

REVIEW ARTICLE

LINKING HEALTH PROMOTION WITH PHYSIOTHERAPY FOR LOW BACK PAIN: A REVIEW

Kadija Perreault, PT, MSc^{1,2}

From the ¹Centre for Interdisciplinary Research in Rehabilitation and Social Integration and ²Department of Rehabilitation, Faculty of Medicine, Laval University, Quebec City, Quebec, Canada

Objective: The objectives of this paper are: (i) to present the results of a descriptive literature review highlighting conceptual and practical links between the fields of physiotherapy and health promotion, and (ii) to provide recommendations based on this review of the literature in order to contribute towards the improvement of physiotherapists' interventions with people presenting low back pain.

Methods: A literature review of publications in the fields of health promotion, public health, physiotherapy and rehabilitation. The concepts of health and empowerment are discussed. Health promotion strategies used in the field of physiotherapy are also reported.

Results: The results of the literature review indicate that conceptualizations of health differ between the fields of health promotion and physiotherapy, although there are some common points. Empowerment, a central concept in health promotion, is probably not facilitated in physiotherapy interventions based on the biomedical model. Health education is the most used health promotion strategy in physiotherapy practice. Recommendations are put forward.

Conclusion: In the future, further efforts should be made towards linking the principles and practices of health promotion with physiotherapy. This may help improve physiotherapists' interventions with people presenting low back pain.

Key words: physiotherapy, health promotion, low back pain, health, review.

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Correspondence address: Kadija Perreault, Centre for Interdisciplinary Research in Rehabilitation and Social Integration, Institut de réadaptation en déficience physique de Québec, 525, boulevard Wilfrid-Hamel, H-1412, Québec City (Québec), Canada G1M 2S8. E-mail: kadija.perreault.1@ulaval.ca

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INTRODUCTION

Most people (58–84%) will experience low back pain (LBP) at least once in their lives (1). This condition represents the primary cause of disability in adults younger than 45 years old (1). Although LBP is generally recognized as a benign problem for which the great majority of individuals will have a positive recovery within a few days or weeks (2), a small proportion of people with LBP develops a persistent problem described

as chronic LBP (usually considered as lasting more than 3 months) (3). However, some contradictory results indicate that up to 75% of individuals still declare pain or disability one year after an acute episode of LBP (4). The persistence of LBP, and especially pain-related disability, can have significant negative consequences for the individual (e.g. pain, distress) and society as a whole (e.g. high costs, loss of productivity) (1, 5, 6). The extent of the situation is such that LBP is currently regarded as an important public health problem (7).

LBP is one of the main reasons why people seek physiotherapy interventions (8). Although people with LBP represent a large part of physiotherapists' workload, past studies provide inconclusive results regarding the effectiveness of many physiotherapy interventions for this population (9, 10). Specific interventions used by physiotherapists with people with LBP include a broad range of physical and educational modalities (11). Such interventions typically include (often in combination) education, advice, McKenzie techniques, mobilizations and manipulations, electrotherapy, thermal modalities, specific and non-specific exercises, massage and other soft tissues techniques, as well as traction (8, 12–15). The important role of physiotherapists in non-physical approaches, such as cognitive behavioural therapy, is also becoming more widely recognized (16). In light of the inconclusive results of physiotherapy interventions and of the development of chronic LBP in a part of the population despite receiving treatment, one may wonder whether other forms of intervention may play a role, for example in limiting the prevalence of LBP and its impact at the individual and population levels.

In this vein, many recently published reports have called for greater involvement of rehabilitation professionals, including physiotherapists, in areas of intervention that go beyond traditional clinical care, such as population health, health promotion and prevention (17–21). The possibility of expanding the role of physiotherapists into these areas requires attention. Focussing in this paper on health promotion, physiotherapists may benefit from gaining a better understanding of principles and practice in this field in order to improve their interventions with people who present potentially complex conditions, such as LBP. However, little is known about the actual and potential links between the fields of physiotherapy and health promotion. Thus, the overall aim of this paper is to contribute to the discussion on how to improve physiotherapists' interventions with people presenting LBP, by exploring the links between

physiotherapy and health promotion. The objectives of this paper are: (i) to present the results of a descriptive review of the literature highlighting conceptual and practical links between the fields of physiotherapy and health promotion, and (ii) to provide recommendations for the physiotherapy field based on this review of the literature. The case of LBP is used as a clinical example to explore this subject, which is highly relevant in light of the complexity and the multi-factorial nature of this condition (1).

