

## REVIEW

# A health and lifestyle framework: An evidence-informed basis for contemporary physical therapist clinical practice guidelines with special reference to individuals with heart failure

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## Abstract

**Background and purpose:** This study proposes contemporary physical therapist clinical practice guidelines (CPGs) with special reference to heart failure (HF) be grounded in an evidence-informed integrative health and lifestyle framework to not only better reflect the totality and weighting of the literature, but also in the interest of superior patient, clinical, and economic outcomes.

**Methods:** As an illustration, a health and lifestyle framework is described to underpin, thereby complement, recently published physical therapist CPGs for individuals with HF.

**Results:** The case for the framework, an alternative to a single-disease biomedical perspective, is consistent with 21st century professional and epidemiologic indicators. Four themes that emerged from the HF CPGs and further support such a framework, emerged that is, limitations of conventionally constructed CPGs; physical therapists' scope of practice as "health" professionals; "best" practice in an era of NCDs including HF; and superior economic benefit.

**Discussion:** A health and lifestyle framework underpinning contemporary physical therapist CPGs will enable clinicians to better appreciate the power of lifestyle change in maximizing the health of the heart, its healing and repair, and in mitigating and reversing signs and symptoms of cardiac dysfunction. Further, a focus on health and lifestyle will augment the benefits of the core, evidence-based, key action statements related to exercise in the HF CPGs.

## KEYWORDS

evidence based practice, health promotion, physiotherapy

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## 1 | INTRODUCTION

Clinical practice guidelines (CPGs) have emerged to inform evidence-based healthcare including physical therapist practice. This study argues for CPGs grounded in an evidence-informed integrative health and lifestyle framework to not only better reflect the totality and weighting of the literature and epidemiologic indicators, but also in the interest of superior patient, clinical, and economic outcomes.

To illustrate how a health and lifestyle framework can serve as a foundation for physical therapist CPGs, the example of heart failure (HF) is used. This example is based on two recently published articles related to CPGs for physical therapist practice in the management of individuals with HF; specifically, "Physical Therapist CPG for the Management of Individuals with Heart Failure" (Shoemaker et al., 2020) and "A Knowledge Translation Framework for Optimizing Physical Therapy in Patients with Heart Failure" (Dias et al., 2021); hereafter referred to as the CPG article and KT (knowledge translation) article.

In making the case for a health and lifestyle framework consistent with 21<sup>st</sup> century indicators, its basis and structure are first described. Then, four themes that emerged from the two recently published CPG and KT articles related to HF are explicated that is, limitations of conventionally constructed CPGs; physical therapists' scope of practice as "health" professionals; "best" practice in an era of noncommunicable diseases (NCDs) including HF; and superior economic benefit. These themes strengthen support for an evidence-informed health and lifestyle framework to underpin CPGs for managing individuals with HF.

## 2 | HEALTH AND LIFESTYLE AS A BASIS FOR A FRAMEWORK FOR PHYSICAL THERAPIST CPGs

Several initiatives within the profession support a health and lifestyle framework to underpin physical therapy practice including CPGs. Initially, three physical therapy summits on global health and a satellite convened physical therapists from around the world to reflect on their role in addressing global health priorities, specifically, lifestyle-related NCDs (Dean et al., 2011). In turn, participant stakeholders who were representatives from the five World Physiotherapy regions, were commissioned to develop action plans to address lifestyle-related NCDs (Dean et al., 2014a). A third summit and satellite focused on and proposed minimum standards for health competencies that could be readily integrated into contemporary physical therapist practice (Dean et al., 2019). Across summits and satellite, participants supported the International Classification of Functioning, Disability and Health (ICF; World Health Organization (WHO), 2002) which has been endorsed by World Physiotherapy (2021a) (formerly the World Confederation for Physical Therapy, 2021a, 2021b), in turn, the WHO definition of health (2021), "health is a state of complete physical, mental and social wellbeing." Further, World Physiotherapy has long promoted "health

promotion, disease prevention (World Physiotherapy, 2021b), thus health promotion and disease prevention have been an increasing focus of physical therapist practice, education, scholarship, and research (Bodner et al., 2012; Lein et al., 2017; Magnusson et al., 2020).

