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Review

Environments favorable to healthy lifestyles: A systematic review of initiatives in Canada

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Abstract

Background: In recent years, a number of initiatives aimed at promoting healthy lifestyles in health-friendly environments have been implemented. The purpose of this review is to synthesize initiatives conducted in Canada and documented in publications for the period 1995-2015 in order to gain a better understanding of their objectives and impacts.

Methods: A systematic review of Canadian initiatives published over the last 20 years was conducted from multiple databases (i.e., Scopus, Sportdiscus, PubMed, Academic research complete, Reseausante.com, Cairn, and Erudit). In total, 264 publications were identified and retained for the final analysis based on 5 criteria: (1) publication between 1995 and 2015, (2) online availability, (3) research conducted in Canada, (4) main topic related to Environments Favorable to Healthy Lifestyles (EFHL), and (5) publication in French or English.

Results: A sharp increase in the number of studies on EFHL was observed between 2010 and 2015 (57%). Two major lifestyle components—physical activity and nutrition—and 2 environmental aspects—neighborhood and built environment—were the elements most frequently examined regarding adults (48%), young people (34%), and seniors (9%), using quantitative (60%) and qualitative (18%) methods. Furthermore, the analysis reveals a greater focus on the municipal (53%) than the national or provincial levels (31%).

Conclusion: This work is a first map of Canadian studies related to EFHL. It clarifies the definition of EFHL and classifies its components. As well, it documents the issues raised, the research methods employed, and the role of stakeholders, while outlining a new research agenda that includes dimensions of EFHL formerly neglected by researchers, namely, political and sociocultural spheres of action.

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Keywords: Built environment; Canada; Favorable environment; Healthy lifestyle; Initiatives; Neighborhood; Nutrition; Physical activity; Systematic review

1. Introduction

Healthy food choices and regular physical activity are 2 key behaviors that help prevent the premature development of chronic diseases, obesity, and their complications.¹ Findings in recent years have identified *environments* (physical, sociocultural, economic, and political) as an important factor in promoting healthy lifestyles.^{2,3} Studies on healthy lifestyles have also led to numerous initiatives (e.g., intervention strategies; programs; national campaigns; action plans; policies and government legislation; and financial support from foundations and official organizations) to encourage the adoption of healthy

habits.⁴⁻⁶ More specifically, the concept of *environments favorable to healthy lifestyles* (EFHL) has emerged in public health and the related literature during the past 3 decades.⁷ This concept is difficult to implement, however, owing to its vague definition and the multiple forms of action it includes. A health-friendly environment does not necessarily prevent sedentary lifestyles or poor food choices.⁷ As a result, more studies on EFHL are needed to develop improved initiatives to promote healthy living.

The Ottawa Charter⁸ was a call for action on health promotion. It initiated a fivefold solution to combat sedentary behavior and unhealthy lifestyles by (1) building healthy public policy, (2) strengthening community action, (3) developing personal skills, (4) creating supportive environments, and (5) reorienting health services. The third point was the main focus of this study. A number of initiatives were subsequently developed

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in Canada through governmental action plans, which lead to the creation of organizations such as Pace Canada, ParticipACTION, Health Nexus, or the Healthy Living Unit of Health Canada.⁶ There have been various types of projects including promotion programs (e.g., *Grand défi Pierre Lavoie*, World Day for Physical Activity) or more complex intervention strategies (e.g., school or community programs),^{6,9} and although some have been well documented, the influence of environment has received little attention. There are few literature reviews of studies on environmental perspectives¹⁰⁻¹⁴ despite the many actions implemented in this regard. It appears a clearer portrait of the Canadian literature on EFHL is needed to better understand (1) the EFHL concept in Canada, (2) studies and findings relative to EFHL, and (3) impacts and future research locations.