METHODS

The literature was reviewed in order to identify relevant publications in the fields of health promotion, public health, physiotherapy and rehabilitation. The literature pertaining to the management of LBP was also consulted. Databases PubMed (22), CINAHL (23), EMBASE (24) and PsycINFO (25) were searched using the following combinations of key words: “physiotherapy and health promotion”, “physical therapy and health promotion”, “rehabilitation and health promotion”, “physiotherapy and health education”, “physical therapy and health education”, “rehabilitation and health education”. The expression “health education” was specifically included because health promotion interventions are often understood to cover only health education (26). In additional searches aiming to identify studies or papers that specifically discussed the clinical example of LBP, the terms “pain” and “low back pain” were added to the previous combinations. Bibliographies and reference lists of previously published papers were examined in order to identify supplementary work. An internet search using Google (27) was also conducted to seek for additional material.

Work published in English or French, ranging from theoretical discussions in the fields of physiotherapy and health promotion, to papers linking both fields and studies of physiotherapists’ interventions relating to the field of health promotion (including those aimed at LBP management), was reviewed and included in this review. Work published in other languages and/or which did not specifically address or help provide a better understanding of the possible links between physiotherapy and health promotion (as defined in the next section) or the participation of physiotherapists in interventions that relate to the practice of health promotion were excluded from the review. The decision to include a wide array of types of publications was based on our desire to provide an exhaustive review of a body of literature that remains quite limited. Publications were first analysed by reading the title and abstract. Then, if they were judged relevant based on the above-mentioned criteria, the complete documents were reviewed.

RESULTS

Literature search

Table I presents the results of the literature search in PubMed. For reasons of space, only the results of the literature search in

this database are presented here. In all databases, refining the searches by including the terms “pain” and “low back pain” greatly reduced the number of papers found, as shown in Table I. Because of the great number of papers found in the databases using certain combinations, only the papers found in more restricted searches were analysed in some cases (e.g. “rehabilitation and health education”, Table I). Hence, based on our inclusion and exclusion criteria, more than 38 papers, one book, 8 book chapters, one electronic document, 3 reports and 2 dissertations were retained for the purpose of this descriptive review.

Definitions of health promotion and physiotherapy

Linking health promotion with physiotherapy requires an understanding of what these expressions mean. Physiotherapy is part of the broader field of rehabilitation that aims at decreasing disability using biomedical, social and psychological measures (28). Physiotherapy has been defined as “a healthcare profession concerned with human function and movement and maximizing potential” (29, p. 288). Today, it is usually understood that physiotherapy is a science-based field of practice that uses mainly physical approaches that intend to promote, maintain and restore physical, psychological and social well-being (29).

As for health promotion, it is part of the broader field of public (or community) health, which is defined by the World Health Organization (WHO) as “all organized measures (whether public or private) to prevent disease, promote health, and prolong life among the population as a whole” (30). Numerous definitions of health promotion have been acknowledged (31). One of the most cited definitions is presented in the Ottawa Charter for Health Promotion (32). This states that health promotion is “the process of enabling people to increase control over, and to improve, their health” (32). However, as stated by O’Neill & Cardinal (26), the expression “health promotion” is frequently used to describe 2 different entities: a value-based ideology as well as a set of practices, which creates confusion. Hence, O’Neill & Cardinal (26) argue that the use of the expression “health promotion” should be restricted to the wide range of practices it encompasses, including strategies such as health education, social marketing, mass communication, political action, community organization and organizational development (33). The first 3 strategies aim mainly at modifying individual behaviours, and the last 3 focus mostly on enabling planned changes in the environment and in collective aspects of behaviours (26).

Table I. Results of the literature search in PubMed

Search terms	Papers (n)	Search terms	Papers (n)	Search terms	Papers (n)
Physio + HP	267	Physio + HP + pain	18	Physio + HP + LBP	2
PT + HP	270	PT + HP + pain	19	PT + HP + LBP	2
Rehab +HP	1718*	Rehab +HP + pain	64	Rehab +HP + LBP	7
Physio + HE	1604*	Physio + HE + pain	445	Physio + HE + LBP	126
PT + HE	1647*	PT + HE + pain	459	PT + HE + LBP	132
Rehab + HE	9393*	Rehab + HE + pain	702	Rehab + HE + LBP	155

Physio: physiotherapy; HP: health promotion; PT: physical therapy; Rehab: rehabilitation; LBP: low back pain; HE: health education.