Other trends supporting best practice through a health and lifestyle orientation to practice have been growing emphasis on person-centered care, behavioral medicine, and evidence-based practice within the profession (Sandborgh et al., 2018). These trends have necessitated shifting from traditional reductionistic biomedical ways of thinking and approaches, toward holistic care that incorporates health and health promotion as well as disease prevention and management. Health promotion through risk prevention has been well supported within the profession. The action statements subsumed within the proposed health and lifestyle framework and integrated into those of the CPG and KT articles reflect the leading established risk factors for NCDs, in this case HF (Harvard Special Heart Report, 2016; Yusuf et al., 2004).

Given their common lifestyle-related etiologies, NCDs can be conceived of as largely as the same "dis-ease." They typically result from common multifactorial lifestyle practices, yet can manifest distinctly as one or more of hypertension, blood sugar disturbance such as type 2 diabetes mellitus, metabolic syndrome, stroke, obesity, cancer, as well as cardiovascular disease. Further, lifestyle behavior change to address one of these conditions, generally reduces risk or lessens manifestations of the others (McCullough et al., 2000a, 2000b; van der Wal et al., 2017; Estlin et al., 2021).

Based on these professional and epidemiological indicators, a health and lifestyle framework for CPGs with special reference to HF is outlined in the Appendix (Supporting Information S1), with requisite evidence-based positive lifestyle behavior change goals including not smoking; whole-food plant-based nutrition; healthy body weight; moderate alcohol use, if any; limited sedentariness; regular/frequent activity and exercise (the latter two being well addressed in the CPG and KIT articles); sleep hygiene; and stress management (World Health Organization, 2013). In addition, evidence supporting the effect of adverse lifestyle practices on heart health and supporting effective lifestyle behavior change is cited.

Nutrition warrants particular attention by all health professionals today given poor quality nutrition and diets largely contribute to lifestyle-related NCDs and cost of health systems (Scarborough et al., 2011). Nutritional assessment and intervention have been advocated for physical therapists (Berner et al., 2021a, 2021b; Morris et al., 2009). The role of physical therapists in nutritional counselling is taken a step farther in Japan. They view nutrition as an essential element of rehabilitation more like western physical therapists might do so when training athletes, that is, not only related to muscle mass, physical performance and activities of daily living but also these attributes are important indicators of nutrition (Inoue et al., 2021). As aptly observed by Malhotra et al. (2015).

Lifestyle-related HF is significantly more prevalent than causes such as valvular, viral, familial, and idiopathic cardiomyopathies (Centers for Disease Control and Prevention Heart Disease – Heart

Failure, 2021). Lifestyle-related conditions and risk factors that are largely responsible for HF include coronary artery disease (CAD) most commonly, high blood pressure, diabetes, and obesity; and lifestyle risk factors include smoking tobacco, consuming foods/edible products that are high in fat, cholesterol, sugar, and sodium, insufficient physical activity, and excessive alcohol intake (American Heart Association, 2021a, 2021b; Centers for Disease Control and Prevention. Heart Disease – Heart Failure, 2021). Irrespective of the causes of HF or its contributing factors, adhering to healthy living practices improves overall health, reduces the risk of a range of lifestyle-related morbidities, maximizes heart health through optimizing healing and repair of the heart and cardiovascular system as a whole.

### 3 | THEMES EMERGING FROM THE CPG AND KT ARTICLES FURTHER SUPPORTING A HEALTH AND LIFESTYLE FRAMEWORK AS A FOUNDATION FOR PHYSICAL THERAPIST CPGs

The CPG and KT articles alluded to and raised several issues in support of CPGs for individuals with HF. We have subsumed key issues into four themes that lend further support for integrating a health and lifestyle framework into physical therapist CPGs, specifically those for individuals with HF.

#### 3.1 | Limitations of conventionally constructed CPGs

Given RCTs are viewed as having a high degree of experimental rigor and validity, RCT evidence is the focus of the CPG and KT articles related to rehabilitating patients with HF. First, HF is not so much a diagnosis as an “effect,” as described above, resulting from one or more causes or contributing factors (Hyman et al., 2009). The contributing factors of HF for a given individual and its causes need to be identified and be the focus of comprehensive person-centered, evidence-driven management. Although assessment and consideration of multi-morbidity is addressed in the KT article, mention that lifestyle factors may need to be addressed as a priority even before exercise and management of other morbidities, is not emphasized. The single-disease or condition framework is considered no longer tenable given the clustering of NCD risk factors and manifestations (Barnett et al., 2012; Buck & Frosini, 2012; Centers for Disease Control: Comorbidities, 2021) which has implications for managing HF and its being holistic and comprehensive.

