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Evolving Paradigms: Merging Research, Evidence, and Practice

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UNDERGRADUATE STUDENT RESEARCH SYMPOSIUM

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Sub-theme 1: Bridging Theoretical Knowledge with Educational Practices

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Sub-theme 1 : Bridging Theoretical Knowledge with Educational Practices

Relationship Between Mentorship Program and GPA of Medical Students in School of Medicine

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Abstract
One significant factor influencing medical students' academic success is participation in the mentorship program, which provides guidance and support in navigating the challenges associated with medical education. Medical students' Grade Point Averages (GPAs) can be considerably raised through mentorship programs, according to research, and mentored students are seen to outperform their peers academically. Accordingly, regular meetings and time invested in them contribute significantly to better academic performance. The Maldives National University School of Medicine (MNUSM) mentorship program provides both academic and emotional support, and students are expected to meet with their mentors at least once per semester. This study investigated the effectiveness of the mentorship program at MNUSM by exploring the relationship between duration, frequency, and engagement level of students in mentor-mentee meetings in improving GPA scores. A descriptive and analytical cross-sectional study method using purposive sampling was utilized and data was analyzed using chi-square and Kruskali-Wallis tests. The target population consisted of 157 students in years 2 to 5 of MNUSM. The data indicated that most students had an average GPA between 2.50 and 2.99, met their mentor once per semester for 15 to 30 minutes, and were engaged passively in the program. The findings showed no statistical association between participation in the mentorship program—including meeting duration, frequency, or engagement level—and students' GPA. In contrast, students had positive perceptions of their mentors regarding their accessibility and the emotional support provided. These results suggest that while the mentorship program is beneficial psychologically, its effect on GPA is minimal. This could be improved by incorporating more academically focused components into the mentorship program. Conversely, future research using broader measures could explore qualitative aspects such as emotional or career support to gain deeper insight into the program's overall impact.

Keywords: *Mentor, mentee, mentorship program, engagement level, The Maldives National University*

Sub-theme 1 : Bridging Theoretical Knowledge with Educational Practices

Exploring the Potential of Virtual Reality in Enhancing Practitioner Skills

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Abstract
This study investigates the incorporation of Virtual Reality (VR) as a progressive tool in medical training with a focus on its effectiveness in enhancing practitioner performance in surgical and anatomy education. This secondary research investigates whether Virtual Reality (VR) based medical training can be used to improve the overall performance of medical practitioners, specifically examining its impact on building their self-confidence, skill development, and knowledge attainment in surgical and anatomy training. A secondary research methodology was utilized to review existing research studies and journal articles. Multiple academic databases were searched to collect relevant papers from 2002 to 2024. Out of the 25 papers reviewed, 15 were shortlisted. The selection criteria focused on the effectiveness of VR in enhancing the performance, confidence, skills and knowledge retention of residents. The papers were analysed to identify the gaps and trends in the research. Several studies reported increased confidence, enhanced skills and better knowledge retention in VR-trained groups compared to traditional methods. Results showed that VR-trained groups were 29% faster and scored 20.13% higher than the control groups. Furthermore, VR-trained groups demonstrated higher performance and fewer errors ($p=0.042$, $p=0.034$, $p< 0.001$). The findings show that VR has potential in transforming the traditional methods of medical training by giving an immersive hands-on experience. However, further research needs to be done with larger and more diverse samples. Moreover, long-term studies are necessary to ensure knowledge and skills retention. VR serves as an important tool in enhancing medical education through self-confidence, skills and knowledge attainment. Although VR is not a common tool used in medical training, it has the potential to become a powerful tool in the future of medicine.

Keywords: *virtual reality (VR), VR in anatomy, VR in surgery, medical training*

Sub-theme 1 : Bridging Theoretical Knowledge with Educational Practices

The Effectiveness of Interactive Multimedia Tools: Simulations, Gamification, And Question-Embedded Videos Onon Student Achievement In E-Learning

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Abstract
Student achievement is defined as measurable academic achievements that can be used to identify effective pedagogical approaches. There is a lack of comparative research done on which types of technologies work best to improve student achievements in e-learning. This paper aims to do a comparative analysis on the effectiveness of interactive multimedia tools, specifically simulations, gamification, and question-embedded videos (QEVs) on student achievement in e-learning. The research was done by reviewing existing literature done to assess the effectiveness of interactive multimedia on student achievement in e-learning. The data was collected by searching for papers in the academic databases: ScienceDirect, IEEE Xplore, and Google Scholar and putting them under a rigorous inclusion and exclusion criteria that followed 3 steps: identification – containing empirical studies, screening – confirming focus on e-learning with interactive multimedia, and eligibility – ensuring experimental design. Of the 14 papers that were shortlisted, only some of the papers contained the desired empirical data of quantitative pre-test and post-test results from controlled experiments needed to conduct the analysis allowing for 6 papers to be considered. For each of these papers, percentage improvement was calculated using ((post-test – pre-test)/pre-test) * 100 for both the controlled group and experimental group and subtracting the controlled group improvement from experimental group improvement. Results indicated that QEVs yielded the highest percentage improvement up to 91.67%, with gamification yielding up to 63.97%, and simulations yielding up to 55.10%. This analysis revealed that QEVs showed the greatest impact on student achievements. Further studies need to be conducted to fully comprehend how different tools can be incorporated to identify the effects on long-term use. In conclusion, this research contributes to the literature on assessing the effectiveness of interactive multimedia in e-learning.

