

A systematic review of interventions promoting self-care management of patients with chronic illnesses

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Abstract

Background: Self-management is a vital point in the treatment of chronic illnesses, Viz., diabetes mellitus, coronary illness, joint pain, chronic obstructive pulmonary disease and lupus. Even though powerful treatments are accessible for these serious conditions, the rate of adherence to prescription, dietary changes, physical action, blood observing, or participation to regular clinical screenings is accounted for to be around just half percentage only. Very recently, the roles of health care professional assistance in self-care management of chronic illness have been recognized.

Aim and objective: The present study aimed to examine the interventions used to improve self-care management of patients with chronic illnesses.

Method: The investigator searched systematically in major databases viz., MEDLINE, SCOPUS, Google Scholar and PubMed to gather relevant information as based on inclusion and exclusion criteria. Also, restricted to search from the period of 2010 to April 2020. Eleven eligible self-care intervention studies have been included in this review.

Results: This review of literature revealed that only a limited number of empirical studies on intervention promoting self-care management. In addition, interventions for self-care management are mostly concentrating on any one of the three areas viz., disease-related education, behavioral modification, or psychosocial support for patients with chronic illness. Education-based interventions have a significant role in self-care management. Also, behavioral change strategies played to be an important factor in the intervention.

Relevance to clinical practice: In light of these findings are suggests that effective integrative approach would be involved in the interventions to improve self-care management of patients with chronic illness.

Key words: *Chronic illness, Self-care management, Intervention, Behavioural modification.*

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Introduction

Chronic illness is one of the most common reasons for hospitalization in patients aged 65 and older. However, many hospitalizations for chronic illnesses such as diabetes mellitus, coronary illness, joint pain, chronic obstructive pulmonary disease and lupus are possibly preventable when the warning signs are recognized and treated before the situation gets to be emanant. Particularly, diabetes mellitus and coronary artery illness as a predominant and expensive disease with noteworthy impacts on quality of life (Western, 2007). Effective management of such type of chronic illnesses are more complex and requires continues observing on the portion of clinicians as well as psychoeducation of patient about illnesses, adherence to dietary and physical activity guidelines, self-monitoring and symptom management (Riegel et al. 2009). Hence, through the effective outpatient interventional programs may improve clinical results and decrease hospitalization frequency by making better use of outpatient resources.

Self-care management is defined as the active management by individuals of their treatment, symptoms, lifestyle, physical and psychological consequences inherent with living a chronic condition (Lorig, & Holman, 2003). It involves attractive initiation in managing the increasing burden on health and social care resources and decreasing related costs as well as the assumption being that effective self-management by an individual decreases their healthcare utilisation (Bodenheimer, Lorig, Holman, & Grumbach, 2002; Glasgow et al., 2002).

Self-care management interventions are designed to enable people to manage their health at more effectively. Evaluation of intervention programs through people develop the skills to manage their own health, and results in better health. Such evaluation is complex because of variation in results, cultural diversity, and anticipated goals and outcomes of

interventions are diverse in nature. Also, the current evidence suggests that the mediators of change and theoretical background about Self-care management interventions are unclear (Ajzen, & Fishbein, 2005; Hardeman et al., 2002).

Interventions may be evaluated by examining the effect on health outcomes in chronic patients that potentially change as a consequence of better self-management. Using patient reported outcome measures (PROMs) such as functional status, symptom control, mood and health-related quality of life (QoL) is an important way to ensuring evaluation considers outcomes important to patients. Preliminary investigation of self-management suggests that effective self-management corresponds with positive changes in health behaviour. However, it is unclear whether the measures adopted in interventional studies provide legitimate information to evaluate self-management, both the process and obtaining of skills to better manage health and subsequent potential improvements in health.

Despite some chronic illnesses related studies are testing self-care management interventional programs, no previous quantitative synthesis has examined individual interventions involving these programs or the effective combination of these individual interventions needed to improve outcomes. Thus, the primary purpose of this review study was to describe and quantify individual interventions used in patients with chronic illnesses such as diabetes mellitus, coronary artery illness in self-care management programs.

