INPLASY

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The effect of online-delivered Cognitive Behavioural Therapy on fatigue in cancer patients and survivors: A protocol for a systematic review and meta analysis

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ADMINISTRATIVE INFORMATION

Support - The Cairnmillar Institute.

Review Stage at time of this submission - Data extraction.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202480108

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 23 August 2024 and was last updated on 23 August 2024.

INTRODUCTION

Review question / Objective To examine the effectiveness of digitally delivered cognitive behavioural therapy on fatigue levels on adult cancer patients and survivors.

Rationale To the authors knowledge, there are currently no reviews of meta-analyses that have reviewed the literature on the effectiveness of digitally delivered cognitive therapies to reduce cancer-related fatigue. By analysing and synthesising existing literature, we aim to draw meaningful conclusions regarding the efficacy of digitally delivered Cognitive Behavioural Therapy in the reduction of fatigue symptoms of people who suffer from cancer-related fatigue.

Condition being studied Cancer and its treatment can lead to various physical and mental health issues that can have a significantly negative impact on the quality of life. One of the most prevalent and enduring symptoms reported by people who have cancer is fatigue. Fatigue has been found to be one of the most reported and distressing symptoms experienced by cancer patients surpassing even pain in its disruptive impact on daily routines and quality of life.

There is promising evidence to suggest that interventions based on cognitive behavioural techniques can be effective in reducing cancer related fatigue. Cognitive Behavioural Therapy has also been found to be an effective treatment in managing fatigue levels across various other long-term conditions such as Chronic Fatigue Syndrome, Multiple Sclerosis and diabetes.

Telehealth treatments can effectively overcome such barriers posed by COVID-19 as well as access barriers to traditional face to face treatment.Internet-delivered psychotherapeutic interventions show efficacy similar to the average effect size of traditional, face-to-face therapy.

METHODS

Search strategy ("Fatigue*" OR "CRF" OR "Cancer Related Fatigue") AND ("cancer*" OR "tumo?r*" OR "malignan*" OR "neoplas*" OR

"glioma*" OR "leukemi*" OR "lymphom*" OR "carcinom*" OR "melanom*" OR "sarcom*" OR "oncolog*") AND ("Cognit* Behavi*" OR "CBT") AND ("android*" OR "app" OR "apps" OR "audio*" OR "blog*" OR "cell?phone*" OR "computer*" OR "cyber*" OR "DVD" OR "digital*" OR "e?health" OR "electronic*" OR "e?mail*" OR "e?Portal*" OR "e?Recovery" OR "e?Therap*" OR "gaming" OR "instant messag*" OR "internet*" OR "i?pad*" OR "i?phone*" OR "i?pod*" OR "Kindle*" OR "laptop*" OR "m?health" OR "mobile*" OR "multi?media" OR ""o?CBT" OR "on?line*" OR "podcast*" OR "remote*" OR "SMS" OR "smart?phone*" OR "social?network*" OR "software*" OR "telephone*" OR "technolog*" OR "telecomm*" OR "tele?health*" OR "tele?med*" OR "tele?monitor*" OR "tele?therap*" OR "text?message*" OR "texting" OR "video*" OR "virtual*" OR "web" OR "media*" OR "wireless*" OR "wearable*" OR "Facebook*" OR "Instagram*" OR "Myspace*" OR "Reddit*" OR "Skype*" OR "Snapchat*" OR "Tumblr*" OR "Twitter*" OR "WhatsApp*" OR "YouTube*" OR "immersive technolog*" OR "i?CBT" OR "e?CBT" OR "CBT?e" or"CBT?i").

Participant or population Adults over 18 who have or have had a diagnosis of cancer.

Intervention Cognitive Behavioural Therapy delivered digitally.

Comparator Control group.

Study designs to be included Randomised Control Trials.

Eligibility criteria We set the inclusion and exclusion criteria based on PICO (patients/population, intervention, comparison, and outcomes) principles. Studies will be eligible for inclusion if they meet the following criteria; Population- Studies including cancer patients and survivors, age 18 and over from any country, with any cancer type. Intervention- Studies assessing the effectiveness of digitally-delivered Cognitive Behavioural Therapy for fatigue levels will be included. Comparator- Studies that compare the intervention with a control group or any other interventions. Outcome measures- Studies which report fatigue levels; Study Design- Only Randomised Control Trials (RCT's) published in peer reviewed journals will be included; Language- Only studies published in English will be included; Date- All dates will be included.

Information sources We employed a comprehensive search strategy across multiple electronic databases to ensure thorough coverage of pertinent literature. Our primary database was PubMed, which covers journals and includes access to MEDLINE and PubMed Central (PMC). Additionally, we will be making use of EBSCOhost, a database that encompasses the following academic journals; Psychology and Behavioral Sciences Collection, APA PsycInfo, APA PsycArticles, MEDLINE Complete, Academic Search Complete, CINAHL with Full Text, OpenDissertations, Child Development & Adolescent Studies, and APA PsycTherapyEBSCO's Psychology and Behavioural Sciences collection, APA Psycinfo, APA Psycarticles, MEDLINE, Academic Search Complete, CINAHL and SCOPUS.

Main outcome(s) Reported fatigue levels.

Data management Articles were exported to RAYYAN. After removing duplicates, two independent reviewers screened the titles and abstracts to assess eligibility. The full texts were then examined to ensure they were relevant and met eligibility criteria. Discrepancies were resolved through a third party reviewer.

Quality assessment / Risk of bias analysis Studies will be assessed for quality using the Joanna Briggs Institute (JBI) critical appraisal checklist for Randomised Control Trials.

Strategy of data synthesis In this study, a meta-analytical approach will be employed to systematically review and synthesise the existing literature. The statistical software STATA will be used to calculate effect sizes for each primary study, ensuring uniformity for meaningful comparisons. The results will be visualised through forest plots, and the level of heterogeneity among studies will be assessed. A funnel plot will be used to investigate potential publication bias, while subgroup analyses will explore sources of heterogeneity. The choice between fixed and random effect models will be made based on the observed heterogeneity.Meta-analysis.

Subgroup analysis Meta-analysis.

Sensitivity analysis The stability of the combined data will investigated using a sensitivity analysis.

Language restriction English.

Country(ies) involved Australia.

Keywords Fatigue, CBT, Cognitive Behavioural Therapy, Systematic Review, Digitally-delivered, Cancer.

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