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HEALTH BEHAVIOUR CHANGE THEORIES: PROMOTIVE AND PREVENTIVE STRATEGIES

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Abstract: Cardiovascular diseases (CVD) are prevalent and lead to high morbidity and mortality globally. Physiotherapists regularly interact with patients with or at risk of CVDs (pwCVDs). This study aimed to assess the nature of existing evidence, interventional approaches used, and the population groups included in physiotherapy-led health promotion (PLHP) for pwCVDs. The scoping review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR) guidelines. Medline, PubMed, Web of Science, Cochrane Central Register of Controlled Trials, CINAHL, and PEDro databases were searched from inception until June 2023. Two reviewers independently screened the titles, abstracts, and full text and conducted data extraction. All conflicts were resolved with a third reviewer.

Key words: Cardiac rehabilitation, prevention, physiotherapy, health promotion.

Cardiovascular disease (CVD) includes all diseases that affect the cardiovascular system (the heart and blood vessels). CVD is the leading cause of disability and mortality globally [1] and accounts for the highest proportion (44%) of chronic non-communicable disease deaths annually [2] and 32% of all deaths globally [3,4]. CVDs are associated with severe social consequences, including reduced quality of life and economic growth, and consume many health service resources in developing and developed countries [5,6].

Annually, approximately 15 million people globally suffer a stroke [7], estimated to rise to 77 million by 2030 [8]. The cumulative risk of stroke recurrence at five years is 1.3%, and at ten years is 39.2% [9], with a higher death and disability rate associated with recurrent stroke [10]. Chronic non-communicable diseases are associated with multiple risk factors, including genetic and environmental factors, metabolic factors (hypertension, diabetes, abnormal lipids, obesity), and behavioural factors (tobacco use, unhealthy diet, physical inactivity) [11]. These risk factors are drivers of the global CVD epidemic [6,12]. A global study in 52 countries identified similar risk factors for heart diseases in low- and high-income countries [12]. However, over three-quarters of the global burden of CVD is from low- and middle-income countries (LMICs), with a rising incidence. The effectiveness of lifestyle changes and physical interventions is well established in the primary, secondary, and tertiary prevention of CVDs. Primary prevention aims to reduce the incidence of an index cardiovascular event, especially in at-risk people [4]. Secondary and tertiary prevention programmes are often provided at specialised cardiac rehabilitation centres and directed towards reducing the recurrence of cardiac events, restoring patients' quality of life, improving functional capacity, stress, and self-management techniques, and promoting a healthy lifestyle. There is evidence that cardiovascular mortality can be reduced and signs and symptoms of established CVD improved by addressing behavioural risk factors such as an unhealthy diet, physical inactivity, harmful use of alcohol, tobacco use, inadequate sleep, and poor stress management. Adopting these preventive strategies may reduce the incidence of heart disease [5].

Physiotherapists play a role in reducing risk and managing patients at risk or with established CVD (pwCVDs) [5]. Despite the substantial burden of CVDs and the evidence supporting cardiac rehabilitation in preventing and managing CVDs, many LMICs do not have existing structures and programmes promoting the prevention and rehabilitation of pwCVDs. Cardiac rehabilitation services