Keywords*: simulation, gamification, question-embedded video, student achievement, e-learning.*

Sub-theme 2: Data-Driven and Evidence-Based Insights in Integrative Approaches to Public Health

12 Abstracts



Sub-theme 2 : Data-Driven and Evidence-Based Insights in Integrative Approaches to Public Health

Quantitative Study on Knowledge, Attitude, and Practice on Drug Abuse and Addiction Among Students of The Maldives National University

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Abstract

According to the American Addiction Centres (2024) drug abuse and addiction have been recognized as a global burden since the 1800s. This issue has significantly increased over the past decade, specifically among individuals aged 15-64. Statistics show that 5.6% of this age group used drugs in 2022, indicating a 20% increase compared to a decade earlier. Although drug abuse and addiction have become a concern in the Maldives according to existing literature, there has been insufficient research on this topic. According to the Situational Analysis of Drugs in the Maldives (2021), drug use prevalence in Male' City is extremely high at 64.9%, while other atolls show rates less than 5%. This study aims to conduct a quantitative, descriptive, cross-sectional study to assess the knowledge, attitudes, and practices regarding drug abuse and addiction among students at the Maldives National University (MNU) Male' Campus. A total of 361 students will be selected from 5913 students enrolled in different courses at MNU Male' Campus, using a stratified sampling method. Data will be collected via Google Forms, sent through student emails to the selected students. The responses will then be analysed using descriptive and inferential statistical methods through SPSS. Preceding the main study, the questionnaire will be pretested to ensure validity and reliability. If this study reveals low levels of knowledge, negative attitudes, or poor practices among the target group, it will highlight the need for targeted educational interventions and awareness programmes. Consequently, the findings will help identify specific gaps and misconceptions, paving the way for the development of more effective intervention programmes, policies, and strategies addressing the issue. Furthermore, the data will be valuable for guiding further studies and shaping broader public health initiatives.

Keywords: *drug abuse, knowledge, attitudes, practices, MNU*

Effect of Parental Neglect on Mental Health of Adolescents

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Abstract

Parental neglect is one of the most prevalent forms of child maltreatment and causes significant negative effects on the mental health of adolescents, yet it remains underexplored. This literature review aims to explore the correlation and the specific outcomes of parental neglect on the mental health of adolescents, along with research-based interventions for mitigating the effects of this issue. Evidence for this review was obtained through databases including EBSCO, HINARI, Google Scholar, PsycINFO, and PubMed. Articles from 2019-2025 with studies focusing on adolescents aged 10-19 who have experienced parental neglect were selected for the study. Results revealed that there was a significant correlation between parental neglect and adolescent mental health, significantly associated with a variety of negative outcomes such as long-term cognitive and neurobiological impairments. Additionally, it leads to internalizing disorders like depression and anxiety and externalizing behaviours such as substance use and aggressiveness. The timing, length, and kind of neglect also contribute to these outcomes, with chronic and adolescent onset being the most impactful. Evidence based interventions such as the school-based HEARTS program, home-based therapies such as Parent-Child Interaction Therapy (PCIT), and Trauma-Focused Cognitive Behavioural Therapy (TF-CBT) were found amongst effective strategies to support adolescents and enhance educators and caregivers to promote resilience and healing. This review recommends integrating comprehensive approaches including trauma-informed care into nursing education to increase the likelihood of timely interventions, and in preventing long term consequences of parental neglect. Addressing parental neglect through evidence-based interventions is important to mitigate the negative effects of parental neglect on adolescent mental health.

Keywords: *parental neglect, parent-child interaction therapy, adolescent mental health, cognitive behavioural therapy, psychological outcomes*

Sub-theme 2 : Data-Driven and Evidence-Based Insights in Integrative Approaches to Public Health

Addressing Language Barrier Between Foreign Patients and Nurses to Improve Quality Care

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Abstract

Effective communication is one of the main fundamentals in the provision of quality health care. Regardless, the language barrier between foreign patients and nurses continues to be a major difficulty faced by the healthcare industry across the globe. This literature review aims to explore the impact of language barriers on the quality of patient care and the effectiveness of the strategies used to overcome these barriers. Literature within the last five years, from 2019 to 2025 was explored. Databases including EBSCO, Hinari, PubMed and Google Scholar were used with search strategies using keywords such as "language barrier", "language discordance", "cultural competency", "limited English proficiency" to search articles. The results of the review showed that language barriers have a significant impact on patients, in which risk for harm due to miscommunication and decreased patient satisfaction exist, and for nurses, where increased workload and decreased job satisfaction levels arise. Utilization of technological tools such as use of Google Translate for basic interpretations, bilingual documents which include the translation of forms such as consent forms and discharge summary to some common languages of the foreign expat population in the Maldives, and cultural competency training for nurses were found to be effective strategies identified from the review. Recommendations include developing policies with evidence-based methods in dealing with situations where language barriers can occur, and the development of interpreting applications to translate foreign languages tailored specifically to the Maldivian society, along with conducting cultural and language competency training for nurses to overcome language barriers and improve care quality.

Keywords: *language barrier, language discordance, limited language proficiency*

Sub-theme 2 : Data-Driven and Evidence-Based Insights in Integrative Approaches to Public Health

Suicide Among Adolescents: A Literature Review

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Abstract

Suicide has been identified as the second leading cause of death among adolescents, prompting that reducing suicidal behaviour has been a necessity in today's world to promote healthy mental health. This is a review of various studies focusing on different aspects associated with suicide among 10- to 19-year-olds. It aims to analyse the significance, impact, and evidence-based prevention strategies associated with suicide among adolescents. For the review, databases like EBSCO, ScienceDirect, PubMed, Google Scholar and Research4Life were used to gather evidence using the keywords "suicide", "suicidal attempt", "prevalence", "adolescents", "age", "contributing factors", "psychological impact", "suicide survivor", "family", and "preventive strategies". The evidence included in the review was derived from articles published between 2019 to 2025. The review highlights that among adolescents, the older individuals attempt suicide more than the younger ones, and the greatest contributor to the suicidal behaviour is weakened mental health due to several factors. Furthermore, while a suicide attempt causes various long-term psychological issues like depression in the survivor, it also heavily impacts on their parents' mental health, raising their stress levels and overprotectiveness towards their children who survived a suicidal attempt. The review also discusses the strategies that can be utilised for prevention of suicide which include the importance of proper screening and building school-based programs for effective protection against suicide. As per the findings, it is recommended to educate parents regarding the importance of a positive parent-child relationship as well as to establish school-based screening programs to identify the presence of suicidal behaviour and promote early intervention.

