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SYSTEMATIC REVIEW

Elevating Physiotherapy: A Comprehensive Action Plan for Global Health and Sustainable Practices - A Systematic Review

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ABSTRACT

Physiotherapy, as a vital healthcare discipline, is increasingly recognized for its potential in addressing global health challenges and fostering sustainable practices. As the world grapples with the rising burden of diseases linked to sedentary lifestyles and environmental challenges, the role of physiotherapists has become increasingly critical. This research article aims to provide a comprehensive literature review, synthesizing current knowledge on the intersection of physiotherapy, global health, and sustainability. A systematic review of electronic databases (PubMed, Scopus, Cochrane Library) was conducted, focusing on articles published between 2010 and 2024. Keywords included "physiotherapy," "global health," and "sustainability." Articles were selected based on their relevance to the integration of physiotherapy into global health initiatives and sustainable practices. The synthesis of findings sets the stage for a holistic action plan that encompasses evidence-based interventions, community engagement strategies, technological integration, and environmentally responsible practices, positioning physiotherapy as a key player in the promotion of global health and sustainable healthcare systems. This literature review underscores the critical role of physiotherapy in preventing and managing noncommunicable diseases, advocating for sustainable practices, and actively participating in global health initiatives. Collaborating with other healthcare professionals, engaging in Community Based Rehabilitation (CBR) initiatives, and embracing the 3R method (reduce, reuse, recycle) are recommended to support responsible and sustainable physiotherapy practice. The integration of environmental considerations into physiotherapy education and practice is essential for a holistic and impactful global health approach.

Keywords: Physical Therapy; Global Health; SDGs

1 INTRODUCTION

Physiotherapy stands at the intersection of healthcare, global health, and sustainability, playing a pivotal role in enhancing physical well-being, preventing disabilities, and contributing to the overall health of individuals and communities worldwide¹. The evolving landscape of healthcare has underscored the importance of physiotherapy as an integral component in addressing contemporary health challenges, ranging from non-communicable diseases to musculoskeletal disorders and neurological conditions².

In recent years, the global health community has recognized the profound impact of physiotherapy not only in rehabilitation but also in promoting preventive measures and health promotion initiatives. As the world grapples with

the rising burden of diseases linked to sedentary lifestyles and environmental challenges, the role of physiotherapists has become increasingly critical. This research endeavors to delve into the literature, spanning from 2010 to 2024, to provide a comprehensive overview of the current state of physiotherapy in the context of global health and sustainable practices^{3,4}.

As we navigate the complexities of a rapidly changing world, it becomes imperative to explore how physiotherapy interventions can be optimized to meet the diverse needs of populations globally. From community engagement initiatives to embracing technological advancements, and incorporating sustainable practices into daily routines, this literature review aims to set the stage for an action plan that elevates physiotherapy to not only rehabilitate but also

proactively contribute to global health challenges while fostering environmental responsibility^{5,6}.

2 METHODS

A meticulous and systematic approach was employed to conduct this literature review, aiming to capture a comprehensive understanding of the intersection between physiotherapy, global health, and sustainable practices. The review process adhered to established guidelines for systematic reviews and meta-analyses, ensuring transparency, rigor, and reproducibility in the selection of relevant literature.

To identify pertinent studies, a thorough search was conducted across key electronic databases, including PubMed, Scopus, and Cochrane Library. The search spanned from 2010 to 2024, capturing recent advancements and trends within the field. The search strategy incorporated a combination of keywords, such as “physiotherapy,” “global health,” “sustainability,” and related terms, ensuring a broad yet focused retrieval of relevant articles.

Inclusion criteria comprised studies that specifically addressed the integration of physiotherapy into global health initiatives and sustainable practices. Articles were screened based on their relevance to the research questions, and duplicates were meticulously removed. The selection process involved a two-step approach, with an initial screening based on titles and abstracts followed by a detailed examination of full-text articles.

The selected articles underwent a thorough quality assessment to ensure the inclusion of robust and reliable evidence in this review. The appraisal process considered factors such as study design, sample size, methodology, and the credibility of findings. Studies meeting the inclusion criteria and passing the quality assessment were included in the final synthesis.

Data extraction was performed systematically, capturing key information from each selected study, including physiotherapy interventions employed, outcomes measured, and implications for global health and sustainability. The synthesis process involved a thematic analysis, categorizing findings into distinct themes and identifying patterns and gaps within the literature.

After a thorough literature review process, a total of 38 articles were deemed suitable for inclusion in the final synthesis. Initially, 1,200 articles were identified through database searches across PubMed, Scopus, and Cochrane Library. Following the removal of duplicates and screening based on titles and abstracts, 950 articles remained. Subsequently, after a detailed examination of their full texts, 912 articles were excluded due to various reasons such as lack of relevance, insufficient data, or methodological limitations. Therefore, out of the initially identified articles, 38 underwent a rigorous quality assessment and were ultimately included in the final synthesis.

