/NF) is a life-threatening condition involving rapid necrosis along tissue planes with a global prevalence of 0.86-19 per 100,000 adults, surging to 32.6 in warmer climates. Although the mortality rate reaches 80%, earlier manifestations mimic minor conditions, resulting in a global misdiagnosis rate reaching 85-100%. Therefore, this review examines NF etiology, global prevalence, and clinical presentations to model swifter diagnosis. Methodology involved a final sample of 35 articles (2016-2026) sourced primarily from ResearchGate for its diverse global case reports, ensuring thematic saturation. The inclusion criteria focus on peer-reviewed English texts relevant to NF pathology and epidemiology, while excluding older, irrelevant grey literature and non-English texts. The data were extracted manually from the selected studies via thematic analysis to correlate clinical patterns. Four clinical types were identified: Type I (polymicrobial), Type II (Group A Streptococcus), Type III (Vibrio vulnificus), and Type IV (fungal). Comorbidities, primarily uncontrolled diabetes and advanced age (>60), are present in around 88-99% of cases. Features include a non-specific triad of swelling, erythema, and the hallmark sign: "out-of-proportion" pain. Due to high misdiagnosis rates, surgical exploration according to clinical judgment is most suitable for diagnosis over laboratory investigations. Management requires aggressive debridement and broad-spectrum antibiotics to prevent complications such as septic shock. As intervention speed determines survival, this study provides a framework for Maldivian healthcare systems in enhancing public and clinical awareness, given that tropical climates increase NF risk. A multidisciplinary approach is critical in the management of this disease as well.

Keywords: *Flesh-eating disease, Necrotizing Fasciitis, Etiology, Prevalence, Aggressive debridement*

Chikungunya virus: A Narrative review on Etiology, Past and recent outbreaks, Epidemiology, Clinical features, Complications and Management

Shahaa Hassan
The Maldives National University

Chikungunya virus is a mosquito-borne arbovirus of the family Togaviridae and genus Alphavirus. It is transmitted by female mosquitoes of *Aedes aegypt*i and *Aedes albopictu*s which can also transmit Dengue and Zika virus. The objective of this study is to examine recent updates and developments related to chikungunya virus outbreaks and clinical presentations in the Maldives, with the aim of supporting effective prevention and control measures in the Maldives and other similar settings. The methodology was based on a comprehensive literature review of 20–30 articles obtained from peer-reviewed sources and databases, including PubMed, ScienceDirect, the Maldives Health Protection Agency (HPA), the Centers for Disease Control and Prevention (CDC), ResearchGate, and the World Health Organization (WHO).An outbreak in Maldives began in December 2006, with resurgence in 2019 and 2024. This illness has an incubation period of 2–4 days from the mosquito bite. Acute arthralgia, fever, myalgia, headaches, and skin rashes are the most frequent acute phase symptoms associated with the infection. A transient maculopapular rash is seen in around half of patients. Chikungunya can also trigger cardiovascular and renal dysfunction, along with neurological complications; in severe cases, patients may develop encephalitis and Guillain–Barré syndrome. The confirmation of CHIKV can be done by detecting IgM antibody and demonstrating an increase in the IgG antibody titre. Currently, there are two chikungunya vaccines, IXCHIQ and VIMKUNYA, which have received regulatory approval and/or recommendations for use in at-risk populations in several countries. This review and the recent updates can assist healthcare professionals in the Maldives in preparing for future outbreaks of chikungunya virus, with a focus on both prevention and control.