Keywords: *suicide, suicidal attempt, adolescents*

Sub-theme 2 : Data-Driven and Evidence-Based Insights in Integrative Approaches to Public Health

Implementation of Evidence Based Practice Among Nurses: Gaps and Opportunities

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Abstract

This review aims to explore the current gaps and emerging opportunities in implementing Evidence-Based Practice (EBP) among nurses, integrating current literature with theoretical perspectives. EBP plays a vital role in modern healthcare, enhancing the quality of patient care by integrating the best available evidence with clinical expertise and patient preferences. Despite its importance, the application of EBP in nursing remains inconsistent due to multiple barriers. This review synthesizes findings from peer-reviewed articles and systematic reviews published between 2019 and 2025, using databases such as PubMed, EBSCOhost, ResearchGate, HINARI and, Google Scholar to gain a comprehensive understanding of the factors influencing EBP use in clinical settings. The keywords "evidence-based practice in nursing", "barriers to EBP", "nursing outcomes", "EBP strategies", and "patient outcomes" were used to find articles. Key barriers that hinder effective implementation of EBP include limited knowledge and skills among nurses, time constraints, lack of institutional support and resistance to change. In addition to these gaps, the review highlights various strategies and opportunities that can facilitate EBP integration. These include structured educational programs, supportive leadership, access to evidence-based resources, and interprofessional collaboration. Furthermore, the review emphasizes that while the implementation of EBP faces significant challenges, there are various opportunities to enhance its adoption through strategic interventions. Strengthening EBP among nurses not only improve clinical decision-making and patient outcomes but also contributes to the advancement of the nursing profession. These findings underscore the need for targeted efforts at both institutional and policy levels to support sustainable EBP practices in nursing.

Keywords: *evidence-based practice, implementation, gaps, opportunities, nursing*

Poor Nutrition: A Significant Concern in Child Health and Wellbeing

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Abstract

Malnutrition being a huge concern for children's health, is important to focus on the factors, consequences and strategies to prevent and mitigate its effects. This literature review aims to explore the contributing factors of child malnutrition while identifying its consequences and strategies to prevent and manage the issue. To study these areas, a variety of studies published from 2020 to 2025 were explored through databases such as EBSCOhost, ResearchGate, Google Scholar, and National Library of Medicine. The main keywords used were "child malnutrition", "factors related to poor nutrition", "parental factors and child nutrition", "consequences of poor nutrition", "cognitive deficits and malnutrition", "physical challenges and malnutrition in children", and "solutions for poor nutrition in children". Findings from the literature review highlighted the importance of parental knowledge, attitudes, eating habits, and parenting styles on child nutritional status. Other notable factors related to child nutrition were family income, family size, practices, and availability of resources. The review also discusses the consequences of malnutrition, highlighting its negative effects on cognitive and physical development, as well as immunity. It additionally highlights the significance of nutrition, considering its long-term effects such as the development of non-communicable diseases. Education programmes, community-based programmes, and models based on the root cause were deemed likely solutions for positive effects in child malnutrition. Therefore, planning community-based screening for early identification of malnutrition and carrying out education programmes for parents to create awareness is recommended. Since need-based interventions were found to be effective, collaborating with paediatric wards and other public sectors, including schools, to identify core roots of malnutrition in children and create a plan for prevention and management is also recommended.

Keywords: *children, malnutrition, poor nutrition, child health*

Knowledge, Attitude and Practice of Injury Prevention Strategies Among Recreational Futsal Players in The Maldives: A Cross-Sectional Study

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Abstract

Reducing futsal player injuries requires combining several injury prevention strategies, such as proprioceptive training and multicomponent programs. Studies show that players don't fully comprehend or practice these strategies. Therefore, conducting a KAP study is crucial to gathering information on this topic. Prior studies have mostly examined professional athletes rather than recreational ones. Despite the high participation rates, there is a knowledge gap concerning the attitude and practice of sport injury prevention strategies, particularly among recreational futsal players in the Maldives. The purpose of this study is to determine the knowledge, attitude, and practice of injury prevention strategies among recreational futsal players in the Maldives. In this research, a cross-sectional quantitative study design will be employed. Male recreational futsal players in the Maldives, aged 18 and above, who took part in the Golden Futsal Challenge 2024, will be participants in the study. The sample size will be 356, and multi-stage cluster sampling will be employed. A self-administered online questionnaire will be distributed. The Statistical Package for Social Sciences (SPSS) will be used to analyse the data. The central tendency of the data will be measured using descriptive statistics like mean, mode, and median, and the distribution will be measured using standard deviations. Additionally, percentages and frequencies will be used, and correlational analysis will describe the link between the variables. The findings of the research will help identify a knowledge gap regarding injury prevention tactics among recreational futsal players in the Maldives, which will help the health ministry and sports organizations create more successful injury prevention strategies. It will also help determine how to increase adherence to the current approach for preventing sports injuries. Additionally, it will pinpoint areas that need improvement and help futsal players learn and apply injury prevention techniques, which ought to reduce the number of sports-related injuries in the Maldives.

Keywords: *knowledge, attitude, practice, injury prevention strategies, recreational futsal players*

Memory Recall and False Memory Paradigm: A Comparative Study of Human and AI-Generated Voices in Young Adults Aged 18-30

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Abstract
Previous research demonstrates that auditory memory encoding is influenced by speaker characteristics and semantic networks. However, the impact of artificially generated speech remains underexplored. This study investigated whether voice type (human vs. artificially generated) influences memory recall, and whether semantically associated words produce false memories, as predicted by the Deese-Roediger-McDermott (DRM) paradigm. A total of 19 participants, aged 18–30, were divided into two groups, in which one group was exposed to human speech and the other to artificially generated speech. The participants were tasked with listening to auditory recordings of two sets of word lists (Set A and Set B), each containing 7 target words, 1 lure word (a semantically associated word), and 1 control word, which the participants were then instructed to memorize. This was immediately followed by a distraction task to prevent mental rehearsal of the aforementioned. The mean correct recall rates and false recall frequencies were analysed using descriptive statistics and independent samples t-tests. Results of descriptive analysis indicated high memory accuracy (M = 5.68/7 for Set A; M = 5.47/7 for Set B). Lure words were falsely recalled more frequently (36.8–42.1%) than control words (5.3–10.5%). Results of the independent t-test showed that, although subtle differences emerged between voice types, no statistically significant effects were observed. This result may reflect limited statistical power due to the small sample size. The current study's findings are preliminary, and descriptive results highlight the persistence of false memories in auditory contexts, which further invites the exploration of the role of artificially generated speech in memory tasks. Future research with larger samples is warranted to clarify the role of artificially generated speech in memory encoding.

