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[Intervention Review]

Educational interventions for the management of cancer-related fatigue in adults

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ABSTRACT

Background

Cancer-related fatigue is reported as the most common and distressing symptom experienced by patients with cancer. It can exacerbate the experience of other symptoms, negatively affect mood, interfere with the ability to carry out everyday activities, and negatively impact on quality of life. Educational interventions may help people to manage this fatigue or to cope with this symptom, and reduce its overall burden. Despite the importance of education for managing cancer-related fatigue there are currently no systematic reviews examining this approach.

Objectives

To determine the effectiveness of educational interventions for managing cancer-related fatigue in adults.

Search methods

We searched the Cochrane Central Register of Controlled Trials (CENTRAL), and MEDLINE, EMBASE, CINAHL, PsycINFO, ERIC, OTseeker and PEDro up to 1st November 2016. We also searched trials registries.

Selection criteria

We included randomised controlled trials (RCTs) of educational interventions focused on cancer-related fatigue where fatigue was a primary outcome. Studies must have aimed to evaluate the effect of educational interventions designed specifically to manage cancer-related fatigue, or to evaluate educational interventions targeting a constellation of physical symptoms or quality of life where fatigue was the primary focus. The studies could have compared educational interventions with no intervention or wait list controls, usual care or attention controls, or an alternative intervention for cancer-related fatigue in adults with any type of cancer.

Data collection and analysis

Two review authors independently screened studies for inclusion and extracted data. We resolved differences in opinion by discussion. Trial authors were contacted for additional information. A third independent person checked the data extraction. The main outcome considered in this review was cancer-related fatigue. We assessed the evidence using GRADE and created a 'Summary of Findings' table.

Main results

We included 14 RCTs with 2213 participants across different cancer diagnoses. Four studies used only 'information-giving' educational strategies, whereas the remainder used mainly information-giving strategies coupled with some problem-solving, reinforcement, or support techniques. Interventions differed in delivery including: mode of delivery (face to face, web-based, audiotape, telephone); group or individual interventions; number of sessions provided (ranging from 2 to 12 sessions); and timing of intervention in relation to completion of cancer treatment (during or after completion). Most trials compared educational interventions to usual care and meta-analyses compared educational interventions to usual care or attention controls. Methodological issues that increased the risk of bias were evident including lack of blinding of outcome assessors, unclear allocation concealment in over half of the studies, and generally small sample sizes. Using the GRADE approach, we rated the quality of evidence as very low to moderate, downgraded mainly due to high risk of bias, unexplained heterogeneity, and imprecision.

There was moderate quality evidence of a small reduction in fatigue intensity from a meta-analysis of eight studies (1524 participants; standardised mean difference (SMD) -0.28, 95% confidence interval (CI) -0.52 to -0.04) comparing educational interventions with usual care or attention control. We found low quality evidence from twelve studies (1711 participants) that educational interventions had a small effect on general/overall fatigue (SMD -0.27, 95% CI -0.51 to -0.04) compared to usual care or attention control. There was low quality evidence from three studies (622 participants) of a moderate size effect of educational interventions for reducing fatigue distress (SMD -0.57, 95% CI -1.09 to -0.05) compared to usual care, and this could be considered clinically significant. Pooled data from four studies (439 participants) found a small reduction in fatigue interference with daily life (SMD -0.35, 95% CI -0.54 to -0.16; moderate quality evidence). No clear effects on fatigue were found related to type of cancer treatment or timing of intervention in relation to completion of cancer treatment, and there were insufficient data available to determine the effect of educational interventions on fatigue by stage of disease, tumour type or group versus individual intervention.

Three studies (571 participants) provided low quality evidence for a reduction in anxiety in favour of the intervention group (mean difference (MD) -1.47, 95% CI -2.76 to -0.18) which, for some, would be considered clinically significant. Two additional studies not included in the meta-analysis also reported statistically significant improvements in anxiety in favour of the educational intervention, whereas a third study did not. Compared with usual care or attention control, educational interventions showed no significant reduction in depressive symptoms (four studies, 881 participants, SMD -0.12, 95% CI -0.47 to 0.23; very low quality evidence). Three additional trials not included in the meta-analysis found no between-group differences in the symptoms of depression. No between-group difference was evident in the capacity for activities of daily living or physical function when comparing educational interventions with usual care (4 studies, 773 participants, SMD 0.33, 95% CI -0.10 to 0.75) and the quality of evidence was low. Pooled evidence of low quality from two of three studies examining the effect of educational interventions compared to usual care found an improvement in global quality of life on a 0-100 scale (MD 11.47, 95% CI 1.29 to 21.65), which would be considered clinically significant for some.

No adverse events were reported in any of the studies.

Authors' conclusions

Educational interventions may have a small effect on reducing fatigue intensity, fatigue's interference with daily life, and general fatigue, and could have a moderate effect on reducing fatigue distress. Educational interventions focused on fatigue may also help reduce anxiety and improve global quality of life, but it is unclear what effect they might have on capacity for activities of daily living or depressive symptoms. Additional studies undertaken in the future are likely to impact on our confidence in the conclusions.

The incorporation of education for the management of fatigue as part of routine care appears reasonable. However, given the complex nature of this symptom, educational interventions on their own are unlikely to optimally reduce fatigue or help people manage its impact, and should be considered in conjunction with other interventions. Just how educational interventions are best delivered, and their content and timing to maximise outcomes, are issues that require further research.

PLAIN LANGUAGE SUMMARY

Education for the management of cancer-related fatigue

Objectives

This systematic review sought to find out how well educational interventions worked for managing cancer-related fatigue.

Condition

Fatigue is a common and problematic symptom for people with cancer that is greater than the tiredness experienced in everyday life. It can make the experience of other symptoms worse, negatively affect mood, interfere with the ability to carry out everyday activities, and negatively impact on quality of life.

Interventions

Education can provide people with information about what fatigue is and how to manage it. For example, managing fatigue may involve conserving energy throughout the day, and learning about the benefits of exercise, diet, relaxation, and good sleep routines. These approaches may help people to manage their fatigue and help them cope with its effects. In November 2016 we found 14 trials using education for cancer-related fatigue compared to the usual care people received or to an attention control such as providing general information about cancer. All of the included studies were randomised controlled trials. These trials were undertaken with adults with any type or stage of cancer.

Results

The review found that education may have a small effect on reducing the intensity of fatigue, its interference in daily activities or relationships, and general (overall) fatigue. It could have a moderate effect on reducing distress from fatigue amongst people with non-advanced cancer. There may also be beneficial effects on anxiety and overall quality of life, although it is unclear whether it reduces depression. It is unknown if this result might differ between types of cancer treatment or if the education is provided during or after cancer treatment. Not enough is known about the type of education that is most effective, when it is best provided, or whether it is effective for people with advanced cancer.

Quality of evidence

We rated the quality of the evidence from studies using four levels: very low, low, moderate, or high. Very low quality evidence means that we are very uncertain about the results. High quality evidence means that we are very confident in the results. There were problems with the design of some studies, and some were very small in size. The quality of the evidence therefore varied from very low to moderate overall and the results of this review need to be interpreted with caution.