Material and methods

Search strategy and selection criteria

Electronic databases including Google scholar, PubMed, Scopus-Elsevier, MEDLINE, and CTRI registry in India, were searched with time limit between 2010 and April 2020. The search terms in databases were “self-care management”, “self-management”,

“intervention”, “outcome”, “coronary illness” and “diabetes mellitus”. The combination of these key words were used as searching strategy in this review article. Further, all the articles which were comes under the inclusion criteria were examined and reviewed.

Inclusion and exclusion criteria

In the present review study has been followed the below inclusion criteria conscientiously: (1) have published between 2010 and April 2020, (2) has been published in English, (3) participants must be a chronic patients who suffered either heart related chronic illness or diabetes mellitus, (4) subject of the studies must be intervention, self-care management, (5) descriptive, prospective or retrospective cohort study, case-control study, cross-sectional study, experimental or quasi-experimental, and randomized controlled trial were considered eligible.

The exclusion criteria have been adopted in this study as: (1) chronic psychiatric cases, (2) other than English language, all languages are excluded, (3) psychometric studies developing intervention module, (4) existing review articles related to chronic illnesses and (4) studies lacking full text availability also excluded from this review.

Search results

While searching single or combination of the keywords into databases, 14 studies were found and the selected articles were reviewed. In the first phase, researcher reviewed the abstract of articles and removed the articles which were not matched in the inclusion criteria. At the end of the first phase, the researcher finalized 12 studies. Further, in the second phase, researcher read the full-texts of selected articles and those articles that did not available was excluded again. Hence, finally, 8 articles met with the required criteria. Such articles have been selected for further research process. All the selected articles have been listed in Table 1.

Table 1:

Author(s)	Purpose	Sample size	Research Design	Instrument	Outcomes
Creber et al. (2016)	To assess the efficacy of a tailored motivational interviewing intervention vs usual care for improving self-care behaviours, physical HF symptoms and quality of life	67	Randomized controlled trial	Motivational interviewing (MI) intervention	MI intervention had significant meaningful improvements in HF self-care management and clinical outcomes
Shively et al. (2013)	To determine the efficacy of a patient activation intervention compared with usual care on self-care management, hospitalizations, and emergency department visits in patients with Heart Failure	84	Randomized, 2-group, repeated-measures design	Activation / Heart PACT intervention	It supports the importance of targeted interventions to improve patient activation or engagement in Heart Failure care
Paradis et al. (2010)	To assess the motivational interviewing (MI), which aims to strengthen conviction and confidence, has been shown to improve self-care	30	Randomized control trial	Motivational interviewing (MI) Intervention	MI intervention is useful to increase patients' confidence level and has potential to improve self-care

Barnason et al. (2003)	To determine the impact of a home communication intervention (HCI) for ischemic heart failure Coronary Artery Bypass Graft (CABG) patients	35	Randomized clinical trial	Barnason Efficacy Expectation Scale (BEES), Cardiovascular Risk Factor Modification Adherence, Medical Outcomes Study Short Form-36, Patient education and counselling	This study used to strengthen the HCI intervention with more tailored strategies for vulnerable subgroups of CABG patients
Riegel et al. (2006)	To assess the Self-care management is an integral component of successful heart failure (HF) management	15	Mixed method, Pre & post-test design	Audiotaped intervention sessions	An intervention that incorporates the core elements of motivational interviewing may be effective in improving HF self-care
Johansson, Adamson, Ejdeback, & Edell-Gustafsson, (2014)	To evaluate the effectiveness of an individualised programme to promote self-care in sleep-activity in patients with coronary artery disease	47	Randomised pre-test & post-test control design	Nurse-led individualised education programme	An individualised intervention programme to promote self-care of sleep-activity including relaxation in patients with coronary artery disease led by a nurse may improve sleep quality