Second, related to its prevalence in individuals with HF, multi-morbidity often contaminates RCTs, thus necessitates participant exclusion. Patients with various complexities are often excluded to homogenize patient groups. Many rigorous studies cited in the CPG article are stringently controlled yet, in reality, most patients with HF have multimorbidity which is alluded to in the KT article. This

needs to be the focus of assessment and considered when prescribing health and lifestyle education in conjunction with physical activity and exercise. In addition, other underlying conditions are often being managed, effectively or not, with medication; lifestyle changes; or both.

Given simple lifestyle changes can reverse many prevalent chronic diseases including mitigating even severe heart disease (Greger, 2015; Ornish & Ornish, 2021), appropriately, chronic disease management is one of the nine key action statements in the CPG article, strength of evidence A (strong). Nonetheless, as essential as it is in the management of HF, the critically important construct of chronic disease management is under-described and under-developed in both the CPG and KT articles (see sub-heading Best Practice in an Era of Non-communicable Diseases Including Heart Failure).

Positive lifestyle practices have been unequivocally associated with heart health (e.g., not smoking; whole-food plant-based nutrition; healthy weight; moderate alcohol use, if any; limited sedentariness, physical activity, and exercise; optimal sleep; and stress management; Harvard Medical School Special Health Report, 2016). Conversely, negative practices compromise heart health (Harvard Medical School Special Health Report, 2017).

Critically evaluating lifestyle practices and their interactions that impact HF, individually and combined, using RCTs, is ethically less defensible than for activity/exercise. Exercise programs can be assigned to the experimental group, whereas getting patients to start smoking, eating an unhealthy diet, being subjected to sleep deprivation or stress, would not be considered ethical. Therefore, scientists and clinicians have relied on cross sectional, observational, physiological, and case studies which are weighted less heavily on the evidence pyramid (Sackett et al., 2000), despite highly reproducible findings regarding the unequivocal relationship between NCDs and lifestyle practices. The congruence of evidence related to healthy lifestyle practices and heart health is unequivocal after several decades of accumulated evidence, thus, warrants being weighted as highly as RCTs.

With respect to the CPG and KT articles, whether explicit attention to health and risk factor reduction including smoking; sedentarism being distinct from physical inactivity (Dempsey et al., 2014; Healy et al., 2008; Jakes et al., 2003); sub-optimal nutrition beyond blood pressure management; sleep deprivation; and unmanageable stress, were under-developed and under-addressed because of either lack of RCT evidence or oversight, is unclear. As mentioned, chronic disease management is referred to in the two PTJ articles and it does constitute an action statement (Dias et al., 2021; Shoemaker et al., 2020; Box 1). However, what is specifically included with respect to cardiac risk factors is unclear, daily weight is mentioned in relation to fluid assessment and “following a nutritional plan” for what appears to be largely a focus on blood pressure control versus heart health and general health. Physical therapists were encouraged to be involved with nutritional education as well as refer as needed to nutritionists, but what the former entails was unclear.

**BOX 1 Key action statement 2**

Physical therapists must educate on and facilitate components of chronic disease management behaviors to reduce the risk of hospital readmission. These measures include on daily weight management, signs and symptoms of an exacerbation, nutrition, and medication management/medication reconciliation. Evidence quality 1. Recommendation Strength: A—Strong (Source: Shoemaker et al., 2020).

In the two HF-related CPG articles, attention to nutrition appears selective given that other critically important lifestyle factors were conspicuously absent that is, smoking, lack of heart-protective nutritional quality, overweight (other than that associated with fluid retention), alcohol use, sedentarism, poor sleep, and unmanageable stress. Given how central these lifestyle practices are to heart health, disease mitigation and reversal in some cases (Esselstyn et al., 1995, 2014), the health and lifestyle framework complementing the CPG for HF, focuses on the multi-factorial underpinnings of heart disease and failure.