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are available in 80% of European countries, but only 17% of African countries. It is therefore important to scale up rehabilitation for pwCVDs in accordance with the WHO call for action "Rehabilitation 2023 [6]. Cardiac rehabilitation services are rare in LMICs for several reasons, including lack of personnel resources, competing priorities, affordability issues, and insurance coverage [6]. Physiotherapists in LMIC settings receive pwCVDs in their practice, providing an opportunity to provide cardiac rehabilitation-related interventions through health prevention and promotion. The contact time and frequent visits make them well-placed to provide physiotherapy-led health promotion (PLHP). PLHP refers to the approach within the field of physiotherapy that focuses on promoting overall health and well-being through education, lifestyle modification, and preventive strategies beyond acute care [7]. Both promotive and preventive strategies, such as health education and the use of exercise in disease prevention and management, are at the core of physiotherapy practice. Given the rising incidence of CVDs and the lack of cardiac rehabilitation services in LMICs, it is essential that physiotherapists from these countries are able to deliver health promotion strategies effectively given the lack of advanced treatment opportunities for these patients. However, no evidence exists to inform or enhance PLHP practice globally. A scoping review was used to identify and synthesise data on PHLP strategies and interventions in the literature and map existing evidence's characteristics without critically appraising the methodological quality. This review involved no direct contact with patients or healthcare professionals but reviewed and synthesised already-published data, and therefore was not subject to ethical approval. This review identified the nature of the evidence and the types of interventions used and implemented by physiotherapists for pwCVDs within their scope of practice. This involved opportunistic advice, discussions, encouragement, and strategies that physiotherapists are able to use for disease prevention and health promotion within their profession in addition to their therapeutic role. While health promotion and therapeutic interventions are within the scope of physiotherapy practice, much attention has not been given to physiotherapy health promotion globally. This is the first review explicitly exploring PLHP for pwCVDs globally, providing an opportunity for discussion and future research in this area. No grey literature was found, and all included studies were published between 2012 and 2023. Given that there were no restrictions in the search period, this is a small volume of literature. This could be explained in two ways. Firstly, the inclusion was based on physiotherapists leading or implementing the intervention, focusing on primary and secondary prevention of CVDs to heart disease risk factors. Based on this criterion, many studies were excluded as not physiotherapist led (n = 60). Secondly, earlier attention to physiotherapists' interventions was directed towards therapeutic and curative treatment rather than prevention. Over the last two decades, physiotherapy preventive roles have been increasing with the rising burden of CVDS[7]. This aligns with the global call for physiotherapists to contribute to preventing lifestyle-related conditions.The increasing trend in research output indicates that more evidence will emerge in the coming years as physiotherapists gain skills and autonomy in leading prevention programmes. Currently, most studies have emerged from Europe (55%), with no studies from the African continent. Given the vast burden of CVDs in African countries with unique ethnic, cultural, and context-specific determinants[10] and the lack of CR programmes on this continent [9], it is essential to see more research investigating PLHP for pwCVDs in African countries to facilitate effective preventive interventions. Only two studies (10%) from LMICs were included in this review, and both were supported with research funding. Generally, PLHP research may be difficult to realise in LMIC settings due to a lack of research priorities, funding problems, and a lack of infrastructure and researchers with relevant skills. Addressing funding issues by budgeting for the prevention of NCDs in LMICs, among other potential barriers, may contribute positively to data generation for pwCVDs in low-resource settings. Many of the included studies were RCTs

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(60%), followed by different quasi-experimental designs (35%). The available data provides an opportunity for follow-up studies, such as a systematic review of effectiveness. This is necessary to determine whether PLHPs are effective for wider-scale adoption. No qualitative work on PLHP was identified, and there is a gap in our understanding of patient perceptions and experiences of PLHP approaches. More research is necessary for designing and implementing PLHP in the future.

Diverse interventional approaches have been used in PLHP for pwCVDs. CVD PLHP interventions are likely to be complex, and therefore require a multimodal approach, due to different populations, multiple risk factors for CVD, and non-adherence to recommendations for managing these risk factors[12]. This review included studies focused mainly on exercise and physical activity uptake, weight management, and diet. Other components of health promotion for pwCVDs, such as sleep hygiene, smoking cessation, and alcohol abuse, among others, were not reported. These components are within the scope of physiotherapists, and it is necessary that physiotherapists receive adequate training that can enable them to confidently tackle the multiple risk factors associated with CVD. Qualified physiotherapists should be familiar with assessment tools related to general health measures, lifestyle-related behaviours, and NCD risk factors in general, including how to assess self-efficacy for behaviour change and readiness to change a lifestyle behavior[11]. This should include counselling skills and the use of behaviour change strategies for specific populations. Physiotherapists should work in synergy with other health professions, making appropriate referrals and identifying relevant resources to improve outcomes.

Three studies employed theory-based behaviour change models supported by evidence-based behaviour change techniques such as motivational interviewing to inform and complement their interventions. These behaviour change theories and techniques were adopted in more recent studies published between 2015 and 2023. This indicates an increased understanding of the importance of including behaviour change techniques and theories for effective health education to strengthen patients' motivation and adherence during and beyond the active rehabilitation period. More rigorous, theoretically informed approaches to support behaviour change for pwCVDs should be included in intervention strategies that facilitate change in lifestyle risk factors. This is also necessary in clinical practice and should be integrated into physiotherapy training [12]. In delivering broad health promotion strategies for pwCVDs, physiotherapists need to receive broader training in addressing these risk factors.