Keywords: *memory, false memory, artificial intelligence, recall*

Prevalence of Fall Risk and Associated Factors Among Elderly People Residing in GA Atoll in The Maldives

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Abstract

Falls are seen as a major health issue, with the risk escalating with advancing age. Falls can result in significant monetary consequences, lifelong disability, and diminished quality of life. Factors that may elevate the risk of falls include chronic health disorders that contribute to balance and gait impairments, vision impairments, and environmental dangers. The situation in the Maldives lacks a reliable mechanism to record the incidence of falls, rendering the frequency of falls in this community unknown. Furthermore, the healthcare exhibits a deficiency in preventive measures that can be implemented to minimize the risk of falls. The aim of the study is to assess the prevalence of falls and identify contributing factors among the elderly population living in GA Atoll, located in the Maldives. This study will employ a cross-sectional research methodology. The investigation will be conducted for senior adults residing in GA Atoll, Maldives. Participants will be chosen by random sampling to eliminate bias. The study involves an initial screening using the physical activity readiness questionnaire (PAR-Q) to determine the participants' suitability for physical performance testing. This will be followed by the administration of a structured data collection tool designed to collect data on sociodemographic characteristics, fall history, and relevant medical history. Subsequently, two performance-based measures, the Time Up and Go Test (TUG), and 30-second Chair Stand Test will be employed to objectively evaluate fall risk. SPSS software version 20 will be utilized for data analysis. The findings will be presented as mean, median, mode, and standard deviation. Moreover, the detected risk variables will be correlated with the likelihood of falling.

Keywords: *falls, elderly, associated factors, prevalence*

Nurse-Led Nutritional Intervention in Critical Care

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Abstract

Despite the lack of provision of dieticians in most healthcare facilities in the Maldives, there is still no consensus on nutritional screening and nutritional interventions by health care professionals. Nutrition plays a huge role in improving the health of patients, especially in critically ill patients. They have immune system dysfunction along with progressive muscle wasting, which puts them at risk of malnutrition, further affecting their clinical outcomes and length of stay. Therefore, providing nutritional support requires a multidisciplinary effort, and nurses can play an effective role in the assessment and carrying out intensive nutritional interventions. This literature review aims to enhance knowledge and awareness of nurses working in the critical care unit of Hulhumale' Hospital in using a nutritional assessment tool for critical care patients. A systematic search was conducted using databases such as Google Scholar, PubMed, and EBSCOhost. Keywords included "nutrition," "nursing," "critical care unit," "critically ill," and "nutritional assessment." Only full-text, peer-reviewed studies published in English within the last five years were included. Major findings from the literature showed that nurse-led nutritional interventions have improved outcomes in several patient populations like those of geriatric, and surgical in the critical care unit. Findings also highlight the significance of using a nutritional assessment tool to identify patients who will benefit most from aggressive nutritional therapy. Considering the literature, the use of a nutritional assessment tool, like the modified Nutrition Risk in Critically Ill (mNUTRIC Score), is recommended. Furthermore, as the mNUTRIC Score has never been used in Maldivian healthcare settings, education and training programmes for nurses are recommended to enhance their knowledge of the tool.

Keywords: *nutrition, nursing, critically ill, nutritional assessment, mNUTRIC score*

Knowledge, Attitude and Practices of Antenatal and Postnatal Exercises Among Women of Reproductive Age: A Cross-Sectional Study

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Abstract

Physical activity during and after pregnancy has been linked to numerous health benefits for both the mother and the baby. However, the extent to which women engage in these exercises, as well as the barriers they face, remains unclear in the Maldivian context. This study explores the knowledge, attitude, and practice (KAP) of antenatal and postnatal exercises among women of reproductive age in Kulhudhuffushi City. A descriptive cross-sectional study will be conducted among 334 randomly selected participants using a structured questionnaire. Data will be collected via a self-reported questionnaire distributed in person to the participants. Descriptive and inferential statistical will be employed to analyse the data using JAMOVI Cloud. The study is expected to provide insights into commonly practiced antenatal and postnatal exercises, and identify key barriers, such as cultural beliefs, lack of awareness, and accessibility issues. It also aims to shed light on the relationship between demographic characteristics and participation in physical activity during the perinatal period. Findings will highlight the need for targeted educational initiatives and health promotion strategies to support safe and effective maternal exercise practices. The research will also highlight areas where evidence-based guidance is lacking, emphasizing the importance of integrating physical activity into routine maternal health services. Eventually, this study seeks to inform healthcare professionals, educators, and policymakers about the current state of maternal exercise behaviours in Kulhudhuffushi City of the Maldives. By identifying gaps and challenges, the study will provide recommendations to enhance maternal health outcomes through improved exercise awareness and programmatic support, ultimately contributing to more comprehensive reproductive healthcare.

Keywords: *physical activity, maternal health, knowledge, reproductive age, exercise practices*

The Association Between Physical Activity and Perceived Stress Levels Along with the Barriers Preventing Entry into the Former

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Abstract
Physical activity is widely recognised for its benefit, yet participation remains low among medical students due to various barriers. This study explores the relationship between physical activity and perceived stress levels and identifies factors hindering participation in physical activity among students at the School of Medicine, The Maldives National University. Drawing from existing literature, consistent participation in moderate to vigorous physical activity is associated with improved coping and reduced psychological distress; however, academic workload, lack of motivation, and limited access are commonly reported obstacles. A descriptive, analytical, cross-sectional design was employed, involving 115 medical students. Participants completed a modified International Physical Activity Questionnaire (IPAQ) and questions on the stress subscale of the Depression, Anxiety and Stress Scale (DASS-21), alongside a COM-B model-based questionnaire assessing behavioural barriers. A chi-square test was conducted to examine the association between physical activity (measured in MET-minutes/week) and perceived stress. Results indicated that 27% of students had low physical activity levels, while 44% reported moderate to extremely severe stress. However, no statistically significant association was found between physical activity and stress levels ($\chi^2 = 10.187$, $df = 8$, $p > 0.05$). The most cited barriers were opportunity-related (62%), especially time constraints due to academic demands, followed by issues related to motivation and capability. While the absence of a significant association may reflect contextual or methodological limitations, the prevalence of modifiable barriers highlights the importance of targeted institutional interventions. Strategies focusing on improving access, enhancing motivation, and addressing time constraints may help increase physical activity engagement and potentially contribute to improved mental well-being. Further longitudinal studies with broader samples are recommended to deepen understanding and establish causality.