Keywords: *Chikungunya , CHIKV , Mosquito , Symptom , Systemic Risks*

Gut Microbiome Diversity in Lean and Obese PMOS/PCOS: Clinical and Therapeutic Perspectives

Aishath Hanaan Ilyas
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Polyendocrine Metabolic Ovarian Syndrome (PMOS), previously referred to as Polycystic Ovary Syndrome (PCOS), is a complex endocrine and metabolic disorder affecting approximately 10–13% of reproductive-aged women. This condition is characterized by hyperandrogenism, anovulation, and polycystic ovarian morphology. Recent studies have reported alterations in the gut microbiota of patients with PMOS, suggesting it may play a significant role in the complex pathogenesis of this condition. Emerging evidence indicates that lean and obese phenotypes of PMOS differ in their clinical features, metabolomic profiles, and gut microbiome composition. This review examines the epidemiology, pathophysiology, clinical features, and complications of PMOS, emphasizing phenotype-specific differences. It further explores the relation between gut microbiota, chronic low-grade inflammation, insulin resistance, and hormonal dysregulation in PMOS. Moreover, current management strategies, including pharmacological and lifestyle interventions, are discussed alongside microbiome-driven treatments such as probiotics, prebiotics, dietary interventions, faecal microbiota transplantation on (FMT), and other microbiota-based therapeutic approaches. This review analysed peer-reviewed publications and evidence-based reports from the last five years focusing on gut microbiota alterations, metabolic characteristics, inflammatory pathways, and microbiome targeted therapies. Findings indicate an increased abundance of bacterial genera such as Escherichia-Shigella and Streptococcus, frequently observed in patients with PMOS, with obese phenotypes generally exhibiting greater dysbiosis, insulin resistance, systemic inflammation, and metabolic complications, along with an increased incidence of hyperandrogenism and menstrual disorders. Therefore, understanding gut microbiome alterations in PMOS may support the development of effective phenotype-specific management strategies.

Keyword: *PMOS, PCOS , Gut microbiome, Lean PMOS , Obese PMOS*

Oropouche Virus Reemergence: Etiology, Transmission Dynamics, Outbreaks, Clinical Features, Complications and Management

Urjwan Mohamed
The Maldives National University

The re-emergence of Oropouche virus, an arbovirus transmitted primarily through *Culicoides paraensis* midge in urban settings has raised concerns to future bio threats situations globally. With the first outbreak in the 1950s in Trinidad, recent outbreaks have begun in other states outside the traditional endemic areas. OROV is a spherical, enveloped virus with a segmented, single-stranded RNA genome. Clinical features of OROV are similar to that of other mosquito-transmitting diseases such as dengue, chikungunya and Zika. In this research we will be looking into the epidemiology of this virus, the different transition methods concerning the re-emergence of oropouche virus (OROV), as well as its complications and clinical features. The research will additionally highlight on the management of OROV and analysis on the development of vaccinations. The research was done by reviewing existing peer reviewed literature and systemic reviews published between the time period of 2021 and 2026. PubMed, google scholar, ResearchGate were used as databases for the comprehensive understanding of oropouche virus and the different factors influencing its transmission and emergence. With the recent outbreak in Brazil in 2024 and its devastating mortality rates, the consideration of oropouche virus as a mild, self-limiting disease has changed. While more cases of OROV have been reported from Europe and the United States, possible risk of local transmission is low, but very concerning. The findings implicate that Oropouche virus requires further research and finalizing of vaccine development based on past successful attempts. This study could benefit Maldives in terms of prevention and public health measures on the virus.

Key words: *Oropouche virus, OROV, re-emergence, outbreaks, transmission*

Toxic Shock Syndrome: etiology, epidemiology, clinical features, complications and management

Aishath Ahmed
The Maldives National University

Toxic shock syndrome (TSS) is a fatal, toxin-mediated disease with multisystem involvement, mainly caused by strains of Staphylococcus aureus and Streptococcus pyogenes. Our literature review brings the latest aspects of TSS and its preventive measures, which are based on data selected from 30 articles that were primarily published in Google Scholar, as it consists of diverse global reports focusing on TSS. This review includes articles written in English that were peer-reviewed and published from 2021 onwards, excluding grey literature. Our findings revealed that TSS is characterised by clinical features such as high fever, cephalalgia, hypotension and rash formation along with multiple organ failure in some severe cases. This disease is primarily caused by bacterial superantigens, namely TSST-1 released by *S. aureus* along with SpE A, B and C released by *S. pyogenes*. Depending on the origin of bacterial entry, the disease can be classified into menstrual TSS, resulting from the use of tampons and non-menstrual TSS, arising from surgical wounds, postpartum and non-surgical cutaneous lesions. Following the COVID-19 pandemic, recent outbreaks of TSS have been reported globally across countries such as the United States, the United Kingdom, some regions in Africa and most notably in Japan, with 1060 cases recorded in 2024 alone. This review focuses predominantly on TSS in relation to its etiology, types, epidemiology, clinical features, complications and management. Researching more about TSS and its pathophysiology, risk factors, symptoms and treatments can assist in raising awareness among locals and authorities, thus preventing similar cases in the Maldives.