### 3.2 | Physical therapists' scope of practice as "health" professionals

Over their 100-year history, physical therapists have been committed to maximizing people's functional capacity and health-related quality of life. With mounting evidence, the scope of factors that influence these has expanded to include the construct of health, in turn, lifestyle practices, and related health and lifestyle education. This is reflected in the profession's endorsement of the International Classification of Function, Disability and Health (Escorpizo & Bemis-Dougherty, 2015); and its underpinning, the WHO's definition of health (Dean et al., 2011).

The physical therapist profession continues to evolve as a bona fide "health" profession vis-à-vis its scope of practice, professional autonomy, and leadership (Dean et al., 2014a). Globally, it is the third largest established health profession (excluding pharmacy and dentistry that have distinct practice patterns; World Health Professions Alliance, 2021). Of these, physical therapy is the leading profession that primarily exploits conservative (nonpharmacologic/nonsurgical) interventions to maximize health, functional capacity, and wellbeing. Practice has evolved from a tissue level of analysis and intervention, to levels of activity and participation that are modulated by environmental and personal factors (Escorpizo & Bemis-Dougherty, 2015). Thus, attention to an individual's overall health and lifestyle practices is central to maximizing functional capacity beyond physical activity and exercise prescription, given "fitness and health are not the same" (Ornish, 1990). Given their modus operandi, physical therapists have long been educators. Traditionally, movement and

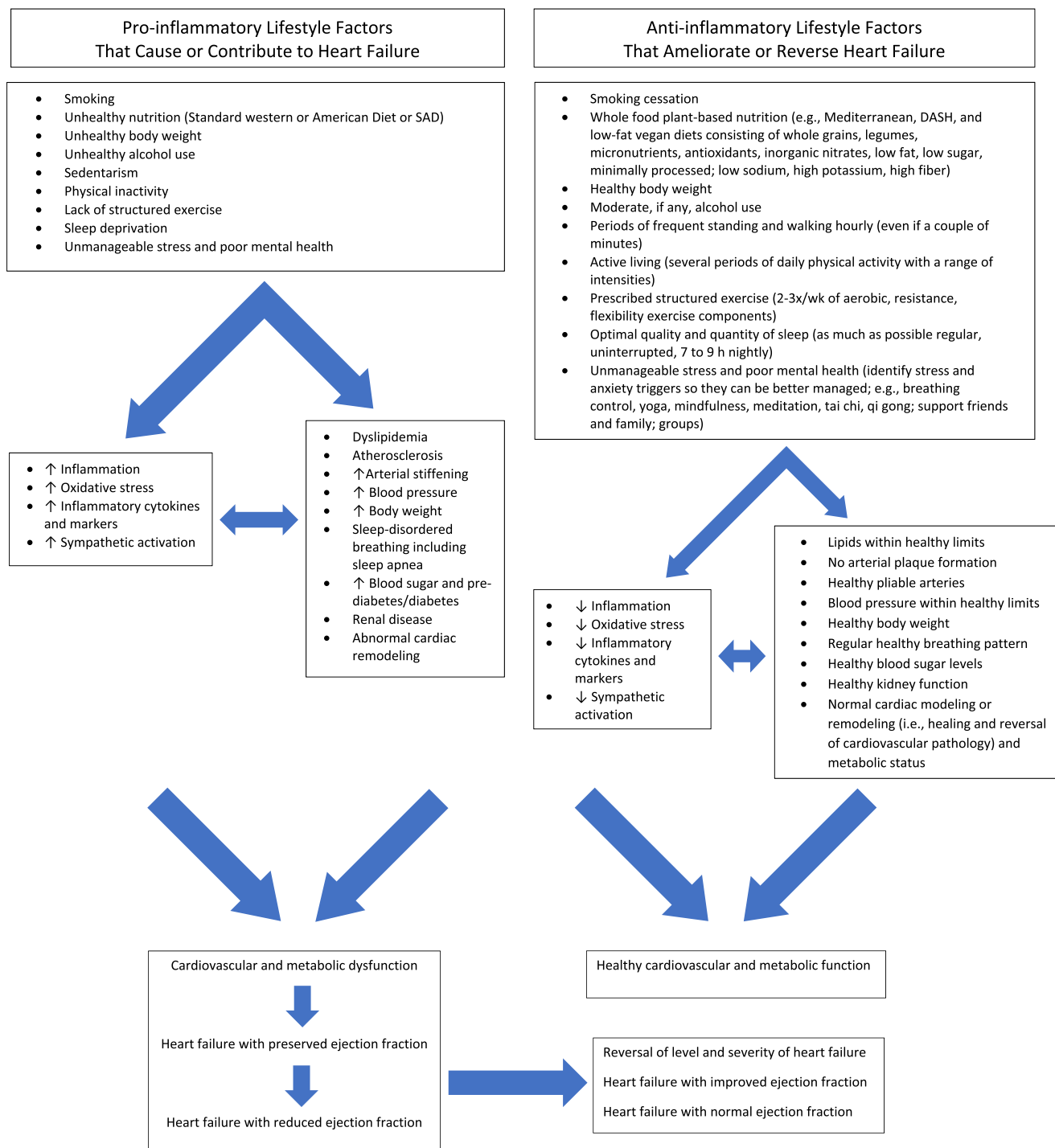
exercise have been the focus. However, comparable to maximizing athletic performance, functional capacity can be augmented with healthy lifestyle practices alone, and augmented with the addition of physical therapist-prescribed reduced sedentarism, physical activity and active living, as well as structured exercise. Contemporary patient education warrants dedicated health competencies in lifestyle change strategies (Bodner et al., 2012; Physiotherapy; Dean et al., 2014b, 2019; Theory & Practice Special Issue, 2009; Worman, 2020); and monitoring of patients' adherence to lifestyle changes overall, not only to medications and activity/exercise.

