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Overview

The Effectiveness of Group-based Self-management Programmes to Improve Physical and Psychological Outcomes in Patients with Cancer: a Systematic Review and Meta-analysis of Randomised Controlled Trials

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Abstract

The purpose of this study was to determine if patients with cancer who participate in group-based self-management programmes have better physical and psychological outcomes than patients with cancer who do not participate in group-based self-management programmes. A literature search was conducted in Ovid MEDLINE, Embase, PsycINFO, CINAHL, CENTRAL, Web of Science and ProQUEST using the terms 'self-management' OR 'self-care' AND 'cancer' OR 'neoplasm'. Randomised controlled trials comparing outcomes for people with cancer participating in group-based self-management programmes with those not participating in these programmes were selected after screening by two reviewers. Initial searches yielded 563 articles. Two reviewers independently extracted data using piloted forms and assessed risk of bias using Cochrane's tool. Standard mean differences were calculated for continuous outcomes. The percentage of variability due to heterogeneity was assessed using I^2 . A subgroup analysis was carried out where possible. Six trials were included in the review after 141 full-text articles were screened. Group-based self-management programmes were found to improve physical function [standard mean difference (95% confidence interval) = 0.34 (0.02, 0.65), $P = 0.04$]. No significant results were found between groups for quality of life [0.48 (–0.16, 1.11), $P = 0.14$] and physical activity level [0.21 (–0.07, 0.5), $P = 0.15$] outcomes. Group-based self-management programmes for individuals with cancer resulted in improvements in physical outcomes. However, considerable heterogeneity was found between the included studies and the quality of evidence was very low for all main outcomes. Therefore the results should be viewed with caution.

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Key words: Cancer; quality of life; self-care; self-management; survivorship

Statement of Search Strategies Used and Sources of Information

Five databases were searched for studies to include in this systematic review. These included Ovid MEDLINE (In-Process and other Non-Indexed Citations 1946 to 11 February 2014), Embase (1974 to 11 February 2014), PsycINFO (1987 to Week 1 February 2014), CINAHL and the Cochrane Central Register for Controlled Trials (CENTRAL) up to 11 February 2014. Published literature with restricted

distribution was searched through the ISI Web of Science and ProQuest for dissertations and theses. Authors of published protocols who did not have full reports available were emailed to determine the status of their project. Briefly, all databases were searched using the key words 'cancer' OR 'neoplasm', 'self-management' OR 'self care' and exploded where possible. Results were limited to randomised trials.

Introduction

Cancer is one of the most common illnesses in Canada; one of every 2.3 people are expected to have cancer in their lifetime [1,2]. The treatments for cancer can lead to many physical and psychological side-effects that affect a person's

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overall functioning and quality of life [3–7]. These include symptoms such as pain, fatigue, nausea, weakness and depression [8–18].

Overall cancer mortality rates have been declining since the 1980s, primarily due to increased screening and more effective treatment techniques [19]. Survivors of all forms of cancer are living with long-term side-effects secondary to surgery, chemotherapy and radiotherapy treatments, which are known to have significant and long-term consequences [20–22]. The need to treat these long-term side-effects, together with the increased prevalence of cancer in society, is causing an economic burden on the healthcare system [2].

In order to deal with these individual and economic burdens, and to improve cancer survivorship, effective strategies to manage long-term side-effects are needed. One suggested strategy is through the use of self-management programmes. Although there is a lack of consensus in the literature as to a definition of self-management [23], the goal of self-management strategies is to empower patients to actively manage their health condition [24]. Self-management programmes are multi-component strategies that attempt to increase the participant's self-efficacy for self-management skills [25]. The theoretical basis of these programmes stems from Bandura's social cognitive theory, where participants aim to enhance self-efficacy in order for sustained behaviour change [26]. A recent review looking at the types of self-management programme available for individuals with cancer highlights the need to establish a common language for self-management strategies in order to improve the clinical application of these interventions [27]. In this review, self-management was summarised from numerous primary articles as 'those tasks that individuals undertake to deal with the medical, role, and emotional management of their health condition' [27]. Self-management strategies have been found to be successfully employed at various points along the cancer care continuum, including during active treatment when the individual must be aware of and monitor treatment-related side-effects, and after treatment completion as these individuals transition into the survivorship phase and try to return to normal activities [27].

Popular self-management programmes, such as the chronic disease self-management programme [28], have been effective for individuals with other chronic diseases [29]. Although self-management strategies have been used in a variety of forms (by telephone, in person, online), most self-management programmes are offered in group format. The group aspect of these types of programme relates to social cognitive theory principles and has been shown to lead to psychosocial benefits in patients with cancer [30]. Recent research on group-based programmes for people with chronic conditions has shown a significant improvement in many common side-effects [31–33]. Currently, no systematic review has been published that summarises the evidence on the effectiveness of these programmes for the unique needs and long-term side-effects of patients with cancer.

The purpose of this systematic review and meta-analysis was to determine if patients with cancer who take part in group-based self-management programmes have better physical (such as physical functioning and physical activity levels), psychological (anxiety and depression) and quality of life outcomes than patients with cancer who do not take part in group-based self-management programmes.

Materials and Methods

Eligibility Criteria

The studies included in this review were randomised controlled trials involving adult patients (>18 years) with a primary diagnosis of any cancer, stages I–IV. Study intervention participants must have participated in a form of group-based self-management programme, whereas participants in the control group must not have participated in any form of group-based self-management programme. Control participants could receive non-group-based self-management education. Self-management programmes must have taken place over at least two sessions. Co-interventions for both intervention and control groups were allowed for inclusion. Studies written in languages other than English or French were excluded from the review.

This review defined self-management as 'awareness and active participation by the person in their recovery, recuperation and rehabilitation, to minimize the consequence of treatment, promote survival, health and well-being' [34]. A self-management programme has multiple components that attempt to promote and support adequate self-management while allowing the individual to make informed choices and learn new skills to apply to health problems [24,35]. To ensure consistency of self-management interventions within this review, the intervention must have explicitly stated to include 'self-management' or 'self-care' strategies.

Search Strategy

Five databases were searched for studies to include in this systematic review. These included Ovid MEDLINE (In-Process and other Non-Indexed Citations 1946 to 11 February 2014), Embase (1974 to 11 February 2014), PsycINFO (1987 to Week 1 February 2014), CINAHL and the Cochrane Central Register for Controlled Trials (CENTRAL) up to 11 February 2014. Published literature with a restricted distribution was searched through the ISI Web of Science and ProQuest for dissertations and theses. Authors of published protocols who did not have full reports available were emailed to determine the status of their project. A full electronic search strategy for MEDLINE can be found in Table 1. Briefly, all databases were searched using the key words 'cancer' OR 'neoplasm', 'self-management' OR 'self care' and exploded where possible. Results were limited to randomised trials.

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