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Can sustainable health behaviour contribute to ensure healthy lives and wellbeing for all at all ages (SDG 3)? A viewpoint

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Significance for public health

In the context of sustainable development, health promotion to bring about behaviour change in diet and physical activity patterns will require new approaches that also include sustainability literacy. Furthermore, sustainable health behaviour will contribute to curbing greenhouse gases that are linked to climate change which have consequences for population health and wellbeing.

Abstract

Sustainable health behaviours and, specifically, eating a sustainable diet and engaging in regular physical activity are health-promoting behaviours that can simultaneously contribute to reduction of greenhouse gases which are known to contribute to climate change. Good health usually facilitates societal development, and development often promotes improved health. However, while good health may be a prerequisite for societal development, some behavioural determinants of health, such as attitudes towards the environment, and people's lifestyles and consumption patterns, can impede the sustainability of the development process in the longer term. This perspective paper argues that there is a need to rethink 21st century health promotion practices by pairing sustainability literacy with health promotion for changing dietary and physical activity behaviour patterns to improve population health and contribute to the achievement of Sustainable Development Goal 3 (to ensure healthy lives and promote wellbeing for all at all ages).

Key words: Sustainable behaviours, health promotion, sustainable diet and physical activity, sustainability literacy, SDG3

Introduction

This viewpoint paper contributes to the debate about the need for a visionary health promotion approach for sustainable health behaviours (with focus on a sustainable diet, and physical activity) as well as sustainability literacy that will have an impact on today's and future generations' health and wellbeing. Firstly, it describes the connection health promotion and sustainable development, then the concepts of sustainable health behaviours, sustainable diets and physical activity and sustainability literacy. Secondly it discusses how a sustainable diet and physical activity can be promoted within the context of sustainable development.

Health promotion and sustainable development

Health promotion which is the process of enabling people to increase control over, and to improve, their health is expected to play an important (and transformative) role in achieving sustainable development Goal 3 (ensure health for all and at all ages). Furthermore, health promotion as an approach, intends to alter the environmental, economic and institutional and social contexts in which decisions relating to health and well-being are made, while focus on equity and the sustainability agenda.¹⁻³ On the other hand, sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their needs.⁴⁻⁶ This development needs to take place in three interconnected areas: economic, environmental and social. The expectation is that if they are combined and the combined developments are applied in the real-world context and in real-world situations, they can create a steady base for a sustainable world which can support everybody and from which everybody can benefit.^{5,6} The first mentioned, economic sustainability, is seen as the ability of the economy to indefinitely support a defined level of economic production. It is an economy where decisions are made in the most prudent way possible with respect to the other aspects of sustainability. Furthermore, it is suggested that, when good business practices are incorporated with the social and environmental aspects of sustainability, the result is significantly more positive.^{5,6}

The second, environmental sustainability, can be defined as a “condition of balance, resilience, and interconnectedness” that “allows human society to satisfy its needs while neither exceeding the capacity of its supporting ecosystems to continue to regenerate the services necessary to meet those needs, nor by [its] actions diminishing biological diversity”.⁷ The main purpose of environmental sustainability is to minimize the impact of human activities on the environment and, furthermore, to encourage the restoration and preservation of our natural habitat.⁷

Social sustainability, the other hand, is related to efforts that promote the general improvement of society. This is the aspect of sustainability that supports the concept of intergenerational

justice, meaning that future generations are entitled to the same, or greater, quality of life as current generations.^{8,9} The social sustainability dimension of sustainability includes issues such as labour rights, health equity, community development via public involvement and social capital, participation, support, justice and responsibility, community resilience, cultural competence, and human adaptation. The social dimension of sustainable development is equally important as the other two dimensions,^{8,9} and it includes health. Health, according to the World Health Organization (WHO), is a “state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity”.¹⁰ Good health usually facilitates societal development, and development often promotes improved health. However, while good health may be a prerequisite for development, some behavioural determinants of health, such as attitudes towards the environment, and people’s lifestyles and consumption patterns, can impede the sustainability of the development process in the longer term. Equally, development which is economically desirable, e.g., in agriculture and industry, may have harmful consequences for health and the environment.¹⁰⁻¹³ Health has a crucial role in economic development but it also needs to be seen as an ecological characteristic of populations, reflecting the wider conditions of the social and natural environments.^{14,15} Also, as engrained in the WHO definition,¹⁴ health is “a state of complete physical, mental and social wellbeing”, as well as environmental wellbeing; which emphasizes the importance of social and personal resources as well as physical capabilities. It is suggested that people primarily think about health in terms of personal and family matters, which translates into a view that health is an asset that can be negotiated via personal behavioural choices and personal access to the formal health care system.¹⁵ However, a population’s health is a reflection of the level of its biological (including mental) functioning, as permitted by the conditions of the environment. Sustainable population health over time requires a stable and productive natural environment that: (i) yields assured supplies of food and fresh water; (ii) has a relatively constant climate in which climate-sensitive physical and biological systems do not change for the worse; and (iii) retains biodiversity (a fundamental source of both present and future value). For the human species, as a species of “social animals” in the extreme, the richness, texture, stability and equity of the social environment (e.g., social capital) is also fundamentally important to population health.¹⁵ Therefore, population health becomes more than either a causal input or an incidental consequence of economic development. It becomes a central criterion. The purpose of “development”, presumably, is to improve the conditions and enjoyment of life for human societies (and to do so in a way that entails sharing those benefits equitably). It can be argued