Although the notion of a health promotion CPG for physical therapists has been proposed and may have a role in individuals who are apparently otherwise healthy, CPGs in which a health and lifestyle framework is integrated, is likely to have greater utility clinically. Patients living with chronic conditions need to be in the best of health to thrive living with their conditions. Health promotion is not only critical for otherwise "healthy" people but also those with chronic conditions who need to be in the best of health to maximize function, and tissue healing and repair. Probably true of other NCDs, "Coronary artery disease need never exist" according to Esselstyn (2000) who bases this contention on the scientifically based role of nutrition in heart disease. CAD is virtually unheard of in cultures where people consume largely plant-based diets and are active (Buettner, 2015; Campbell et al., 1998; Esselstyn Jr., 1999; Kaplan et al., 2017; Pedersen, 2017).

### 3.3 | "Best" practice in an era of noncommunicable diseases including HF

Western lifestyle practices are typically pro-inflammatory and associated with chronic low-grade systemic inflammation (CLGSI; Kopp, 2019). These are largely characterized by smoking, although prevalence has reduced; an unhealthy diet dominated by processed, ultra-processed, and engineered hyperpalatable foods (the Standard American Diet or SAD); meat consumption; a paucity of vegetables, fruit, whole grains, beans, and lentils; unhealthy alcohol use; sleep deprivation; and psychological and mental stress (anxiety, depression, social isolation; Report of the EAT Lancet Commission, 2019; Yusuf et al., 2004). Figure 1 shows the pathways of pro-inflammatory and anti-inflammatory lifestyle factors and how these lead to heart ill health and pathology including HF (on the left) and heart health (on the right), and opportunities for physical therapist intervention. The role of anti-inflammatory lifestyle interventions is shown that, when prescribed knowledgeably, can avoid, mitigate and even reverse pathology.