*Search results not completely analysed.

Based on the above-mentioned descriptions, physiotherapy and health promotion are, respectively, subfields of healthcare services and public health. However, Brown et al. (34) offer a contradicting account relating to the system-based roles of physiotherapy and health promotion. For these authors, health promotion and rehabilitation are 2 multidisciplinary subfields of health and human services. For other authors, rehabilitation interventions are considered part of the greater field of community or public health (35, 36). Nonetheless, health promotion traditionally places greater emphasis on population- or community-level interventions than physiotherapy and rehabilitation, which focus mainly on individual-level interventions (20, 34, 37).

Linking physiotherapy with health promotion on the conceptual level

Based on the review of the literature, 2 key concepts are essential to address in linking health promotion with physiotherapy: health and empowerment.

Health. Health is the first concept that emerged from the literature search. Although the above-cited definition of physiotherapy and its accompanying description emphasize optimization of capacities and well-being, the starting point of physiotherapy interventions is usually recognized as ill-health (28). More generally, in the field of rehabilitation, health is often, although not always, defined from a biological viewpoint in terms of absence of disease (28, 36). This perspective is congruent with the adoption of the biomedical model of intervention. Physiotherapists have traditionally based their interventions on this model (28, 38, 39), which has been at the heart of most health professionals' basic training (40). The biomedical model considers that there is a direct and proportional relationship between physical pathology and symptoms, such as in the case of pain (3, 16, 41). Hence, establishing a diagnosis of physical pathology is at the basis of intervention planning (41).

The management of LBP by health professionals has also traditionally been founded on the biomedical model (41). For example, in the literature, LBP is often defined in anatomical terms, such as pain located between the gluteal fold and the 12th rib or sciatica/cruralgia, with or without LBP (1). However, one of the difficulties faced by physiotherapists and other health professionals in the management of LBP is the fact that, most of the time, no specific medical diagnosis can be established (41). According to the biomedical model, when an investigation does not reveal the presence of a specific physical or biological problem, the person is therefore judged to be in good health and not requiring intervention (28, 42). This is why persisting disability in the presence of LBP is difficult to explain from the biomedical perspective, as stated by Grönblom-Lundström (28). This model also acknowledges only part of the picture, omitting the whole-life context (43).

Although the biomedical model still dominates most interventions, in the past decades, physiotherapists and other health professionals have been encouraged to shift from a purely biomedical model of intervention towards more inclusive explana-

tory models, such as the biopsychosocial model (28, 41, 44). Applied to the experience of pain, the biopsychosocial model emphasizes the influence of psychological and social factors, as well as biological or physical variables (45). The results of many previous studies indicate that psychosocial factors, including individual attitudes, beliefs, fears, emotional state, social support and satisfaction with work (45), have a leading influence on the outcome of LBP (46, 47). This model has, however, been criticized for not recognizing the interdependence between the individual and the environment (48).

Caraher (49) states that the concepts of health underlying health promotion have also been highly influenced by the biomedical model. Still, based on the Ottawa Charter definition of health promotion, the WHO (50) describes good health as a "state of complete physical, social and mental well-being". Rather than simply considering health as the absence of disease, health promotion views health as a positive concept that highlights capabilities as well as personal and social resources (50). According to this view, the presence of back pain-related disability, for example, does not preclude the possibility of good health. Health promotion also explicitly recognizes the interrelationships between individuals and their environment (26, 51). Indeed, health promotion has led the way in supporting changes assuring that the environments in which individuals and populations live are conducive to improving their health (52). Rehabilitation, like health promotion, also recognizes the interactions between the person and the environment in determining health (or disability) (34, 53, 54), but to a lesser extent than the latter according to Renwick & Friefeld (55).

A paper by Stuifbergen (56) provides an example of the difference between perspectives generally conveyed in health promotion and physiotherapy practice. This author distinguishes health promotion and disease self-management interventions. In recent years, physiotherapists have been encouraged to favour self-management approaches with people presenting LBP (57). These approaches aim at assisting individuals to cope with their pain by bringing about change in their behaviour and lifestyle (57). For Stuifbergen (56), the critical difference between self-management and health promotion interventions lies in the way the interaction between the individual and his/her condition is viewed, as well as the rationale for behaviour change. For self-management, the goal is control of disease; for health promotion, it is maximizing health and quality of life (56).