Keywords: *physical activity, perceived stress, medical students, barriers to exercise*

Sub-theme 2 : Data-Driven and Evidence-Based Insights in Integrative Approaches to Public Health

Recreational Runners' Perception About Running-Related Injuries: A Qualitative Study

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Abstract

Recreational running is gaining popularity as a means of promoting physical activity and public health. However, despite its benefits, widespread misconceptions persist regarding running-related injuries (RRIs), contributing to increased injury risk and inconsistent prevention practices. Misaligned beliefs about injury causation, training intensity, footwear, and recovery often conflict with evidence-based guidelines, leading to suboptimal injury prevention strategies among runners. This study aims to explore how recreational runners in the Maldives perceive RRIs and their associated risk factors, with the goal of informing the development of effective, culturally appropriate injury prevention initiatives. A qualitative descriptive design will be employed to capture runners' beliefs, knowledge, and experiences related to RRIs. Semi-structured interviews will be conducted with participants aged 18–59 residing in the Greater Malé region. Participants will be recruited using a convenience sampling approach. The interview guide will explore participants' perceptions about the causes of injuries, prevention strategies, and personal experiences with running-related injuries. All interviews will be audio-recorded, transcribed verbatim, and thematically analyzed using Braun and Clarke's six-phase framework. Thematic analysis aims to identify recurring patterns and unique insights, with a focus on any divergence between perceived and evidence-based risk factors. Themes are expected to reflect beliefs around training load, surface conditions, warm-up routines, footwear, and perceived inevitability of injuries. Findings will support the design of focused educational interventions to correct misinformation, promote safe running practices, and encourage adherence to evidence-informed prevention. By aligning prevention strategies with runners' viewpoints, this study aims to foster sustained participation in running, reduce the injury burden, and ease the pressure on public health systems in island communities, such as the Maldives. The outcomes will contribute to shaping community-level health promotion and injury prevention efforts grounded in local perspectives.

Keywords: *risk factors, running-related injuries, evidence-based prevention, running practices, recreational runners*

Sub-theme 3 : Merging Evidence-Based Research with Clinical Expertise and Patient Centred Care

7 Abstracts



Maldivian Adults' Beliefs About Low Back Pain Diagnosis and Management Strategies – A Qualitative Study

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Abstract

Low back pain (LBP) is a significant contributor to disability worldwide and remains a common reason for seeking healthcare. However, diagnostic and management strategies vary depending on healthcare systems, cultural beliefs, and regional practices. In the Maldivian context, there is limited research exploring how individuals experience and manage LBP, particularly from the perspective of those affected. This study aims to explore current management practices for low back pain in the Maldives and to understand patients' beliefs about its causes and the strategies used to address it. A qualitative phenomenographic design will guide the study, capturing the variations in participants lived experiences and conceptualizations of LBP. Participants aged 18–65 with a history of LBP and who are Maldivian adults will be recruited using purposive sampling. Data will be collected through individual semi-structured interviews, which will be audio-recorded, transcribed verbatim, and analysed using inductive thematic analysis. Two main areas will be examined: (1) how individuals interpret the cause and nature of their back pain and (2) the strategies they adopt or are prescribed for its management. This dual focus will allow the study to capture both personal beliefs and healthcare encounters. The findings are expected to provide valuable insights into the cultural, social, and healthcare factors that influence how low back pain (LBP) is understood and managed in the Maldivian setting. The study will also highlight any mismatches between patients' beliefs and clinical approaches, thereby identifying potential gaps in education and communication. Ultimately, the insights gained will inform the development of tailored educational interventions and community-based strategies to support evidence-informed and culturally sensitive management of back pain in the Maldives.

Keywords: *Back pain management, qualitative study, back pain beliefs, thematic analysis*

Sub-theme 3 : Merging Evidence-Based Research with Clinical Expertise and Patient Centred Care

A Comparative Synthesis of International Clinical Practice Guidelines for Low Back Pain

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Abstract

Low back pain (LBP) is a prevalent and persistent health issue that significantly contributes to global disability. In response to its widespread impact, numerous clinical practice guidelines (CPGs) have been developed to support evidence-based evaluation and management. These guidelines aim to standardize care and improve patient outcomes; however, variations exist across countries due to differences in healthcare infrastructure, resource availability, and cultural contexts. Therefore, synthesizing these guidelines is essential to inform adaptations that meet local needs. This study aimed to compare and synthesize key recommendations from leading international LBP guidelines, focusing on diagnosis, intervention, assessment, and prognosis. Guidelines included in the analysis were published by NICE (2016), ACP (2017), JOSPT (2012/2021), Australian Commission on Safety and Quality in Health Care (2021), and the WHO (2022). Two independent reviewers used a structured content analysis approach to extract and categorize key recommendations. The synthesis revealed consistent emphasis across guidelines on avoiding over-medicalization, discouraging routine imaging, and ruling out serious spinal pathology through red flag screening. All guidelines advocated for a biopsychosocial model of care, with patient education and physical activity promoted as first-line strategies. However, notable differences were observed in diagnostic classification systems, preferred assessment tools, and the structure of intervention pathways. For instance, some guidelines favoured specific subgrouping systems for non-specific LBP, while others emphasized individualized assessment. Surgical interventions were universally recommended only as a last resort. This comparative synthesis provides a consolidated evidence base that highlights both commonalities and differences in LBP management approaches. The findings can inform the development of localized clinical protocols and support future efforts to adapt international guidelines for use in resource-limited or culturally distinct healthcare settings such as the Maldives.

Keywords: *clinical practice guidelines, biopsychosocial, diagnostic criteria, prognosis, management strategies*

Management of Low Back Pain by Physiotherapists Practicing in the Maldives: A Mixed Methods Study

Mirufa Mohamed, Ammar Suhail
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Abstract

Low back pain (LBP) is a prevalent musculoskeletal condition frequently managed by physiotherapists. Given its multifactorial nature, physiotherapy interventions should be guided by contemporary evidence-based clinical practice guidelines. However, limited research exists on how physiotherapists in the Maldives manage back pain and whether their practices align with international recommendations. This study aims to investigate the current management strategies employed by Maldivian physiotherapists in treating back pain and to identify factors influencing their clinical decision-making. A convergent mixed-methods design will be used to gather both quantitative and qualitative data. Quantitative data will be collected through structured questionnaires targeting registered physiotherapists across the Maldives, using a census sampling approach. These questionnaires will capture details about assessment techniques, intervention choices, clinical reasoning processes, and patient demographics. Qualitative data will be collected through semi-structured interviews with a purposive sample of physiotherapists to explore their perspectives, experiences, and contextual influences on low back pain (LBP) management. Quantitative data will be analysed using SPSS to generate descriptive and inferential statistics, while qualitative data will undergo thematic analysis to identify recurring patterns and underlying themes. Triangulation of these data sources will enhance the credibility and depth of the findings. This study is expected to provide a comprehensive understanding of current physiotherapy practices for LBP in the Maldivian context. It will also evaluate how closely these practices align with evidence-based guidelines, particularly regarding the use of biopsychosocial approaches, patient education, and exercise prescription. Findings will inform policymakers, educators, and clinicians on how to enhance physiotherapy service delivery and align clinical practice with international standards. The study may also highlight training needs and systemic barriers, thereby contributing to the development of localized guidelines and professional development programs.

