



**BEHAVIOUR CHANGE FRAMEWORKS FOR HEALTH PROMOTION AND  
DISEASE PREVENTION.**

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**Abstract:** Health behaviour change remains a critical component of global efforts to prevent and control noncommunicable diseases, particularly cardiovascular disease (CVD). This literature review explores the theoretical foundations and practical applications of major behaviour change models—such as the Health Belief Model, Theory of Planned Behaviour, Transtheoretical Model, Social Cognitive Theory, and Self-Determination Theory—in health promotion and disease prevention. Evidence demonstrates that interventions grounded in these frameworks effectively improve modifiable risk factors, including physical inactivity, unhealthy diet, tobacco use, alcohol misuse, stress, and poor adherence to medical therapy. In secondary and tertiary prevention, especially within cardiac rehabilitation, theory-based behavioural strategies enhance functional recovery, reduce recurrence, and improve long-term outcomes. Moreover, emerging technologies such as digital health platforms and AI-driven monitoring tools are expanding the reach and personalization of behaviour change interventions. Despite progress, challenges persist in translating theoretical models into sustained lifestyle modification, addressing socioeconomic barriers, and integrating behavioural science within clinical settings. Overall, this review highlights the pivotal role of behaviour change theories in promoting healthy lifestyles, preventing disease progression, and supporting global public health goals.

**Key words:** Physiotherapists, rehabilitation, prevention, lifestyle, cardiovascular disease

Physiotherapists play a vital role in reducing cardiovascular risk and managing patients with or at risk of cardiovascular diseases (pwCVDs). Despite the significant global burden of CVDs and strong evidence supporting cardiac rehabilitation in both prevention and management, many low- and middle-income countries (LMICs) still lack established frameworks or programmes for cardiovascular prevention and rehabilitation. While cardiac rehabilitation services are available in approximately 80% of European countries, only about 17% of African nations offer such services. This gap highlights the urgent need to expand rehabilitation opportunities for pwCVDs in line with the World Health Organization’s “Rehabilitation 2023” initiative. Limited cardiac rehabilitation availability in LMICs is attributed to factors such as workforce shortages, competing health priorities, financial constraints, and insufficient insurance coverage. Nonetheless, physiotherapists in these regions frequently treat pwCVDs, positioning them well to integrate cardiac rehabilitation-related interventions through health promotion and disease prevention strategies. Because physiotherapists often have prolonged and repeated contact with patients, they are ideally placed to deliver physiotherapy-led health promotion (PLHP). PLHP refers to a physiotherapy approach that emphasizes education, lifestyle modification, and preventive measures beyond conventional acute care. Health education, exercise prescription, and behavioural modification strategies form the foundation of physiotherapy practice. Given the increasing prevalence of CVDs and the scarcity of rehabilitation services in LMICs, it is crucial that physiotherapists in these settings effectively implement health promotion strategies to compensate for limited advanced treatment options. However, current evidence to guide or strengthen PLHP practice worldwide remains scarce. To address this gap, a scoping review was