Empowerment. A second concept that it is necessary to explore in linking health promotion with physiotherapy is empowerment. Empowerment describes the process through which an individual or a community gains power, as well as its ability to exert this power in an autonomous manner (58). This definition suggests that empowerment occurs at the individual level, also called psychological empowerment, and at the community level. Organizational level empowerment has also been described (59).

Empowerment is frequently related to the practice of health promotion (31). Indeed, many authors consider empowerment as the underlying concept or core principle of health promo-

tion (31, 60). In this field, people are considered capable of managing their own health within their own life context and personal state (56). Interventions that do not entail empowerment should not even be viewed as part of health promotion according to some authors (31). Still, empowerment is not exclusive to health promotion. It is a term frequently found in healthcare (61), including community physiotherapy (62). It has even been suggested that rehabilitation is a health-promoting strategy, since it “largely concerns accumulation of power over one’s life circumstances” (43, p. 909), that is empowerment. Empowered individuals may make better use of healthcare services and resources and recognize their role in getting better (63).

According to Caraher (49), the traditional biomedical model, which still dominates physiotherapy practice, does not facilitate empowerment, because it relies mainly on the power structure in which the health professional is viewed as the expert, and the person, as a passive recipient of care. Weiner (63) states that modern-day technologies, pharmaceuticals, as well as science-based and office-based medicine, have contributed to the attenuation of people’s personal responsibility towards their pain. People have become passive recipients of experts’ interventions, which mainly attempt to alleviate painful sensations, but do not take full account of the complexity and multidimensional nature of the person’s condition and situation (28, 63).

Health professionals, including physiotherapists, have quite recently been encouraged to adopt person-centred and person-empowered approaches to healthcare (64, 65). These approaches can be viewed as responses to the increasing demand of having the individuals participate in the health-related decisions that concern them (66). The findings of a qualitative study indicate that physiotherapy expert practitioners in the physiotherapy management of LBP tend to adopt a patient-centred approach to practice, characterized by active involvement of the person (67). Such an approach facilitates patient empowerment, of which the means of attainment are “a collaboration between therapist and patient, clinical reasoning, patient education, and establishment of a good patient-therapist relationship” (67, p. 1096).

Linking health promotion with physiotherapy in practice

Relatively few publications that explicitly discuss linking health promotion with physiotherapy practice were found in the literature search ($n=10$) and no systematic review highlighting the different forms of health promotion interventions used by physiotherapists was identified. In the retrieved publications, the most-cited health promotion strategy was health education.

Physiotherapy interventions often comprise some form of education (68, 69). This means of intervention especially plays a significant role in the management of LBP (70). One-on-one education in the context of physiotherapy interventions covers issues such as an explanation of the person’s condition, useful exercises, ergonomics and the importance of early return to normal activities (71–73). In addition, group-based patient edu-

cation interventions for people with LBP have been developed and tested, but with contradictory outcome results (57).

Still, the expression “patient education” was found much more often in the literature than the expression “health education”. Although some authors do not make a clear distinction between patient education and health education, it is considered that the latter is more general than the former, and aims at primary prevention and promotion of positive health (70). It teaches people successful health behaviour (74), and is thought of as essential in managing LBP in a public health perspective (75). As for patient education, it consists of “condition-specific education with patients” (70, p. 330) and is frequently directed toward tertiary prevention (70), in which physiotherapists have mostly been involved until now (76). According to Klaber Moffet (57), patient education should aim to “help the patient take control of his problem so that he can get back to his normal activities” (57, p. 205), which highlights the role of patient education in facilitating empowerment.

For Martin (76), patient education is the strategy through which physiotherapists include health promotion and primary prevention into their practice. Other authors formally conceptualize the link between health promotion and patient education in clinical practice as clinical health promotion (49), defined as health promotion applied with patients in clinical practice (i.e. in an office, a hospital or a community setting) (77). Clinical health promotion “predisposes, enables and reinforces patients to take greater control of the non-medical determinants of their own health” (78, p. 224). Patient education and counselling are its main strategies (78). Clinicians who practise clinical health promotion emphasize behaviour modification, self-care and individual empowerment (77), while taking into account a person’s whole-life context, not just the disease itself (49).

DISCUSSION AND RECOMMENDATIONS

The results of the literature review allow the identification of key conceptual and practical issues in linking health promotion with physiotherapy, taking LBP as a clinical example. This section presents some recommendations based on the review.

