

Self-management interventions: Proposal and validation of a new operational definition

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Abstract

Objectives: Systematic reviews on complex interventions like self-management interventions often do not explicitly state an operational definition of the intervention studied, which may impact the review's conclusions. This study aimed to propose an operational definition of self-management interventions and determine its discriminative performance compared with other operational definitions.

Study Design and Setting: Systematic review of definitions of self-management interventions and consensus meetings with self-management research experts and practitioners.

Results: Self-management interventions were defined as interventions that aim to equip patients with skills to actively participate and take responsibility in the management of their chronic condition in order to function optimally through at least knowledge acquisition and a combination of at least two of the following: stimulation of independent sign/symptom monitoring, medication management, enhancing problem-solving and decision-making skills for medical treatment management, and changing their physical activity, dietary, and/or smoking behavior. This definition substantially reduced the number of selected studies (255 of 750). In two preliminary expert meetings ($n = 6$), the proposed definition was identifiable for self-management research experts and practitioners (80% and 60% agreement, respectively).

Conclusion: Future systematic reviews must carefully consider the operational definition of the intervention studied because the definition influences the selection of studies on which conclusions and recommendations for clinical practice are based. © 2016 Elsevier Inc. All rights reserved.

Keywords: Chronic disease; Complex interventions; Definition; Primary care; Self-management interventions; Systematic review

1. Introduction

There has been increasing attention for the challenges of synthesizing and comparing the evidence on complex interventions [1,2]. Complex interventions are nonpharmacologic interventions and generally consist of several interacting components [3]. Self-management interventions are an example of complex interventions and have evolved over the past decades into a central concept in care for patients with a chronic condition [4]. Patients with a chronic condition have contact with their health care providers only a fraction of their life, whereas nearly all patient outcomes

are mediated through their daily behavior [5]. Hence, targeting patients' self-management behavior is currently considered a promising strategy for improving patient outcomes [6].

With the increasing enthusiasm, questions have emerged about the extent to which interventions to support patients' self-management are effective. The enormous number of studies conducted in this field [7] is accompanied by a subsequent increase in systematic reviews and meta-analyses that aim to provide an unambiguous answer about the effectiveness of self-management interventions. The meta-analyses repeatedly highlight the issue of the large heterogeneity among interventions included [8–11].

The way self-management interventions are defined determines the ultimate study selection from which conclusions in these systematic reviews and meta-analyses are drawn. Many studies give only a conceptual or general

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What is new?**Key findings**

- The choice of operational definition of self-management interventions substantially influences the number and case mix of self-management studies being selected.

What this adds to what is known?

- Questions regarding the effectiveness of self-management interventions are partly attributable to a lack of consensus about the definition of self-management interventions.
- This article proposes a new operational definition of self-management interventions and provides an overview of current operational definitions of self-management interventions.

What is the implication and what should change now?

- Future systematic reviews on complex interventions must explicitly specify the operational definition of the studied intervention because this defines the studies on which recommendations for clinical practice are based.

definition of self-management interventions or no definition at all. The importance of clearly defining the complex intervention under study in a systematic review has been emphasized before [12]. Even with a general definition, only a straightforward operational definition of the complex intervention, clearly defining which components need to be present to meet the definition, will lead to a transparent selection process of interventions being studied or evaluated in research reports [12]. When the variety among self-management interventions is not taken into account and no clear operational definition is posited, this might lead to incorrect conclusions about the effectiveness of self-management interventions [13].

There is general agreement about the aspects included in a conceptual definition of self-management interventions. Self-management interventions should encompass more than solely a transfer of knowledge [5,13] and entail active involvement of patients to stimulate them taking responsibility in their plan of care [4,14]. This is often implemented by teaching patients self-monitoring and problem-solving skills to deal with aspects of their disease and optimize functioning [15]. Yet, the operationalization of these self-management aspects for any specific study often remains unclear. Operationally defining self-management interventions is a highly debated topic [8] as a gold standard of

which essential elements constitute a self-management intervention is lacking [16]. Between different chronic conditions one can even see a difference in use of terminology. For example, in care for patients with chronic heart failure (CHF), self-care is a term often used interchangeably with self-management and relates to similar care processes of patients [17].

In an effort to define self-management interventions in an operational way, an international group of 10 self-management research experts with a track record in the fields of CHF, chronic obstructive pulmonary disease (COPD), and type 2 diabetes mellitus (T2DM) set out to reach consensus during a conference meeting in the context of an individual patient data (IPD) meta-analysis on self-management interventions for chronic conditions [18]. Given the fact that most chronic patients suffer from multiple conditions [19], self-management interventions were defined across chronic conditions to ensure optimal external validity:

Self-management interventions aim to equip patients with skills to actively participate and take responsibility in the management of their chronic condition in order to function optimally through at least knowledge acquisition and a combination of at least two of the following: stimulation of independent sign/symptom monitoring, medication management, enhancing problem-solving and decision-making skills for medical treatment management, and changing their physical activity, dietary, and/or smoking behavior.

This operational definition is schematically presented in Fig. 1 and evolved from the assumption that management of medication use, independent symptom monitoring, and health behaviors like diet, exercise, and smoking are under the direct control of patients, subsequently those aspects of self-management are often incorporated in self-management interventions [20]. Because current views highlight the multifaceted nature of self-management interventions [6,13], the focus is on interventions with multiple (≥ 2) components. This differentiates self-management interventions from interventions solely focusing on for instance exercise therapy or psychosocial therapies [11].

Expected subtle variations in operational definitions can result in substantial differences in case mix of selected studies. A different case mix of studies in a systematic review may influence the conclusions drawn and application of findings to clinical practice. The present study aimed to provide insight in the discriminative performance of the proposed definition to select self-management studies. Therefore, the operational definition was used to select studies meeting the definition. The resulting case mix of studies was compared with the studies selected by other operational definitions of self-management interventions. In addition, the perceptions of self-management research experts and practitioners on self-management interventions were assessed.

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