Keywords: *Toxic shock syndrome, Staphylococcus aureus, Streptococcus pyogenes, TSST-1, Incidence*

Biopsychosocial Determinants of Chronic Pain Among Adults Consulting in Indira Gandhi Memorial Hospital

Fathimath Waheed
The Maldives National University

Chronic pain is among the top 10 most prevalent diseases worldwide and the leading cause of disability and disease burden globally. However, due to the lack of studies based in the Maldives, we aim to investigate the biopsychosocial determinants of chronic pain among adults consulting Indira Gandhi Memorial Hospital (IGMH). This hospital-based cross-sectional study included a total of 112 participants with chronic pain consulting the outpatient departments of Internal Medicine, Orthopaedics, Neurology and Pain Clinic from January to March of 2026. Data was collected using a structured questionnaire via direct interview, targeting a sample size of 102, through convenience sampling. Data collection was preceded with approval from the Ethics Review Committee of The Maldives National University and National Health and Research Council (NHRC). The objective of this study was to assess the correlation between biopsychosocial factors and chronic pain, assess the impact of chronic pain on the daily life of those patients, and describe common determinants of chronic pain and identity factors associated with high impact chronic pain among adults consulting in IGMH. The results of our study showed a significant correlation between age, physical activity, mental health, marital status, social support and chronic pain. Increasing age, higher physical activity level, decreasing number of comorbidities and lower mental health distress scores were found to have lower odds of having high impact chronic pain. We recommend conducting research to identify the prevalence of chronic pain in the Maldives and more focused research to analyse the biopsychosocial factors identified in this study.

Keywords: *Chronic pain, High impact chronic pain, Biopsychosocial determinants, Indira Gandhi Memorial Hospital*

Ebola Virus Disease: A Persistent Global Health Threat - A Review Article

Isra Naeem
The Maldives National University

Ebola Virus Disease (EBOD) is caused by viruses in the Orthoebolavirus genus of the family Filoviridae. Six species have been identified, with three known to cause large outbreaks: Ebola virus (EBOV), Sudan virus (SUDV), and Bundibugyo virus (BDBV). On May 15, 2026, the Democratic Republic of the Congo (DRC) and Uganda declared an outbreak of Ebola virus disease caused by the Bundibugyo virus, with over 1,200 confirmed cases and over 320 confirmed deaths as of June 25, 2026. On May 17, 2026, the World Health Organization (WHO) declared this outbreak a Public Health Emergency of International Concern. Currently, there are no approved vaccines for Bundibugyo virus infection. Bundibugyo ebolavirus infects immune cells and spreads via the bloodstream, triggering excessive inflammation, endothelial injury, and coagulation abnormalities. This leads to thrombocytopenia, disseminated intravascular coagulation, multiorgan dysfunction, and haemorrhage, presenting as bloody diarrhoea, bleeding gums, purpura, bleeding into the eyes, haematuria, shock, and death in severe cases. The main treatment for Ebola virus disease is supportive care and managing severe complications. This includes monitoring vital signs, correcting electrolyte imbalances, and providing ventilatory or renal support when needed. Cardiovascular complications should be treated promptly, and patients monitored for hemorrhage. Empirical antibiotics may help reduce secondary bacterial infections in critically ill patients. This review examines the epidemiology, pathogenesis, clinical presentation, and current management strategies for Ebola virus disease, in light of the ongoing Bundibugyo virus outbreak and the urgent need for effective vaccines and therapeutics.