that a development path that does not include sustained improvements in health does not constitute “sustainable development”.¹⁵

In order to have sustainable population health we need to practice health promotion that will foster sustainable health behaviour and sustainable lifestyles. Health promotion is thought to have a fundamental role in realizing the 2030 Sustainable Development Goals (SDGs) agenda.^{16–20} In contrast to the millennium development goals (MDGs), the 2030 SDGs agenda highlights health as a component of all the SDGs and a critical element of the process of developing an equitable and sustainable future.

Sustainable health behaviours

Health behaviours (also called “health-related behaviours”) are actions taken by individuals that affect health, morbidity and mortality in any society.^{21–24} According to Short *et al.*, these actions may be intentional or unintentional, and can promote or detract from the health of the actors and/or others.²² Health behaviours can be of distinct nature, such as health care seeking, smoking, substance use, diet, physical activity, sleep, sexual behaviour, and adherence to prescribed medical treatments.^{22,23} Health behaviours are frequently discussed as individual-level behaviours, but they can be measured and summarized for individuals, groups or populations. Health behaviours are dynamic, varying over the lifespan, across cohorts, settings, and time.

On the other hand, sustainable behaviours are those behaviours carried out by individuals or groups, that contribute to the three sustainability objectives of environmental protection, social development and economic prosperity as collective goals of societies, as described above in the definition of “sustainable development”.^{24,25} Sustainable behaviours include, among others: water conservation, energy conservation, waste management and recycling, maintenance and promotion of biodiversity and ecologically significant habitats, transportation, community participation and local decision making, use of local services and amenities, and healthy lifestyles (including diet and physical activity). It has been said that sustainable behaviours are a cluster of habits and behavioural patterns that are embedded in society and facilitated by structures such as institutions, social norms and infrastructure, which frame and guide individual choice, leading to minimization of natural resources use and waste generation. The benefits of these behaviours impact all in an equal way, being beneficial for health and development.²⁵

Furthermore, from a psychological point of view, sustainable behaviours can be defined as a set of actions aimed to protect the socio-physical resources of this planet.^{25,26} Although

“sustainable behaviour” is, in practical terms, synonymous with “pro-environmental behaviour”, the latter term has been used to emphasize efforts to protect the natural environment, while the former describes actions aimed at protecting both the natural and the human (social) environment.²⁵⁻²⁷ Some have argued that sustainable behaviours can be seen as anticipatory – as behaviours that are future-oriented, by definition, because they consider the needs of forthcoming generations coincidentally with the satisfaction of present needs.²⁵⁻³¹

Tapia-Fonllen and colleagues propose that there are four types of sustainable behaviours: pro-ecological, frugal, altruistic, and equitable behaviours. Pro-ecological behaviours are considered purposeful and effective for actions related to natural resources conservation.³¹ Frugal behaviours are behaviours related to a decreased level of consumption or to austere measures intended to diminish the impact of human behaviour on availability and renewability of natural resources. This is the opposite of consumerism. Frugal behaviours are characterized by reduced consumption, selective purchasing, and concerns about how waste is disposed.^{28,29,31} Altruistic behaviours, on the other hand, are related to a motivational state with the goal of increasing others’ wellbeing. This type of behaviour is based on consideration of future consequences while also embracing personal responsibilities.^{27,30,31} Equitable behaviours, lastly, are behaviours that are based on sharing the satisfaction of needs between today’s and future generations. Furthermore, equity also implies a balance between human wellbeing and ecosystems integrity, making possible the access of resources for people and the preservation of the physical environment.^{27,31,32} In recent years, it has been argued that sustainability literacy should be part of the process that aims to help behavioural change.³³ “Sustainability literacy” is defined as “the knowledge, skills and mind sets that allow individuals to become deeply committed to building a sustainable future and assisting in making informed and effective decisions to this end”.³³ Similarly to health literacy, which is crucial to developing health-related knowledge, adopting healthy lifestyles, and benefiting from health care services, sustainability literacy will ensure that individuals, communities and societies will also be able to change their behaviours in such a way that they also contribute to the triple bottom line of sustainability. For instance, Payne suggests that sustainability literacy is an increasingly important competency for all professionals, no matter what their area of specialism.³⁴ Therefore, public health professionals would need to master this competency as they face a new challenge of promoting population health through sustainable development (especially promotion of sustainable health behaviours).