conducted to identify and synthesize existing literature on PLHP strategies and interventions, mapping the characteristics of available evidence without assessing methodological quality. This review used only published data and involved no direct contact with patients or clinicians, thus requiring no ethical approval. Findings revealed the types of interventions physiotherapists deliver within their scope of practice for pwCVDs, including opportunistic advice, patient discussions, encouragement, and health-promoting strategies complementing therapeutic interventions. Although both therapeutic and preventive roles are inherent to physiotherapy, health promotion has received limited emphasis globally. This review represents the first systematic exploration of PLHP for pwCVDs worldwide, offering a foundation for discussion and future research. The search identified no grey literature, and all included studies were published between 2012 and 2023—a relatively small body of work given the absence of publication date restrictions. This limited volume likely reflects two factors: first, inclusion criteria required physiotherapist-led interventions focused on primary or secondary CVD prevention, resulting in the exclusion of many studies not led by physiotherapists ( $n=60$ ); and second, the historical focus of physiotherapy research on curative rather than preventive care. In recent decades, however, the preventive role of physiotherapists has expanded alongside the growing burden of CVDs, aligning with international calls for the profession to help combat lifestyle-related conditions. The upward trend in research output suggests a growing evidence base as physiotherapists gain greater autonomy and expertise in preventive care. Most studies identified originated from Europe (55%), with none from Africa. Given the high prevalence of CVDs in African populations—shaped by unique ethnic, cultural, and contextual factors—and the absence of cardiac rehabilitation programmes in many African countries, there is an urgent need for PLHP-focused research on this continent. Only two studies (10%) from LMICs were identified, both supported by external research funding. The scarcity of PLHP research in LMICs likely stems from limited research funding, competing national priorities, inadequate infrastructure, and a shortage of trained researchers. Addressing these barriers, particularly by allocating budgets for NCD prevention, could support evidence generation for pwCVDs in low-resource contexts. Among the included studies, 60% were randomized controlled trials (RCTs), while 35% used quasi-experimental designs. These findings highlight opportunities for future systematic reviews assessing PLHP effectiveness for large-scale implementation. Notably, no qualitative studies were found, indicating a gap in understanding patient experiences and perceptions of PLHP. Further qualitative and mixed-methods research is therefore needed to inform the design and implementation of physiotherapy-led health promotion initiatives in the future. Physiotherapists play an increasingly important role in reducing cardiovascular risk and managing patients with or at risk of cardiovascular diseases (pwCVDs). Despite the heavy burden of CVDs globally and the proven benefits of cardiac rehabilitation, many low- and middle-income countries (LMICs) still lack structured rehabilitation and preventive programmes. While approximately 80% of European countries provide cardiac rehabilitation services, only about 17% of African nations do so. This disparity underscores the urgent need to strengthen rehabilitation systems in line with the World Health Organization’s “Rehabilitation 2023” initiative. Barriers to establishing cardiac rehabilitation in LMICs include workforce shortages, competing health priorities, limited financial resources, and insufficient insurance coverage. Nevertheless, physiotherapists in these settings frequently engage with pwCVDs, offering valuable opportunities to incorporate health promotion and preventive interventions into their practice. Their frequent and extended contact with patients makes physiotherapists ideally positioned to deliver an approach emphasizing education, exercise, and lifestyle modification



beyond traditional therapeutic care. Given the rising incidence of CVDs and the shortage of rehabilitation infrastructure in LMICs, physiotherapists must be equipped to deliver effective health promotion interventions. However, global evidence supporting PLHP remains limited. To address this gap, a scoping review was conducted to identify and map existing literature on physiotherapy-led health promotion for pwCVDs. The review synthesized published studies without methodological appraisal, as no direct patient contact occurred and ethical approval was therefore not required.

The analysis revealed that physiotherapists currently employ a range of opportunistic health promotion strategies—such as patient education, motivational discussions, behavioural encouragement, and lifestyle counselling—within their clinical scope. Despite health promotion being part of physiotherapy practice, it has historically received limited attention. This review represents the first global synthesis exploring PLHP for pwCVDs, providing a foundation for further discussion and research development.

No grey literature was identified, and all included studies were published between 2012 and 2023. The small number of eligible studies may be due to the focus on physiotherapist-led interventions and the historical emphasis of physiotherapy on curative rather than preventive care. Encouragingly, research on preventive physiotherapy has increased over the past two decades, reflecting a global shift toward proactive approaches to lifestyle-related diseases. Most studies originated from Europe (55%), with none from Africa, despite the region's high CVD burden and lack of cardiac rehabilitation programmes. Only two studies (10%) were conducted in LMICs, both externally funded. Research challenges in LMICs include limited funding, insufficient research infrastructure, and a shortage of skilled investigators. Prioritising national funding for NCD prevention could improve data generation and programme implementation in these regions. Among the included studies, 60% were randomized controlled trials and 35% were quasi-experimental designs, indicating growing research rigour in this emerging field. However, the absence of qualitative research leaves a gap in understanding patients' experiences and perceptions of PLHP. Future research should therefore combine quantitative and qualitative approaches to evaluate effectiveness, feasibility, and cultural adaptability of physiotherapy-led health promotion interventions globally.

In summary, physiotherapists are strategically positioned to contribute to CVD prevention and rehabilitation through integrated health promotion practices. Strengthening PLHP within physiotherapy education, research, and policy frameworks could significantly enhance global cardiovascular health outcomes—particularly in resource-limited settings.

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