Gilard et al. (2007)	Percutaneous coronary intervention (PCI) or coronary artery bypass grafting can be chosen for the treatment of multiple-vessel coronary artery disease	70	-	Hybrid Percutaneous coronary intervention (PCI)	Same-day combined procedure in patients with diffuse multi-vessel coronary artery disease are encouraging.
Pal, Srivastava, Narain, Agrawal, & Rani, (2013)	To determine the effect of yogic practices on sympathetic and parasympathetic function in patients with Coronary Artery Disease	258	Interventional pre and post design	Yogic intervention program	BMI, Waist:hip ratio, SBP, DBP and resting heart rate decreased significantly more in the intervention group than in the control group

Discussion

Table 1 summarizes the characteristics and results of the reviewed interventions. In the content and frequency of specific interventions are used in multicomponent patient heart Failure Self-care Management programs. Data have been extracted on specific study interventions used within the intervention program. The most common intervention as patient education, followed by symptom monitoring by study staff, symptom monitoring by patients, medication adherence strategies and guideline concordant care established at the study enrolment use of suggested medications for Heart Failure.

The most common intervention mode as utilized by face-to-face interaction, further, scheduled telephone contacts and home visits. Sometimes, these mode of intervention used as combination of one or more. Some studies provided telephone availability of clinical study staff which patients could call study staff with questions about their self-care management. Some studies include psychoeducation for patients which mainly included symptom recognition and management, as well as medication review also included. Furthermore, weight management, coping skills, alcohol intake, tobacco cessation, adjusting medication, and management of fatigue which are included in the psychoeducation that could improve the patients' quality of life.

The intervention descriptions in most of the reviewed studies did not include detailed descriptions of all components. In others, the descriptions of interventions in published reports have been lacking. Hence, it is difficult to examine the effects of specific intervention components on patient outcomes, determining the minimum number, type, duration, and combination of specific intervention needed to improve outcomes. These factors should be routinely described so that programs can be compared for effectiveness across studies. Over the past few years, home-monitoring technologies are emerging

to improve patient outcomes, and chronic illnesses as a frequently targeted condition for home technology monitoring. A wide range of technologies can be used to facilitate ongoing communication between the person with chronic illness, the informal caregiver, and the healthcare team.

Remote monitoring technology enables a communication link between the patient's home and clinicians. These would be useful scripted content, usually a question-and-answer format addressing patient symptoms, behaviour, and knowledge, and can include outcomes assessments to track patient's progress.

Self-care management in chronic illness is key because of patients are responsible for most of their care. Self-care interventions include medication taking, symptom monitoring, adhering to diet recommendations, restricting fluid, limiting alcohol intake, losing weight, exercising, having preventive behaviours (immunizations, dental health), and judiciously using non-prescription medications.

Further, there are some limitations in this review study including lacking transparency about intervention modules, and not reproducible. Several outcomes were synthesized across small numbers of studies and should be interpreted cautiously. In addition, this review article only including literature on intervention given to diabetes mellitus and coronary artery disease. Sometimes it was likely that citations could not directly relate to intervention for chronic illnesses, so it was left out. Therefore, some important specific understanding about overall health benefits based on self-care management might have been ignored.

Conclusion

Current published literature describing trials on outpatient's self-care management programs. Which does not provide sufficient detail on individual intervention program to

enable identification of the appropriate number and combination of interventions needed to improve outcomes. Well-designed evidence-based hybrid interventional self-care management programs for people with chronic illnesses are significant to maintain their quality of life and manage resource use. The development of standardized evidence-based protocols is key to successful implementation of chronic disease self-care management interventions delivered by nurses. Data are needed for developing well-designed trials to validate evidence based content for self-care management programs. In addition, effective integrative interventions would be needed to improve self-care management of patients with chronic illness. A number of studies evaluating self-care management interventions have found positive effects on important patient outcomes. This study highly provides the detailed analysis about self-care management intervention with chronic illnesses specifically diabetes mellitus and coronary artery disease.

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