Keywords: *low back pain, evidence-based practice, management strategies, physiotherapists, clinical decision making*

Stroke Awareness for Early Detection and Prevention Among Young Adults

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Abstract

Stroke is often considered a condition that affects the elderly; however, it is now increasingly affecting young adults. The review aims to explore current knowledge and awareness of stroke symptoms, examining lifestyle behaviours that increase stroke risk and determining barriers that delay recognition and prevention action. Electronic databases comprising Google Scholar, PubMed, EBSCOhost, and HINARI were used for the study. Moreover, search terms and keywords contained "stroke awareness"," stroke knowledge", "young adult and stroke", "early detection of stroke", "stroke risk factor in young adults", "lifestyle and stroke prevention", "barrier to stroke recognition", and "nursing intervention for stroke prevention". Furthermore, the relevant information was collected from the articles published between 2019 to 2025. The results revealed a low level of knowledge regarding modifiable risk factors such as obesity, poor diet, sedentary lifestyle, and smoking. Many young adults also failed to recognize early signs such as facial drooping, arm weakness, and speech difficulties, which contribute to delay medical attention and worsened outcomes. Moreover, many young adults do not consider stroke as a personal health concern, leading to increased incidences of stroke. Furthermore, awareness campaigns are often not age-specific and fail to engage the younger population effectively. Additionally, cultural perceptions and misconceptions about stroke contribute to the underestimation of personal risk among this age group. Based on the findings, the review recommends the development of age-appropriate educational campaigns, the integration of stroke education into the academic setting, and further research into effective communication strategies. Enhancing stroke awareness in this age group is critical for reducing delays in diagnosis and improving prevention outcomes.

Keywords: *Stroke awareness, young adult, early detection*

Thalidomide's Revival: A Testament to the Potential of Drug Repurposing

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Abstract

Thalidomide is a racemic mixture composed of (R)-thalidomide, which has sedative effects, and (S)-thalidomide, which is teratogenic. It was introduced in 1956 by the German company Chemie Grünenthal as a non-barbiturate hypnotic and antiemetic and was widely used by pregnant women to treat morning sickness. Although initially considered safe, the U.S. FDA refused approval due to insufficient clinical evidence. By 1961, thalidomide was withdrawn worldwide after being linked to approximately 10,000 cases of birth defects and numerous stillbirths and miscarriages. Investigations later revealed that no clinical trials had been conducted on pregnant women before its release. This public health disaster led to significant reforms in pharmaceutical regulation, including mandatory clinical trials for vulnerable populations, and strengthening of drug safety monitoring practices. This study aims to highlight the importance of drug repurposing, using thalidomide as a case study to show how a drug once withdrawn can be reintroduced with new therapeutic indications. Method employed was, initial screening of 20 published articles, with 10 selected for detailed analysis regarding thalidomide's withdrawal and eventual repurposing. All reviewed articles confirmed thalidomide's initial withdrawal due to its teratogenic effects. However, it was revealed that after extensive research and clinical trials, the FDA re-approved thalidomide in 1998 for the treatment of multiple myeloma and erythema nodosum leprosum. The case of thalidomide highlights the potential of drug repurposing, even for medications previously withdrawn due to serious adverse effects. With rigorous scientific evaluation and regulatory control, such drugs can offer significant therapeutic value in new contexts, reinforcing the need for continual reassessment of known compounds in modern medicine.

Keywords: *Teratogenic, severe birth defects, drug repurposing, multiple myeloma and erythema nodosum leprosum*

The first Beta Blocker-propranolol (Repurpose)

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Abstract

Propranolol was introduced as a treatment for angina pectoris. Later, it was a repurposed drug for infantile hemangiomas. Propranolol exhibits a beneficial effect in the treatment of infantile hemangiomas. Propranolol helps to manage the illness by blocking the beta-adrenergic receptors and making blood vessels narrow and reducing the amount of the blood flowing. Because of this, it reduces the colour, makes them softer, and reduces their size. Starting in 2010, 30 patients (15 female) were referred for propranolol treatment of IH at 6 months. Propranolol dose was 2.8 mg/kg/day, with a mean duration of therapy for 12 months. Reduction in IH size and volume. It was a serendipitous finding as it accelerated healing of IH. More research provided evidence of its efficacy, with propranolol being recognized as the first-line medication for IH. In the beginning, oral propranolol starting from 1mg/kg/day was considered the optimal dosage. However, there were some adverse effects, such as bradycardia and hypoglycemia. Findings revealed that after serendipitous application of propranolol on IH infants, doctors have changed their idea about its treatment and use it as a first-line agent, and it provides good effects on patients. Based on the article and clinical usage, propranolol treatment was recommended to be started from 0.7-1.0 to 2.0-2.5 mg/kg/day in three divided doses at an interval of at least 3 days. First medication should be administered in a hospital to perform general status checks after intervention. Oral propranolol is regarded as the safest and most effective. However, adverse effects should not be ignored.