The literature shows that a number of models have been employed to organize and understand EFHL-related work. They include the ecological model, which classifies applied health promotion initiatives based on 5 core principles of health behavior (individual, microsystem, mecosystem, exosystem, and macrosystem),¹⁵ and the built environment model, which organizes environment in terms of 3 dimensions (transport system, patterns of land use, and urban design).^{2,16,17} We decided, however, on a different and promising guide for our investigation: a Canadian model based on the 2006-2012 action plan of the ministère de la Santé et des Services sociaux du Québec (MSSS). Quebec has been proactive in the field of EFHL, and in 2006 the MSSS targeted environmental influences (“For a common vision of favorable environments”) with the goal of involving stakeholders from many sectors of intervention. In its action plan, the MSSS defined EFHL as “all the physical, sociocultural, political and economic elements that have a positive influence on diet, physical activity and body image.”⁷

1.1. Physical dimension and built environment

There is a broad consensus in the literature that the built environment includes all elements of the physical environment produced by human labor. Examples are public spaces, parks, physical structures (e.g., homes, schools, shops, etc.) and transport infrastructures (e.g., cycling paths, streets).^{17,18} A number of operational applications are discussed regarding the contributions of different scientific disciplines (e.g., geography, public health, education, urban planning, and transportation).¹⁹

In addition, the physical environment can be divided into 2 categories: natural elements (e.g., water, river, forest, mountain, or desert) and artificial elements (e.g., building, road, technology, and urban design), often referred to in the literature as the built environment. Frank et al.¹⁶ explained that the built environment involves 3 dimensions (land use patterns, urban design characteristics, and transportation systems), which influence the physical activity of the community and can potentially improve its health status (Table 1). In their discussion of *land use patterns*, Bergeron et al.⁵ mentioned neighborhood; urban design, proximity and types of restaurants; food options; and sports infrastructures. *Urban design characteristics* influence

Table 1

Three dimensions of the built environment.*

| Dimensions | Elements |
|---|---|
| Land use patterns | |
| Mixed | • Different use in the same sector (industrial, commercial, civil, residential, recreational) |
| Density | • Number of persons |
| Urban design characteristics | |
| Urban design (street) | • Width and pavement surfaces • Lighting, street vegetation • Traffic calming measures |
| Urban design (site) | • Parking • Pedestrian crossings • Width and height of buildings, architecture |
| Transportation systems | |
| Road network | • Ongoing road network • Connectivity |
| Non-motorized transport infrastructures | • Cycling paths • Pavement • Tracks |
| Public transport infrastructures | • Bus stops • Train stations |

* Adapted from Bergeron, Reybrun, and Laguë, 2010.⁵

people’s perception of their environment. For example, a walk in a well-maintained park is more enjoyable than a walk along a traffic-dense road or in an industrial neighborhood. The authors explained that the built environment is a major motivation to become active and adopt healthy lifestyles on an everyday basis. The last dimension, the *transportation systems*, includes safe cycling and walking routes, use of stairs instead of elevators, etc. Two studies demonstrate that the better the quality of infrastructure (e.g., lighting, pavement, security), the greater the probability the community will be active and develop positive perceptions of active transportation.^{20,21} This could lead to less driving and an improvement in air quality. Heath et al.²⁰ concluded that the built environment can easily facilitate or restrict physical activity. They strongly recommended involving various authorities such as the health system and the school, community, or municipal governments in the implementation of key modifications to facilitate accessibility and improve environmental safety and aesthetics. Booth et al.³ divided environments into 5 levels: international, national or provincial, regional, municipal, and local. Generally speaking, the physical environment appears to be the most thoroughly investigated dimension in the EFHL literature.

1.2. Sociocultural environment

The sociocultural environment is a set of beliefs, customs, practices, and behaviors that exists within a certain population. According to the MSSS, it may be a combination of 3 elements: (1) social connections, (2) norms, and (3) conventions expressed by systems, culture, and traditions.⁶ The sociocultural environment can have a strong impact on nutrition, physical activity, and the motivation to adopt healthy lifestyles.²²⁻²⁴ To illustrate, Belon et al.²² studied how the community environment shapes physical activity through perceptions revealed through photovoice. Furthermore, family is crucial because it

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