Sustainable Diet and Physical Activity

Sustainable healthy diets are dietary patterns that promote all dimensions of individuals' health and wellbeing, produce low environmental pressure and impact, are accessible, affordable, safe and equitable, and are culturally acceptable.²⁴ In addition, sustainable healthy diets are important for achieving optimal growth and development of all individuals and supporting functioning and physical, mental and social wellbeing at all life stages for present and future generations, contributing to preventing all forms of malnutrition (i.e. undernutrition, micronutrient deficiency, overweight and obesity), reducing the risk of diet-related non-communicable diseases, and supporting the preservation of biodiversity and planetary health. It is posited that sustainable healthy diets must combine all the dimensions of sustainability to avoid unintended negative consequences, thus requiring collaboration of various entities.²⁴ Sustainable diets cannot exist in a vacuum; they need to correspond with sustainable food systems that constitute the main pillar for successful public health outcomes and thus ensure human wellbeing. It has been argued that diets, which are made up of different foods that contain both macro- and micronutrients and other important health-promoting properties, are born of food systems.^{35,36} According to Fanzo and Davis food systems produce, package, process, ship, and sell the food consumed around the world. They involve more than food production and ensuring [that] those foods are available: they are central to improving food security and nutrition, ensuring social and gender equity, reducing rural poverty, promoting efficient management of natural resources, and improving the resilience of populations who rely on them for their livelihoods.³² In addition, sustainable diets rely on a sustainable food system.³⁶

Another sustainable behaviour which has a major impact on morbidity, mortality and disability is physical activity. According to Bjørnara and colleagues, "sustainable physical activity" includes those activities that are conducted with "sufficient duration, intensity and frequency for promoting health, yet without excessive expenditure of energy for food, transportation, training facilities or equipment".³⁷ Sustainable physical activities have low environmental impact and are culturally and economically acceptable and accessible. Regular physical activity improves health in people of all ages and is one of the most important lifestyle choices that we can make. Physical activity improves heart and lung function, muscular fitness, strengthens bones and helps individuals maintain a healthy weight.³⁸

Furthermore, it decreases risk of coronary heart disease and colon and breast cancers. In the mental health sphere, physical activity improves quality of sleep and mental function, and reduces symptoms of depression.³⁹⁻⁴¹ However, it has been pointed out that there are potential harmful effects to exercising in high air pollution areas.⁴² Sustainable physical activity can

simultaneously provide the benefits of regular physical activity and benefits related to sustainability (e.g., reduction of CO₂ emissions through reduction in transport use). Bjørnara and co-authors point out that active transportation represents a carbon-free option as well as an opportunity for enhanced physical activity. Moreover, they argue that reduced use of equipment and overall appliances in everyday tasks may contribute to an energy balance through increased physical activity, which in turn decreases resource use.³⁷

Overall, a balance between food intake and energy expenditure can contribute to less food production as well as energy savings. There is a suggestion that certain habits involving physical activities that can be considered sustainable (e.g., active transportation) are likely to provide time efficiency as well as increased levels of physical activity.⁴² Hamer and Chida report that cycling and walking contribute to about 11% reduction in cardiovascular risk,⁴¹ as well as decreased risk of metabolic syndrome, diabetes type 2 and cancer.⁴¹ For instance, a study associated cycling with a 30% decrease in mortality.⁴³

Active physical activity (e.g., walking, running, cycling) can contribute to health promotion at all ages and throughout the life cycle (i.e., in children, adolescents, adults and the elderly) as well as at community and societal levels.^{44,45}

A future research agenda to enhance sustainable health behaviours and, specifically, sustainable diets and physical activity behaviours should consider health promotion activities through the life course including especially moments of change. According to the Developmental Origins of Health and Disease (DOHaD) hypothesis, childhood and adolescence are crucial times in the life course when interventions are the most effective and can therefore contribute to foster healthy behaviours into adulthood and old age.⁴⁶⁻⁴⁸

Discussion and Conclusion

Rethinking 21st Century health promotion towards achievement of sustainable population health and sustainable development Goal 3 (ensuring health and wellbeing for all at all ages).