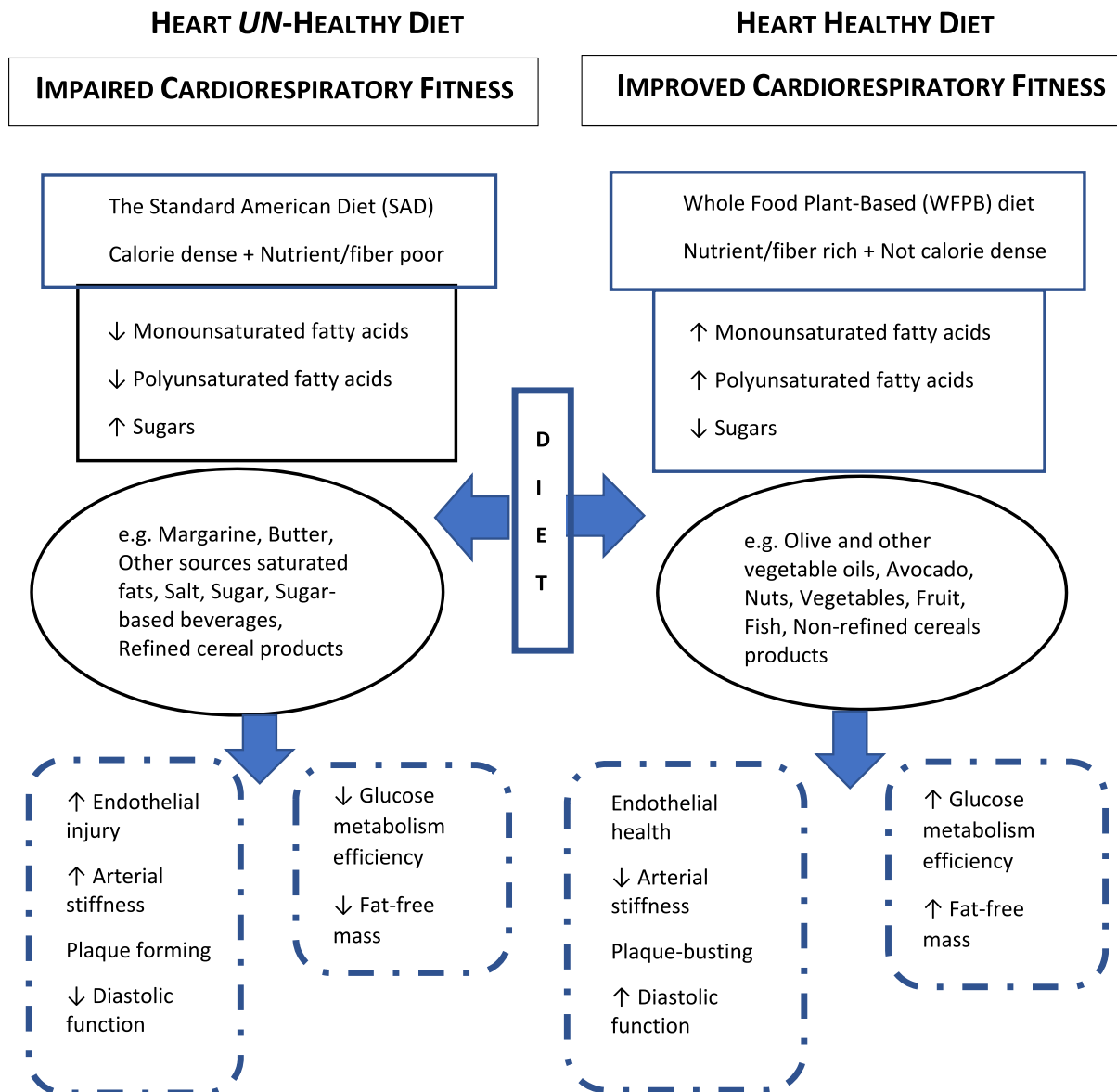
Of particular relevance to physical therapists is cardiorespiratory fitness in individuals with HF, the primary focus of the CPG article. Figure 2 illustrates the direct positive effects of optimal nutrition and diet on heart health, and that these can reverse the negative effects of suboptimal nutrition on heart and cardiovascular structure and function, and on their healing, repair and remodeling (Carbone



**FIGURE 1** Pathway of proinflammatory and antiinflammatory lifestyle factors that contribute to heart pathology including heart failure on the left and heart health on the right, and opportunities for physical therapist intervention. The role of anti-inflammatory lifestyle interventions is shown that can mitigate signs and symptoms of pathology (Modified from Aggarwal et al., 2018)

et al., 2017). Specifically, Figure 2 shows the mechanisms by which a heart unhealthy diet impairs cardiorespiratory fitness, and the mechanisms by which a heart healthy diet improves cardiorespiratory fitness. This evidence supports that, independently, nutritional counselling and support is fundamental to the management of patients with HF.