Keywords: *Bundibugyo virus, Ebola virus disease, Public Health Emergency of International Concern, Haemorrhagic fever, Supportive care*

Ripples in the Maldives, amplified worldwide - A literature review about the resurgence of Measles

Abaan Ali Rasheed
The Maldives National University

Measles is an acute febrile illness with a high transmissibility that may be fatal leading to complications such as pneumonia and encephalitis. It is caused by the measles virus (MeV), exhibiting prodromal symptoms such as malaise, fever, cough, coryza and conjunctivitis. Koplik spots (pathognomonic for MeV) are also observed along with an erythematous, maculopapular rash that first appears on the face and neck which descends cephalocaudally. It is mainly transmitted via respiratory droplets, remaining viable in the air or on surfaces for up to two hours. It has an incubation period of 12.5 days, being most contagious 4 days before and after the onset of the rash. MeV is an enveloped, single-stranded, negative sense RNA virus with two main surface glycoproteins. There is no specific antiviral therapy available for measles yet and supportive care along with prevention remains as the gold standard. Vaccination via the measles-mumps-rubella (MMR) vaccine is the main mode of prevention. In recent years, there has been a resurgence of measles worldwide—most likely attributed to growing vaccine hesitancy, immune gaps, inadequate immunization coverage and imported cases. Although declared measles-free since 2017, the Maldives has also seen a resurgence, which is likely due to similar factors. This review synthesizes the most up-to-date literature within the past 10 years on virology, epidemiology, pathogenesis, clinical features, complications, current treatments, and prevention of MeV from sources such as Google Scholar, ScienceDirect, SCOPUS and national sources. Furthermore, this review discusses possible causes for resurgence of MeV globally and in the Maldives.

Keywords: *Measles, Virus, Global, Maldives, Resurgence*

Sub-theme 4: Global Governance, Peace, and Development

3 Abstracts

Climate Change and National Security in the Maldives: A Human Security Perspective

Mohamed Hizyam Hamid
The Maldives National University

Climate change has become one of the most significant challenges facing Small Island Developing States (SIDS), with implications that extend beyond environmental degradation to national security. As one of the world's lowest-lying nations, the Maldives is particularly vulnerable to sea-level rise, coastal erosion, saltwater intrusion, and extreme weather events. These threats not only affect the country's physical environment but also undermine livelihoods, economic stability, public health, and long-term national resilience. While national security has traditionally focused on military threats and territorial defence, the Human Security perspective emphasizes the protection of individuals and communities from a broader range of risks. This study examines how climate change has reshaped the concept of national security in the Maldives through the lens of Human Security Theory. Employing a qualitative research design, the study uses document analysis of academic literature, government policies, national climate strategies, and reports published by international organizations. It explores the environmental, economic, and social dimensions of climate-related security challenges and evaluates their implications for national policy. The study argues that climate change should be understood as a non-traditional security threat that requires a people-centred approach to policymaking. Preliminary analysis indicates that climate change has broadened national security priorities in the Maldives by highlighting the interconnected nature of environmental sustainability, human wellbeing, and state resilience. The findings contribute to the growing discourse on climate security and provide insights into how vulnerable island states can strengthen resilience through integrated security strategies.

Keywords: *SIDS, Maldives, National Security, Human Security, Climate Security*

From Personal Story to Global Climate Action: A Discourse-Pragmatic Analysis of Mohamed Nasheed's 2009 IPU Speech