Conceptualizations of health

This literature review enabled appreciation of the fact that the main conceptualizations of health that underlie practice in the fields of health promotion and physiotherapy differ, although there are some points in common. At least on the conceptual level, health promotion adopts a wider view of what constitutes health than does physiotherapy. Integrating the principles of health promotion in the field of physiotherapy requires an acknowledgment of a wider perspective on health than the one that generally underlies physiotherapy based on the still-dominant biomedical model. Although the biopsychosocial model, which has been recommended for approaching the LBP problem, is more inclusive than the biomedical model, it still places pathology (e.g. LBP) rather than health as the central theme. In the context of health promotion, the role of the physiotherapist working with people with LBP

would be to help improve good health, rather than simply reduce condition-related disability or impairment. The fact that LBP remains a huge challenge for healthcare today may be the result of relying too strictly on the biomedical model (28). Adopting a more holistic model to explain disability, or to improve health, may allow the identification of factors important for intervention that are related to the social and physical environment, not just to the individual. Thus, taking the example of LBP, which is considered multidimensional in nature, physiotherapy interventions should be aimed at more than individual level biological or physical factors. The fields of physiotherapy and rehabilitation could also benefit from the fact that health promotion emphasizes person–environment interactions (52). Although not described as a model of health, the Disability Creation Process (79) is a model that highlights such interactions and has been applied widely in rehabilitation contexts. The International Classification of Functioning, Disability and Health (ICF) may also represent a useful model for physiotherapy and rehabilitation research and practice (54). It also underscores person–environment interactions, but it is not clear how the model embodies the concept of health.

As health professionals, physiotherapists are also encouraged to be reflective practitioners (80). A reflective practitioner is able to deal with the uncertainty associated with complex situations or conditions for which evidence to guide action is lacking. Rehabilitation professionals are faced with a myriad of tensions between conflicting paradigms and models of practice in their day-to-day work. On one hand, they are deeply influenced by their professional training traditionally grounded in the biomedical perspective on health and intervention, and for which there is great pressure to apply (81). On the other hand, they may struggle practically to integrate what they think is a more holistic view of health and intervention. Roberts (82) claims that the biomedical model may not be compatible with a more holistic view of health, as supported in health promotion for example. On the contrary, a combined strategy taking account of medical and non-medical factors has also been encouraged (81). As mentioned by Glenton (83, p. 2250), the combination of many concepts is necessary in order to apprehend the complexity of conditions such as LBP.

Empowerment

Jones et al. (61) observe that few physiotherapists would say that individuals should not be implicated in all stages of an intervention. People's sense of control will most likely be "influenced by interactions with their physiotherapists" (61, p. 252). But, in practice, do physiotherapy interventions facilitate empowerment of the individual's who consult them? It is not clear to what extent the individuals are actually in control in the decision-making processes during their rehabilitation (61). In the case of LBP, many treatment modalities employed by physiotherapists are very passive in nature, such as mobilization, massage and electrotherapy (57, 68). They may act as barriers to personal or psychological empowerment (57). By taking the important decisions about the management of a problem such as LBP or stroke, and by keeping a great

level of control in the individual–physiotherapist relationship, physiotherapists may hinder the individuals' independence in attaining personal rehabilitation goals (61). However, some interventions, such as patient education, may facilitate empowerment (49).

From a certain viewpoint, it can be stated that rehabilitation, like health promotion, encourages self-care rather than expert-led care (84). In line with this view, Stucki et al. (54) state that rehabilitation is the health strategy that "aims to enable people with health conditions experiencing or likely to experience disability to achieve and maintain optimal functioning in interaction with the environment" (p. 282). Nevertheless, in a world of care still dominated by the medical model, there still seems to be room for improvement in physiotherapists' role as facilitators of individual and community empowerment (37). Jones et al. (61) argue that physiotherapists should, on the one hand, encourage people "to take control of some aspects of rehabilitation" (p. 250) and, on the other hand, support and guide decision-making. Similarly, physiotherapists may be viewed as guides to help individuals take action in order to attain their personal goals (28) and to help individuals return to their regular activities (11). Grönblom-Lundström (28) mentions that the goal of physiotherapy should be "to act upon the aims of the patients and guide them toward their specific goals" (p. 54). Hence, empowerment should be promoted and facilitated by physiotherapists, where appropriate (64, 85). Physiotherapists could take a privileged role in aiding people, e.g. those with LBP, gain greater control over their state of health. They should encourage individuals with back pain to play an active role in the intervention in order to favour good outcome (28, 41, 57, 63). The fact that individuals may hold the health professionals they consult in high esteem places the latter in a privileged position to apply health promotion principles and practices (86), such as empowerment. A first step in favouring empowerment may be for physiotherapists and other healthcare professionals to stop using the term "patient" to designate the individuals who consult them, because it implies the notion of passivity (48). Using the word "person" might be more appropriate.