Based on the literature, physiotherapists are trying to address the growing burden of CVDs through various PLHP strategies. PLHP strategies are focused on exercise and physical activity, and there is a need to tackle CVD beyond addressing sedentary behaviour, considering the multiple risk factors. Assessing the risks and needs, tailoring the interventions to individuals, and monitoring appear central and consistent with practical preventive principles and strategies. It is crucial that physiotherapists work together with other healthcare professionals to optimise relevant components of health promotion effectively. Health behaviour change theories and techniques should be commonly used to support positive health behaviour change, and it may be necessary to provide comprehensive training to integrate lifestyle management approaches in physiotherapy practice. This is even more compelling for physiotherapy practice in Africa and LMICs with huge CVD burdens. Further study is needed to elucidate the effectiveness of existing PLHP interventions for pwCVDs.

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References:

1. Piepoli, M.F.; Hoes, A.W.; Agewall, S.; Albus, C.; Brotons, C.; Catapano, A.L.; Cooney, M.-T.; Corrà, U.; Cosyns, B.; Deaton, C.; et al. 2016 European Guidelines on cardiovascular disease prevention in clinical practiceThe Sixth Joint Task Force of the European Society of Cardiology and Other Societies on Cardiovascular Disease Prevention in Clinical Practice (constituted by representatives of 10 societies and by invited experts) Developed with the special contribution of the European Association for Cardiovascular Prevention & Rehabilitation (EACPR). Eur. Heart J. 2016, 37, 2315–2381.
2. Non Communicable Diseases. Available online: https://www.who.int/news-room/fact-sheets/detail/noncommunicable-diseases (accessed on 19 July 2021).
3. Tulu, S.N.; Al Salmi, N.; Jones, J. Understanding cardiovascular disease in day-to-day living for African people: A qualitative metasynthesis. BMC Public Health 2021, 21, 745.
4. Cardiovascular Diseases (CVDs). Available online: https://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-(cvds) (accessed on 21 November 2021).
5. Gaziano, T.A. Reducing the Growing Burden of Cardiovascular Disease in The Developing World. Health Aff. 2007, *26*, 13–24.
6. O'Donnell, M.J.; Chin, S.L.; Rangarajan, S.; Xavier, D.; Liu, L.; Zhang, H.; Rao-Melacini, P.; Zhang, X.; Pais, P.; Agapay, S.; et al. Global and regional effects of potentially modifiable risk factors associated with acute stroke in 32 countries (INTERSTROKE): A case-control study. Lancet 2016, *388*, 761–775.
7. Feigin, V.L.; Roth, G.A.; Naghavi, M.; Parmar, P.; Krishnamurthi, R.; Chugh, S.; Mensah, G.A.; Norrving, B.; Shiue, I.; Ng, M.; et al. Global burden of stroke and risk factors in 188 countries, during 1990–2013: A systematic analysis for the Global Burden of Disease Study 2013. Lancet Neurol. 2016, 15, 913–924.
8. Strong, K.; Mathers, C.; Bonita, R. Preventing stroke: Saving lives around the world. Lancet Neurol. 2007, *6*, 182–187.
9. Mohan, K.M.; Wolfe, C.D.A.; Rudd, A.G.; Heuschmann, P.U.; Kolominsky-Rabas, P.L.; Grieve, A.P. Risk and Cumulative Risk of Stroke Recurrence: A Systematic Review and Meta-Analysis. Stroke 2011, *42*, 1489–1494.
10. Dhamoon, M.S.; Sciacca, R.R.; Rundek, T.; Sacco, R.L.; Elkind, M.S.V. Recurrent stroke and cardiac risks after first ischemic stroke: The Northern Manhattan Study. Neurology 2006, 66, 641–646.
11. Ruan, Y.; Guo, Y.; Zheng, Y.; Huang, Z.; Sun, S.; Kowal, P.; Shi, Y.; Wu, F. Cardiovascular disease (CVD) and associated risk factors among older adults in six low-and middle-income countries: Results from SAGE Wave 1. BMC Public Health 2018, *18*, 778.
12. Yusuf, S.; Hawken, S.; Ôunpuu, S.; Dans, T.; Avezum, A.; Lanas, F.; McQueen, M.; Budaj, A.; Pais, P.; Varigos, J.; et al. Effect of potentially modifiable risk factors associated with myocardial infarction in 52 countries (the INTERHEART study): Case-control study. Lancet 2004, *364*, 937–952.