Eema Abdulla Saeed
The Maldives National University

Political speeches are not only used to share information, but also to persuade audiences, build relationships, and call for action. This study examines President Mohamed Nasheed's 2009 address to the Inter-Parliamentary Union and explores how he uses discourse and pragmatic strategies to move from personal credibility to global climate action. The speech is significant because Nasheed speaks as a leader from a small island state facing the serious threat of climate change, while also addressing an international audience with political power. Using a qualitative discourse-pragmatic approach, the study focuses on speech acts, politeness strategies, maximalising, and selected cohesive devices. The analysis shows that Nasheed begins by referring to his past imprisonment and his relationship with the IPU to build rapport and credibility. He also uses humour and positive politeness to soften political tension and create a closer relationship with the audience. As the speech develops, he uses inclusive pronouns such as "we" and directive speech acts to frame climate change as a shared global responsibility rather than only a Maldivian issue. The study argues that Nasheed's language allows him to present himself both as a former political victim and as a credible global leader calling for urgent climate action. Overall, the analysis shows how discourse and pragmatic strategies can help a speaker with limited power influence an international audience and make a strong political appeal.

Keywords: *political discourse, speech acts, politeness strategies, climate rhetoric, inter-parliamentary union*

Critiquing Power through Diplomacy: A Discourse-Pragmatic Analysis of Small-State Diplomacy in Mohamed Waheed Hassan's 2012 UN Speech

Hussain Maazin Ahmed
The Maldives National University

Political speeches do more than communicate information; they also perform actions such as persuading, justifying, criticising, and negotiating power. In diplomatic contexts, criticism is often expressed indirectly because direct confrontation can threaten international relationships. This is especially important for small states that must respond to unequal power relations while maintaining cooperation with dominant international actors. This study examines how speech acts and politeness strategies are used to critique international power structures in President Dr Mohamed Waheed Hassan's speech at the United Nations High-Level Meeting on the Rule of Law (24 September 2012). Using a qualitative discourse-pragmatic approach, the speech was analysed by identifying and interpreting assertive, directive, and expressive speech acts to examine their functions in the discourse. It also examined positive politeness, negative politeness, and face-threatening acts to explore how these strategies were used to express diplomatic criticism. The analysis shows that Waheed uses assertive statements to construct legitimacy, indirect directives to encourage reflection and solidarity among small states, and politeness strategies to soften criticism of powerful international actors. The study argues that strategic language use enables small states to challenge global power structures while preserving diplomatic relations. It contributes to the study of political discourse by showing how diplomacy can function as both a form of critique and a strategy for maintaining cooperation.

Keywords: *political discourse, speech acts, politeness strategies, face-threatening acts, small states*

Sub-theme 5: Interdisciplinary Insights on Social Dynamics, Human Development and Community Engagement

1 Abstract

Challenges Faced in the Integration of Powerpoint Presentations in Science Lessons

Mohamed Zuraig Ali Nizam
The Maldives National University

The integration of PowerPoint presentations in lessons is a topic that has been discussed extensively in educational research. This research aims to investigate the main challenges faced by Maldivian secondary teachers when integrating PowerPoint presentations into science lessons by comparing them with the problems faced by secondary teachers worldwide. The following areas were selected for comparison with global findings: whether teachers have sufficient ICT training and confidence, what technical and infrastructural challenges arise, how PowerPoint use affects student engagement and learning, and whether time pressures affect lesson preparation quality. This study employed a quantitative research design using a survey methodology. Data were collected through a Likert-scale questionnaire distributed via Google Forms to a convenience sample of 16 secondary school science student teachers, with participation being voluntary and anonymous. The collected data were analyzed using graphs to identify trends and compare the findings with existing literature. The results show that, in the context of the Maldives, ICT confidence ranks high among participants while revealing a lack of professional ICT training. Moreover, participants noted that time constraints are a significant issue, which is consistent with findings reported in international research. The key deviation, however, was that although participants generally have good access to the necessary equipment, they continue to experience frequent technical issues that disrupt lesson delivery. Overall, the findings suggest that while confidence in using PowerPoint is high, improvements are needed to support its effective integration into science teaching. This study therefore recommends introducing structured ICT training programs, improving school infrastructure, allocating dedicated preparation time, and developing institution-wide guidelines for effective slide design to enhance teaching effectiveness and student learning outcomes.

Keywords: *PowerPoint presentations, ICT integration, Science education, Teacher training, technical barriers*

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