Keywords: *introduction and background (propranolol), serendipitous, molecular formula-c16 h21 no2, adverse drug reaction, studies to maintain dose*

Minoxidil as a Repurposing Drug for Hair Growth Stimulation

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Abstract

Minoxidil was initially introduced to the market as a treatment for hypertension. Over time, it was observed to have a stimulant effect on hair growth, which led to its topical application in dermatology as a repurposed drug. This side effect became the foundation for further research and the development of topical minoxidil formulations, particularly for treating various forms of alopecia, with a focus on androgenetic alopecia. Today, minoxidil is widely available as a hair growth agent in both prescription and over-the-counter products. Although its exact mechanism of action is not fully understood, it is believed to promote hair growth by extending the anagen (active growth) phase of the hair cycle. Minoxidil's ability to dilate blood vessels is believed to enhance blood flow to the scalp, which in turn improves nutrient supply to hair follicles and supports their activity. It is also thought to trigger ATP-sensitive potassium channels, which may contribute to follicle activation. Additionally, recent studies suggest that minoxidil may promote the growth of dermal papilla cells and boost the production of vascular endothelial growth factor (VEGF), both of which are linked to improved follicular health and increased hair growth. This review provides an in-depth analysis of minoxidil's pharmacological properties, clinical benefits, and the underlying biological processes that contribute to its role in promoting hair growth. It also covers key considerations such as safety, dosage guidelines, and various methods of administration. The shift in minoxidil's use, from a treatment for hypertension to a widely adopted therapy for hair loss, highlights the potential of repurposing established drugs for new therapeutic applications. Its effectiveness exemplifies how drug repositioning can offer accessible and practical solutions, particularly in areas like hair loss where targeted treatments are limited. This case supports the growing importance of drug repurposing as a forward-thinking strategy in pharmaceutical development.

Keywords: *minoxidil, drug repurposing, hair growth, androgenetic alopecia, topical therapy*

Sub-theme 4 : Interdisciplinary Insights on Social Dynamics, Human Development and Community Engagement

1 Abstract



Online Dispute Resolution: Bringing Revolutionary Changes to Settle E-Commerce Disputes

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Abstract

Globalization has evolved technology, expanding business transactions to be concluded regardless of the location. This transformation has created the need for a shift from alternative dispute resolution (ADR), a method previously known to be the best substitute for the traditional court system, to a new combined approach of online ADR and an online court system. Online Dispute Resolution or ODR is a justice reaching mechanism which leverage the advancement of technology, by creating a platform for internet consumers and buyers to reach an amicable solution for disputes that arise on the internet. Some of the internet-based resolution mechanisms are negotiation, mediation, and arbitration, where all the methods are carried out online. The aim of this paper is to provide the effectiveness of ODR, particularly focusing on redressing mechanism for e-commerce disputes between consumers and businesses. Applying a qualitative, doctrinal thesis approach through primary and secondary sources gathered by library-based and internet-based research, this paper discusses the implementation and application of ODR globally against the challenging odds. It was revealed that by streamlining ODR platforms, harmonizing ODR regulations and enforcing ODR decisions, the redressing mechanism of ODR can be structured better to produce an effective and productive outcome. The paper concludes with recommendations for the Maldives to further strengthen ODR and sustain a successful online redressing mechanism in reaching equitable justice.

Keywords: *online dispute resolution, alternative dispute resolution, E-ADR, digital justice, cyberjustice*

Sub-theme 5 : Innovative Strategies for Business and Organizational Management

1 Abstract



Examining the Relationship Between Emotional Intelligence and Leadership Effectiveness in Government Workplaces of Male' City, Maldives

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Abstract

Emotional intelligence (EI), which encompasses the ability to perceive, understand, manage, and use emotions effectively, has gained recognition as a potential predictor of successful leadership. Previous research has consistently shown that high EI is associated with more effective leadership among individuals in leadership positions. However, despite its growing relevance, little to no research has examined this relationship in the context of the Maldives, where effective workforce leadership is crucial for the country's national development. Thus, this study will examine the relationship between EI and leadership effectiveness within government workplaces in Malé, Maldives, determining whether higher EI levels in supervisors are associated with greater leadership effectiveness as perceived by their subordinates. A quantitative, non-experimental study design will be employed. The participants, will be selected using stratified random sampling, will be 20-30 supervisors and 100-150 of their respective subordinates who belong to public administration offices across the sectors of education, healthcare, and finance. Supervisors will complete a standardized EI test, while subordinates will evaluate their supervisor's leadership using a revised rating survey. Pearson's correlation will be utilized to assess the relationship between the EI scores and leadership ratings. It is expected that a significant correlation will be found, supporting the hypothesis that high emotional intelligence contributes to leadership effectiveness. The study's findings could inform future leadership development programs and public sector human resource policies in the Maldives, including recruitment, training, and promotion criteria. Despite limitations such as potential biases in subordinate ratings and its inability to establish causality, the research can offer valuable insights into some psychological factors that enhance workplace leadership outcomes in the context of underrepresented regional settings such as the Maldives.

Keywords: *emotional intelligence, leadership effectiveness, public sector, Maldives*

Sub-theme 6 : Merging Emerging Future Ready Technologies with Practical Applications

1 Abstract



Understanding Corrosion: Metals, Environments, and Prevention

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Abstract

Metallic corrosion is a key setback impacting the durability, integrity, and maintenance of metals in many industries. This literature review delves into the typical behaviour seen in metals, such as zinc, copper, stainless steel, aluminium, and carbon steel, when subjected to different environmental conditions such as atmospheric, marine, and industrial. These environments exhibit unique properties due to their distinct chemical and physical composition, affecting corrosion technique as well as the rate at which corrosion occurs. The review categorises common corrosion types observed in these environments including uniform, crevice, and more alongside factors like temperature, salinity, and pH levels. Readings revealed the metals showcasing resistance to corrosion to some extent, with some having a particularly high corrosion resistance in certain environments compared to others. This can be attributed to the protective mechanisms of such metals, whether it is the coating levels, compound alloying, or cathodic protection. High priority was placed to understand how these varying environmental conditions impact the degree of corrosion, with a clear focus on the types of corrosion seen in these individual settings. A thorough and comparative analysis revealed how marine and industrial environments were more detrimental to metals such as carbon steel and zinc, whereas copper alloys and stainless steel exhibit more resistance in most conditions. The paper also sheds light on effective measures to improve resistance to corrosion and explains the importance of selecting appropriate metals based on the type of environment. By referring to several studies conducted throughout the decades and the various observational data collected by experienced researchers, this review provides a brief yet thorough understanding of proper material selection and implementation of necessary corrosion prevention techniques in the field of engineering.