Nonetheless, caution should be taken against unduly blaming the individuals for not "taking responsibility" for their own health, as the conditions and structures allowing empowerment may not always be met (85). For example, lack of adherence to exercise programmes is considered to be a common problem that must be addressed by physiotherapists who intervene with people with LBP (71). However, viewing lack of adherence as the sole responsibility of the individual may preclude physiotherapists from acknowledging that the programme may not correspond to the individual's needs and goals and/or may not be feasible in the person's milieu. Changes in the social and political context will nevertheless most likely also be necessary to support individuals in increasing control over their own health (64). In addition, a statement made by a physiotherapist according to which empowerment is to "put the responsibility for a lot of things back on the patient" (67, p. 1097) was cited in a previously published qualitative study. This statement

demonstrates that the way a professional understands the notion of empowerment may lead to unnecessary and maybe harmful “victim blaming”. Hence, there may be a fine line between facilitating empowerment and inducing a feeling of guilt, depending on how this concept is understood by the person and the professional.

Other elements may act as barriers to individual empowerment in the physiotherapy context. These include lack of time, interest, knowledge and training (76, 87). Morgan (88) further stated that “biomedical training and the hierarchical practice of medicine can impede participatory initiatives” (p. 228). Physiotherapists’ busy schedules were also identified as nuisances to individual empowerment (63). Certain settings, such as hospitals, may be less conducive to gaining control over one’s rehabilitation (61, 64). But, the general clinical setting may also be associated with some advantages for health promotion (78). Indeed, the primary care professional may be the most accessible or influential person for conducting health promotion in certain situations.

Health promotion strategies in physiotherapy

In the last few decades, there has been a call for reorientation of health services towards health promotion and prevention (32, 73, 86). Further linking of health promotion with physiotherapy could be one step in attaining this goal. According to Oldenburg & Owen (89), multi-level health promotion interventions which take into account the multiple factors that influence health of individuals and populations may be more effective than health education and clinical interventions taken in isolation. For Butler-Jones (86), there are “real opportunities for health promotion when health practitioners in their encounters with patients or clients consider the prevention and health promotion possibilities in each interaction, as well as diagnosis and treatment” (p. S75).

Recent research has indeed highlighted the interest of integrating health promotion in rehabilitation interventions and research (55, 56, 60). As rehabilitation professionals, physiotherapists, who can be consulted directly without medical referral (71), are well suited to integrate health promotion in their field of practice (21, 39, 76, 90, 91). Hence, efforts should be made further to link and integrate principles and practices of health promotion in the field of physiotherapy to improve interventions at the individual, community and population levels.

Education, in whatever shape or form, is frequently used in physiotherapy and health promotion (37). The results of this review indicate that health education seems to be the most frequently used strategy in physiotherapy practice, based on the fact that it was the most cited strategy in the consulted literature. A similar observation was also made for the field of nursing as practised in Canada (33). However, health education is often referred to as “patient education” in the retrieved publications. Conceptually, the distinctions between health education and patient education may reside in the roles of the individual and the professional, as well as in the educational content. Still, it is not obvious whether these distinctions

apply in practice. The concept of “clinical health promotion” further demonstrates the fact that although health promotion encompasses a wide range of strategies, health promotion in clinical practice, including physiotherapy, mainly consists of some form of education. The importance of education as a type of intervention for people with LBP also reinforces this statement.

Hoffman & Worrall (92) asserted that health education should be part of any rehabilitation intervention. Nonetheless, information sharing should be viewed as a 2-way process (63). Indeed, simply indicating to someone what to do or not do is often not sufficient (or adequate) to provoke change in behaviour (57). Physiotherapists should as well be involved in other health promotion strategies, such as political action and community organization. Physiotherapists could act as intermediaries between individuals and community resources who may help in tackling non-medical determinants of health (78). Physiotherapists should be further implicated in advocating and supporting health promotion policies (78). For example, physiotherapists could act as facilitators in putting forward political actions aiming at supporting research and requesting further help for people who present chronic LBP. Strategies aimed at increasing physiotherapists’ and physiotherapy students’ involvement in policy and political issues are, however, warranted. Indeed, health professionals are usually not very interested in such issues (93). Physiotherapists should also be encouraged to occupy posts as health promoters. Physiotherapists’ efforts to include health promotion activities should be supported and encouraged in their work environment (17, 37). They should notably have access to relevant resources, tools and services for promoting health in the community (86).