3 RESULTS

The comprehensive literature review identified a diverse range of studies that shed light on the multifaceted role of physiotherapy in addressing global health challenges and fostering sustainable practices. The synthesis of these findings is organized into key themes, revealing the current state of physiotherapeutic interventions, community engagement initiatives, technological advancements, and environmental sustainability practices.

Physiotherapy Interventions for Global Health Challenges:

Numerous studies showcased the efficacy of physiotherapeutic interventions in addressing prevalent global health issues. Notably, interventions targeted non-communicable diseases, musculoskeletal disorders, and neurological conditions, demonstrating the versatility and adaptability of physiotherapy across diverse health contexts^{7,8}.

Research emphasized the effectiveness of physiotherapy in low- and middle-income countries, showcasing its potential impact on improving health outcomes in resource-constrained settings.

Community Engagement and Health Promotion:

Community-based physiotherapy programs emerged as a powerful tool for health promotion and disease prevention. These initiatives were shown to enhance community well-being, emphasizing the importance of a proactive, community-centered approach to physiotherapy practice⁹.

Strategies to augment community engagement through physiotherapy interventions were identified, providing insights into effective models for promoting health at the grassroots level.

Technology and Innovation in Physiotherapy:

Technological advancements in physiotherapy were explored, revealing a spectrum of digital health solutions and tele-rehabilitation strategies. These innovations not only increased accessibility to physiotherapy services but also demonstrated potential environmental benefits by reducing the need for physical travel¹⁰.

The reviewed literature highlighted the evolving role of technology in enhancing patient outcomes, fostering patient engagement, and contributing to the efficiency of physiotherapy interventions.

Environmental Sustainability in Physiotherapy Practice:

Addressing Electricity Consumption:

Incorporating daylight instead of artificial light emerged as a sustainable practice, aligning with global efforts to reduce energy consumption.

Switching off devices promptly, integrating solar power, and incorporating modalities such as cryotherapy, hydrotherapy, and contrast baths showcased strategies to minimize the environmental impact of physiotherapy practices¹.

Infection Control Strategies:

Proper sterilization of equipment post-use was consistently emphasized, underlining the significance of infection control in physiotherapy settings.

Avoiding the reuse of single-use items, such as electrodes, and appropriate waste disposal practices were identified as critical measures to reduce the environmental footprint of physiotherapy interventions¹¹.

These results collectively underscore the breadth and depth of physiotherapy's contributions to global health and sustainability. The synthesis of findings sets the stage for a holistic action plan that encompasses evidence-based interventions, community engagement strategies, technological integration, and environmentally responsible practices, positioning physiotherapy as a key player in the promotion of global health and sustainable healthcare systems.

4 DISCUSSION

The synthesis of literature reveals a nuanced understanding of the role physiotherapy plays in the realms of global health and sustainable practices. The multifaceted contributions of physiotherapy extend beyond rehabilitation, emerging as a dynamic force in preventive healthcare, community engagement, technological innovation, and environmental sustainability.

The effectiveness of physiotherapeutic interventions in addressing non-communicable diseases, musculoskeletal disorders, and neurological conditions aligns with the evolving landscape of global health challenges. These findings underscore the adaptability of physiotherapy across diverse health contexts, offering a promising avenue for addressing the rising burden of health conditions associated with modern lifestyles.

Community-based physiotherapy initiatives demonstrate the potential for transformative health outcomes at the grassroots level. By actively engaging communities, physiotherapists can contribute not only to individual health but also to the development of resilient and empowered communities. Strategies identified in the literature emphasize the importance of cultural competence and tailored interventions to maximize community impact.

The integration of technology into physiotherapy practice emerges as a key facilitator in improving accessibility and efficiency. Tele-rehabilitation and digital health solutions not only bridge geographical gaps but also align with sustainable practices by reducing the carbon footprint associated with travel. The discussion surrounding the ethical use of technology and considerations for inclusivity is crucial for

maximizing benefits without exacerbating existing health disparities.

The emphasis on sustainable practices within physiotherapy settings addresses critical concerns related to energy consumption, waste management, and infection control. Incorporating daylight, promptly switching off devices, integrating solar power, and utilizing eco-friendly modalities demonstrate a commitment to reducing the environmental impact of physiotherapy interventions. Strategies for proper waste disposal and minimizing single-use items align with broader global initiatives for responsible healthcare practices.

Physiotherapists, in collaboration with other healthcare professionals, can enhance patient care by adopting an interdisciplinary approach. This collaborative effort is particularly pertinent in the context of global health initiatives, where diverse perspectives contribute to comprehensive and culturally sensitive healthcare solutions. Physiotherapists advocating for and actively participating in global health initiatives further solidify their role as integral members of the healthcare team.

Engaging in CBR initiatives, as recommended by international trends, not only aligns with community-centered healthcare but also strengthens the resilience of healthcare systems. By actively involving communities in the design and implementation of rehabilitation programs, physiotherapists contribute to sustainable health outcomes and foster a sense of ownership and empowerment within the communities they serve.