Sustainable health behaviour entails regular health behaviours with a commitment to today's and future generations. This means improving quality of life through reduction of morbidity, mortality and disability. Furthermore, sustainable health behaviour entails an opportunity for promoting health through harvesting behaviours that can simultaneously contribute to reduction of greenhouse gases which are known to be related to climate change. Some argue that although health behaviour changes can collectively have economic and social benefits,³⁴ they primarily provide individual benefits.⁴⁹ Therefore, the effect of sustainable health behaviours may be less

visible than that of pro-social behaviours. According to some authors, sustainable behaviours often require collective as opposed to individual action.^{49,50} It is argued that a large group of people must undertake sustainable behaviours so that the benefits are tangible in society. For instance, White and colleagues studied sustainable behaviours from the perspective of consumer behaviour and concluded that people were more inclined to engage in pro-environmental behaviours when the message or context leveraged psychological factors such as social influence, habit information, individual self, feelings of cognition, and tangibility.²⁵ Others argue that marketing can be of help in trying to understand sustainable consumer behaviours which can at times seem somewhat contradictory in the context of sustainability. However, as pointed out by White et al, the apparent contradiction may be fictitious, since marketing and sustainability are inextricably intertwined.²⁵

This view point attempts to contribute to the discussion on whether sustainable diets and physical activity are possible, but most importantly whether they can contribute to population health promotion and achievement of SDG 3: Health for all at all ages. I argue that, in order to promote health through sustainable behaviours and lifestyles (specifically diet and physical activity), we may need the contributions of other disciplines (beyond public health and sports science), such as marketing, sociology, psychology and sustainability, to be able to discern how individuals and communities can become healthier within the context of sustainable development. A greater challenge than adherence to sustainable healthy behaviours and health promotion may be people's non-adoption of sustainable behaviours (such as eating a sustainable diet and engaging in sustainable physical activity) despite their desire to adopt them. For instance, regarding pro-environmental behaviours, one study found that consumers had favourable attitudes towards pro-environmental behaviours,⁵¹ but then did not act on them.⁵²⁻⁵⁴ Also, the achievement of sustainable health behaviours) need to be carried out through a systems approach.⁵⁵ This would mean engagement of other non-health sector actors (e.g., agriculture, energy, urban planning and transportation).^{55,56} For instance, the achievement of Goal 3 through sustainable diets and physical activity would indirectly be linked to other sustainable goals such as: Goal 2 -end hunger, achieve food security and improved nutrition and promote sustainable agriculture; Goal 7 -ensure access to affordable, reliable, sustainable and modern energy for all; Goal 11 -make cities and human settlements inclusive, safe, resilient and sustainable; Goal 12 -ensure sustainable consumption and production patterns; Goal 13 -take urgent action to combat climate change and its impacts; Goal 14 -conserve and sustainably use the oceans, seas and marine resources for sustainable development; Goal 15 -protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat

desertification, and halt and reverse land degradation, and halt biodiversity loss.⁵⁶ Furthermore, the achievement of sustainable health behaviour at the population level will require collaboration with other sectors and institutions beyond health which relate to sustainable development Goal 17 (to strengthen the means of implementation and revitalize the global partnership for sustainable development).⁵⁷ This is in line with those who argue that in order to achieve the SDG 3, it is important to also take into account “Health in all Policies” (HiAP).⁵⁸ This is because the majority of targets in Goal 3 relate to disease control or individual health care, but disease and health status have long been acknowledged as the manifestations and outcomes of the dynamic interaction between individual biology and social, economic, and environmental health determinants; therefore, they can be transformed only through coherent, coordinated, and equity-promoting intersectoral policies and actions.⁵⁸ Health in All Policies is an approach to public policies across sectors that systematically takes into account the health implications of decisions, seeks synergies, and avoids harmful health impacts in order to improve population health and health equity.⁵⁸

Behaviour change is always complex and it needs individual and collective engagement. According to Bandura, when people observe others engaging in an action, this may increase perceptions of collective efficacy or “a group’s shared belief in its conjoint capabilities to organize and execute the courses of action required to produce given levels of attainment”.⁵⁴ Furthermore others point out that promoting behaviour change is complex and it requires a solid understanding of how people behave in different situations and contexts.^{59,60} Therefore attempts to achieve sustainable behaviour change (diet and physical activity) through health promotion needs to take place across different arenas (e.g. schools, workplaces, elderly homes, neighbourhoods, *etc.*) at local, regional and national levels to ensure that it reflects people’s real circumstances.^{61,62} In this viewpoint, I argue that public health and sustainable development are intrinsically related in a way that achieving sustainable development largely depends on a healthy populace (that practice sustainable healthy behaviours). Public health represents not only a significant outcome, but a precondition of sustainable development as well. In addition, public health and sustainable development are closely interrelated; both emphasize the need to think about the long term, to work in concert with others, and to integrate environmental, social, and economic factors into decision making.⁶³⁻⁶⁷ There is a need to rethink 21st century health promotion practices by pairing health promotion strategies aimed at behaviour change (dietary and physical activity change) with sustainability literacy (which is currently absent in interventions aimed to promote health behaviour change) in order to improve population health and contribute to the achievement of SDG 3 (health and wellbeing for all at all ages).

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