Keywords: *corrosion, environment, steel, galvanic, passivation*

Sub-theme 7 : Bridging Smart and Sustainable Innovations in the Built Environment with Practical Engineering Challenges

3 Abstracts



Flooding Risks in Malé, from the Past to Present

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Abstract

The capital city of the Maldives, Malé, suffers worse flooding incidents because of continuous urban growth combined with ineffective stormwater management systems, as well as changing sea levels related to climate change. Malé faces two types of flooding: heavy rainfall causes pluvial flooding, and rising sea levels, together with storm surges, result in coastal flooding. Coastal land development and seawall installation methods to protect beaches resulted in wave pattern changes but increased the amount of flooding in selected zones. Present-day flood zone maps contain errors that restrict proper identification of flood-prone areas, which creates planning difficulties for urban development and infrastructure installations. This is a grave setback to both long-term city planning and disaster preparedness. This study will review past and current flooding events in Malé and evaluate stormwater drainage system efficiency while monitoring how flood areas have changed through GIS mapping in the past ten years. It requires analysis of numerous studies about coastal flooding, pluvial flooding, and stormwater management techniques. In addition, the study will explore how unplanned urban expansion has further stressed the city's drainage capacity, making certain neighbourhoods especially vulnerable during extreme weather events. The integration of spatial data with historical flood records is expected to highlight priority areas for intervention. Studies show that Malé experiences rising flood risks because of a combination of effects from rising sea levels, urban development, and weak drainage network performance. They also show that land reclamation, together with artificial coastal development operations, modifies the natural wave patterns and water flow patterns, thereby causing severe flood events to occur in specific zones. The results of this study will provide informative knowledge that could be utilized in supporting climate-resilient urbanization and flood risk management in Malé, which will reduce the occurrence of floods.

Keywords: *Pluvial flooding, coastal flooding, stormwater management*

Salinity Gradient Energy Power Generation: A Review on Technologies, Challenges and Future Trends

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Abstract

Concerns over depleting fossil fuel reserves and the negative impact they have on the environment have led to an increased shift towards renewable and sustainable power generation. Salinity gradient energy (SGE) harvesting is one such approach that considers the usage of the ambient energy generated by the mixing of waters of differing concentration for the purpose of power generation. This study reviews existing literature to explore the current progress on SGE technologies, identifying current progress and challenges, before identifying trends in SGE technologies. Some of the technologies currently being explored for salinity gradient energy include pressure retarded osmosis (PRO), reverse electrodialysis (RED), capacitive mixing (CapMix), nanopore power generation (NPG), capacitive reversed-electrodialysis (CRED), nanofluidic and nanopore technologies, vapor pressure difference utilisation, hydrocratic generators, mechanochemical methods, membraneless hydro-voltaic cells, cryoscopic techniques, and various combinations of the above technologies. While previous pilot projects have faced challenges due to the lack of maturity of associated technologies, reduction of infrastructure and membrane costs have made the technology increasingly more economically feasible over recent years. Nevertheless, limitations of existing technologies and approaches limit the ability of existing technologies to fully maximise the energy harvested from the water sources. Future approaches may consider alternative approaches to overcome existing challenges, such as hybrid approaches to SGE harvesting. This review will aim to identify potential gaps and provide a direction for future research in the field.

Keywords: *salinity gradient energy, energy harvesting, power generation, blue energy, renewable energy*

The Shrinking Beach of N. Miladhoo: Exploring Causes and Consequences Through Community-Based Study

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Abstract

N. Miladhoo, one of the most populated islands in Noonu Atoll, Maldives has long been valued for its natural beaches. Bunberu Magu Beach, one of its natural features, was historically an important part of the local community, supported wildlife, and served as a buffer against coastal erosion. However, the beach's size has drastically decreased over the last 10 years. The significant shrinkage of Bunberu Magu Beach on N. Miladhoo is the subject of this study. The beach area, which was roughly 9,921m^2 in 2002, has significantly shrunk to 917.5m^2 in 2023, representing a worrying loss of 90.75%. The study seeks to determine the primary factors contributing to this concerning decrease and to investigate viable approaches for beach restoration and preservation. Data were gathered through questionnaires involving a sample of 38 residents, interviews, and available literature. All participants believed that the beach area had drastically decreased, pointing out the importance of the beach for the community's well-being by providing chances for social connections and psychological and physical advantages. Erosion (37%), climate change (31%), inappropriate waste disposal (20%), and harbour construction (12%) were shown to be the four main contributing reasons. It was discovered that human causes, like uncontrolled harbour expansion and coastal development, have worsened erosion and upset the beach's natural equilibrium. Climate change-induced sea-level rise has also made coastal degradation and flooding worse. The resilience of the beach is diminished by inappropriate waste management, which further deteriorates the coastal environment. According to the findings, better waste management, community involvement, climate coping strategies, and sustainable coastal design are all necessary to lessen the harm. For the island's sociocultural identity and ecological preservation, Miladhoo's surviving coastline environment must be preserved.

Keywords: *coastline preservation, beach preservation, beach degradation, climate change*

Sub-theme 8 : Exploring the balance between technological advancement and ethical considerations

1 Abstract



Sub-theme 8 : Exploring the balance between technological advancement and ethical considerations

A Study into Maldivian Users Awareness of Digital Privacy in the Cyberspace

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Abstract

There are more than 300,000 users with a fixed internet connection and more than 700,000 mobile subscriptions, likely with internet access, according to the Maldives Bureau of Statistics (2024). This indicates that most Maldivian users can access the internet, and their usage is not limited to financing, streaming content, and gaming. As a user, it is important to understand the privacy implications of these services when sailing cyberspace. This research concerns the awareness of digital privacy among Maldivians and identifies if they care about protecting their personal data. According to previous literature, users are concerned about their privacy being invaded, but little to no effort is made to protect it. According to a meta-analysis by Baruh et al. (2017), users were strongly concerned about risking their privacy when using online services and sharing personal information. According to McClain et al. (2023), most users mention that they worry about their data being used by companies and the government, and they lack knowledge of how their data is used. Paik et al. (2022) mention that users were not comfortable with invasive measures, such as receiving personal recommendations based on a grocery store visit and using drones or phone location data for public safety. However, some users prefer invasiveness regardless of the risks, as a study by Barth et al. (2019) mentions that applications that were categorized as "intrusive" were preferred over less intrusive alternatives, regardless of privacy risk and security knowledge. According to McClain et al. (2023), the data show that users are skeptical about whether their privacy measures matter despite being able to do so. The presented desk study represents the initial phase of the research that is to be conducted based on findings, with focus on the Maldives.

Keywords: *digital privacy, user data, Maldivians*

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