The responsible use of resources, including electricity and water, aligns with sustainable and ethical physiotherapy practice. The adoption of the 3R method (reduce, reuse, recycle) reflects a commitment to minimizing environmental impact. This approach is not only environmentally responsible but also economically prudent, contributing to the overall sustainability of physiotherapy practice¹¹⁻¹⁴.

5 CONCLUSION

In conclusion, this comprehensive discussion positions physiotherapy as a transformative force in global health, advocating for preventive healthcare, community engagement, technological innovation, and environmental sustainability. The proposed action plan, rooted in evidence-based practices, sets a framework for physiotherapists to actively contribute to global health initiatives and promote sustainable healthcare practices. The evolving landscape of physiotherapy demands continued research, education, and collaboration to further refine and advance the profession's role in the pursuit of holistic and sustainable healthcare solutions.

Dean E et al at first physical therapy summit on global health concluded that Physical therapy interventions aim to avoid chronic illnesses connected to lifestyle choices and enhance health promotion.

Table 1:

Author and year	Title	Aim	Discussion	Results
Dean (2011)	E The First Physical Therapy Summit on Global Health: Implications and Recommendations for the 21st century	The First Physical Therapy Summit on Global Health aimed to envision entry-level education and research in the 21st century, taking into account epidemiological indicators and evidence-based noninvasive interventions.	The high costs of biomedical care and medications can prevent even highly invested nations from achieving ideal health outcomes and longevity.	Results conclude that it is important to maximize health for all clients since healthy people are less likely to get sick, recover from illnesses better, and respond better to treatment.
Dean (2014)	E The Second Physical Therapy Summit on Global Health: developing an action plan to promote health in daily practice and reduce the burden of non-communicable diseases	The Second Summit (2011) aims to identify themes for a global physical therapy action plan to integrate health promotion into practice across WCPT regions, based on indicators from The First Physical Therapy Summit on Global Health.	Summit representatives discussed: (1) within WCPT regions, highlighting both the successes and obstacles; and (2) identifying prospective avenues for application of the World Cafe™ methodology throughout WCPT regions	The WCPT regions and their member organizations might take into consideration an action plan template that was created, incorporating ideas from the Summit Day. The plan would incorporate health promotion into physical therapy practice.
Dean (2015)	E The third physical therapy summit on global health: health-based competencies.	The study reviews action plans for promoting health-based physiotherapy practice competencies and entry-level education across WCPT regions following the 2011 Summit.	The discussion will cover health-based physiotherapy tools and strategies, including health assessment tools and evidence-based interventions for health behavior change.	The results provide Evidence-informed tools which will guide risk factors assessment and interventions for multiple health behavior change.
Desmond Mathye, Sholena Narain (2019)	Do physiotherapists have a role to play in the Sustainable Development Goals? A qualitative exploration.	This study set out to comprehend the responsibilities that physiotherapists play in achieving the sustainable development goals SDG's.	Emphasis was placed on the following roles: (1) combating HIV/AIDS, TB, and other chronic lifestyle diseases; (2) enhancing maternal health; (3) lowering child mortality; (4) empowering women; and (5) achieving inclusive education for kids, including kids with disabilities.	The SDGs of improving maternal health, lowering child mortality, battling HIV/AIDS, tuberculosis, and other chronic lifestyle diseases, as well as promoting gender equality and women's empowerment, are all well within the purview of physiotherapist.
T Bury M Moffat (2014)	Physiotherapists have a vital part to play in combatting the burden of noncommunicable diseases.	This article's goal is to demonstrate the critical role that physiotherapists play in reducing the prevalence of noncommunicable diseases.	The leading four non-communicable diseases (NCDs) are highly regarded, all of which greatly benefit from the crucial role of physiotherapists in prevention and rehabilitation.	World Confederation for Physical Therapy (WCPT) plans to submit a policy statement on NCDs to its 106 member organizations for approval, emphasizing the crucial role of physiotherapists in health promotion and disease prevention.

It is important to maximize health for all clients since healthy people are less likely to get sick, recover from illnesses better, and respond better to treatment.

Dean E et al at second physical therapy summit on global health concluded that there was agreement among the participants that social, cultural, and economic conditions differ throughout regions and within countries. The WCPT regions and their member organizations might take into consideration an action plan template that was created, incorporating ideas from the Summit Day. The plan would incorporate health promotion into physical therapy practice.

Dean E et al at third physical therapy summit on global health concluded that the results provide evidence-informed tools which will guide risk factors assessment and interventions for multiple health behavior change.

Desmond Mathye, Sholena Narain et al concluded that the SDGs of improving maternal health, lowering child mortality, battling HIV/AIDS, tuberculosis, and other chronic lifestyle diseases, as well as promoting gender equality and women's empowerment, are all well within the purview of physiotherapists. In addition to helping the government with the current health resource crisis, physiotherapists play a significant role in tackling South Africa's quadruple burden of disease.

T Bury M Moffat et al concluded that World Confederation for Physical Therapy (WCPT) plans to submit a policy statement on NCDs to its 106 member organizations for approval, emphasizing the crucial role of physiotherapists in health promotion and disease prevention.

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