Despite being largely preventable, NCDs are now leading causes of morbidity and mortality globally (World Health Organization, 2013). Lancet global health surveillance systems report that poor diet now contributes to more disease than inactivity, alcohol, and smoking combined (GBD, 2019; Risk Factors Collaborators, 2020) and to greater economic cost than smoking, adverse alcohol



**FIGURE 2** Effects of nutrition and diet on cardiorespiratory fitness in heart failure: Heart unhealthy diet down-regulates heart health versus heart healthy diet upregulates heart health. The left panel shows the pathway from the SAD diet to heart disease. The right panel shows the pathway from the WFPB diet to support heart health or support healing of the heart from pathology created from the SAD diet (Modified from Carbone et al., 2017)

use, and inactivity combined (Scarborough et al., 2011). CLGSI underlies NCDs (e.g., CAD, cancer, hypertension, obesity, diabetes, and chronic lung disease; Ferrucci & Fabbri, 2018; Harvard Medical School Special Health Report, 2020).

Compared with the CPG article that lists 9 action statements, eight of which are related to activity and one to chronic disease management (Box 1), the health and lifestyle framework (see Appendix) described in this article to complement those of the CPG article, similarly identifies 9 action statements. However, three statements directly relate to activity/exercise, and six to lifestyle behaviors based on extant literature, that directly impact health and the outcomes of the three statements related to activity and functional capacity of individuals with HF (Gleeson et al., 2011; Yusuf

et al., 2004). Thus, a health and lifestyle framework focuses on assessing these six lifestyle practices, with the goals of maximizing healthy ones and minimizing unhealthy ones (Dean et al., 2016, 2019). Heart health and functional capacity can only be maximized with primary attention to lifestyle practices overall.

The western diet or SAD, characterized by high fat, sugar, salt, meat, and low in vegetables, fruits, whole grains and legumes; Kopp (2009), is not only strongly associated with NCDs, but also to many years of living with progressive disability. Drastic changes from a culturally accepted and acquired unhealthy diet to a healthy whole food plant-based diet can be challenging (Report of the EAT Lancet Commission, 2019). However, based on the accumulated body of scientific evidence, Ornish (2007a) has long supported the contention



that “the body often has a remarkable capacity to begin healing itself” and that this will be expedited with a graduated approach such the “spectrum” which refers to the degree to which a patient and care providers are committed to the patient's health behavior change (Ornish, 2007b). Even with severe heart disease, improvements can be made consistent with shifting from one NYHA classification to a less severe one, and in a relatively short timeframe; and angiographically evidenced reversal of severe coronary arterial occlusion over a year or more (depending on severity; Allen et al., 2019; Ornish, 2007c). Vegetarian diets, especially vegan diets, coupled with physical activity have had strong positive and reproducible findings on cardiovascular biomarkers (Barnard et al., 2006, 2021).

When nutrition is addressed in patients with heart disease and failure and related risk factors, it is often the long-term effects such as cholesterol levels, blood sugar, and effect on blood pressure that are the focus (Aggarwal et al., 2018; Choi et al., 2017; Djoussé et al., 2009; Ingelsson et al., 2005; Kent et al., 2013; Pfister et al., 2011; Rautiainen et al., 2015; Wang et al., 2011; Yokoyama et al., 2014). However, another clinically relevant aspect to changing nutrition is the immediate short-term effect of high fat and high sugar meals and their role in stiffening arteries and increasing the work of the heart and contributing to endothelial dysfunction (Benson et al., 2018; Irshad et al., 2019).

Lifestyle medicine is the use of evidence-based lifestyle therapeutic intervention—including a whole-food, mostly plants eating pattern, regular activity, restorative sleep, stress management, avoidance of risky substances, and positive social connection—as a primary modality (American College of Lifestyle Medicine, 2021; [pcrm.org](http://pcrm.org)). Lifestyle medicine needs to be the basis of conventional medicine. Almost all CPGs for the leading chronic lifestyle-related NCDs support lifestyle medicine as first line intervention. The American College of Lifestyle Medicine advocates the need for clinicians to place “...as much focus on lifestyle medicine as we do medications and procedures” (American College of Lifestyle Medicine, 2021). With that said, although reconciliation of medication is an important physical therapist competency (particularly with the inclusion of partnering with physicians to help eliminate and reduce medication), lifestyle behavior change reconciliations is similarly as important. This requires the physical therapist has knowledge of the lifestyle behavior change plan, and follows and supports the patient's progress irrespective of who initiated and who instituted it.