Still, it is most probable that physiotherapists are more involved in health promotion strategies than what was found in this literature review. Some relevant papers may have been missed. This area of interest may be under-documented in the literature. Many physiotherapy interventions could also be considered as part of the field of health promotion, although they are simply not labelled in this manner in the literature. This may however imply that these interventions are not formally linked to the conceptual foundations of health promotion.

Training and research

Although a greater integration of health promotion in physiotherapy has been recommended, physiotherapists may not know what health promotion is and how to incorporate it in their practice (37, 90). Like other health professionals (77), physiotherapists may not be adequately trained to practice health promotion (20). Indeed, physiotherapists would benefit from gaining a larger knowledge base in the practice of health promotion, as well as its underlining principles. Physiotherapists could gain, for instance, from being exposed to theories that aim to explain behaviour (20, 94), such as Bandura’s Social Cognitive Theory (95). These theories help explain individual behaviours, and their principles should be integrated into rehabilitation to favour good outcome (94). Having basic knowledge in this area may guide physiotherapists in address-

ing certain key issues in their educational interventions. As an example, using these theories could help identify the personal factors associated with people's intention to carry out exercises recommended by their physiotherapist regarding their LBP problem. Health promotion should therefore be part of the physiotherapy curricula (20, 86). Some universities have already integrated health promotion in the basic training of physiotherapists (e.g. Université de Liège, Belgium; Bergen University College, Norway).

Research addressing the subjects of health promotion and physiotherapy is rather scarce, especially relating to the problem of LBP. It would be useful to explore the integration of health promotion in physiotherapy models. To our knowledge, little work has aimed at linking health promotion in physiotherapy models. Vaillancourt (36) described a clinical framework, named community physiotherapy, which integrates public health into physiotherapy practice. For this author, community physiotherapy includes various activities related to prevention and health promotion, and is carried out in healthcare and community settings (i.e. home, non-profit organization, etc). However, previous work describing this subfield did not clearly indicate how health promotion is integrated into physiotherapy practice (96). As another example, it has been suggested that physiotherapy should be adapted in light of what is said to be the "new public health" or health promotion (97). According to Struber (97), adopting such a perspective could provide a common vision that has been mentioned to be actually lacking in the practice of physiotherapy. Other authors described conceptual frameworks and models for integrating health promotion in rehabilitation (98) and physiotherapy (99) with people with disabilities.

The potential benefits resulting from integrating health promotion activities and principles in the field of physiotherapy should, however, be verified empirically (90). In this respect, linking health promotion with physiotherapy in the management of LBP may be a particularly relevant area of study because of the complexity of this problem and its enormous impact from a public health perspective. A thorough exploration of the current practices of physiotherapists in health promotion could provide better insight into future developments in training and research (90). Closely linked to the concept of health and health promotion is quality of life (60). For Brown et al. (34), quality of life is at the heart of rehabilitation and health promotion and closely links them. These authors even describe quality of life as the "proactive force in health promotion and rehabilitation theory, policy development, and practice" (34, p. 4). Further work regarding the theoretical foundations of quality of life in rehabilitation and health promotion would also be useful (55, 60).

CONCLUSION

This paper discusses the conceptual and practical links between health promotion and physiotherapy, based on a descriptive review of the literature, and makes some recommendations in order to contribute to the improvement of physiotherapists'

interventions with people with LBP. The implementation of the suggested recommendations probably faces some important challenges. One of the main challenges may be that linking health promotion with physiotherapy may require a fundamental shift in physiotherapists' conceptualizations of what defines health (37, 39), as well as what is their role relative to the role of the people who consult them, traditionally labelled as "patients". Gaining knowledge in the field of health promotion may help physiotherapists to acquire a new understanding of the concept of health and of their role in intervening with people who present potentially complex conditions, such as LBP. LBP served as a clinical example to which the discussion could be applied in practice. However, linking health promotion with physiotherapy may also be very helpful for other conditions or populations, such as people with disabilities due to different causes (99).

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