The CPG article supports several modes of evidence-based exercise for people with HF. In addition, however, a particularly strong case can be made for reducing sedentariness. Sedentarism is an established independent risk factor for cardiometabolic disease (Thorp et al., 2010). Interspersing prolonged periods of sitting with assuming the upright position and walking during waking hours is recommended for example, 3 min of low-to-moderate-intensity physical activity every 30 min (Healy et al., 2008). Interrupted sitting results in distinct lipid and metabolic benefits compared with nonspecific physical activity (Smith et al., 2021).

Exercise capacity can be adversely affected by medications, in addition to their side-effects and interactions. Minimizing medication,

as indicated and achievable with lifestyle change, is an important physical therapist and patient outcome that necessitates close working relationships with patients' healthcare teams to ensure the effects of medications are optimal and they are adjusted as positive lifestyle behavior changes take effect. Rationalization of medications as mentioned in the CPG and KT articles needs to include monitoring medication and working with the prescribing physician to minimize polypharmacy through behavior change as much as possible.

Regarding timeframes to effect clinical improvement with lifestyle behavior change, pathological correlates of oxidative stress/CLGSI such as uncontrolled hypertension, hyperglycemia, obesity, and even atherosclerosis can be reversed or minimally improved (Greger, 2015). Blood pressure and blood sugar may be improved within days, weeks or months. Mitigation and reversal of atherosclerosis based on angiographic evidence, and sustained weight loss may require months or a year or more (Ornish, 1998; Ornish et al., 1990). Reports of patients' improvements consistent with lowering their NYHA functional classifications. The greater patient adherence to lifestyle behavior change, the greater the benefits including drug reduction or avoidance. Even small changes are positive (Ornish, 2007b).

### 3.4 | Superior economic benefit

A primary rationale for the CPG related to HF and reiterated throughout the KT article was economic benefit from reduced hospital re-admissions (Dias et al., 2021; Shoemaker et al., 2020). An integrative approach yields superior economic benefit given reports of the economic impact of unhealthy lifestyle practices; limitations of conventional approaches; and low-cost interventions that promote heart health, and prevent/reduce impact of heart ill-health, NCDs and their risk factors (Pelletier et al., 2010). Notably, an econometric analysis of the healthcare budget of a high-income country like the United States showed that poor diet had the greatest impact followed by alcohol, smoking, and inactivity (Scarborough et al., 2011). Physical therapists have a primary leadership role in reversing these trends (Dean et al., 2011, 2019).

## 4 | CONCLUSION AND PRACTICAL IMPLICATIONS

Based on extant literature, CPGs related to NCDs including HF that are designed for health professionals including physical therapists, need to reflect the principles of an integrative approach, including the totality of literature and knowledge translation beyond RCTs, in the interest of “best” practice. In so doing, a health and lifestyle framework is unequivocally supported to underpin contemporary CPGs.

The CPG and KT articles related to HF rehabilitation have merit. They mention chronic disease management which is listed as a key action statement weighted with strong evidence. The present article aims to better elucidate the construct of chronic disease management, thereby complement the HF CPGs. This will enable clinicians to better

appreciate the relative impact of lifestyle practices, individually and combined, on heart health and heart ill-health including HF; and the power of lifestyle change in maximizing the health of the heart, its healing and repair, and in mitigating and reversing signs and symptoms of cardiac dysfunction. In turn, the health and lifestyle framework would augment the benefits of the evidence-based exercise key action statements in the HF CPGs article.

## CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

## AUTHOR CONTRIBUTIONS

Elizabeth Dean and Constantina Lomi contributed to the original concept, literature review and synthesis and interpretation. Both critically revised the intellectual content. Elizabeth Dean drafted the manuscript. Both authors critiqued, reviewed and approved the final draft.

## DATA AVAILABILITY STATEMENT

Data sharing not applicable to this article as no datasets were generated or analysed during the current study.

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## SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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