INPLASY PROTOCOL

Corresponding author:
Chenhao Yu

18375634981@163.com

Author Affiliation:
The First Afliated Hospital of Chongqing Medical University, No.1 Youyi Road, Yu Zhong District, Chongqing 400016, People's Republic of China.

Support: Not applicable.

Review Stage at time of this submission: Data extraction.

Conflicts of interest:
None declared.

Effect of mindfulness based stress reduction on the immune function of patients with breast cancer: a systematic review and meta-analysis

Yu, C[1]; Tian, L[2]; Zhang, J[3].

Review question / Objective: Use the latest and most comprehensive randomized controlled trials to study the effect of mindfulness based stress reduction on the immune function of patients with breast cancer.

Condition being studied: Breast cancer is the most commonly diagnosed cancer among women. It is also the leading cause of cancer deaths, accounting for 23% of all cancer cases and 14% of cancer deaths. At present, it is the most common cancer among women in developed and developing countries. Great changes have taken place in the treatment of breast cancer. Early detection is more effective and the diagnosis is improved, thus improving the survival rate. However, many women who survive in breast cancer inevitably encounter a series of problems related to disease and treatment. These problems have persisted throughout their lives, including major psychosocial problems, psychosocial decline and health-related quality of life (HRQoL). Immediate and long-term sequelae usually lead to anxiety, depression, fear of recurrence, sleep disorders or physical problems of pain and fatigue. It is well known that psychosocial intervention can improve the emotional health and quality of life of cancer patients. Mindfulness based stress reduction (MBSR) is an 8-week program consisting of educational materials, practical courses and four meditation techniques (meditation, body scanning, hada soft yoga and walking meditation). MBSR has been used in healthcare practice to provide interventions.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 15 March 2022 and was last updated on 31 August 2022 (registration number INPLASY202230071).

INTRODUCTION

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immune function of patients with breast cancer.

Condition being studied: Breast cancer is the most commonly diagnosed cancer among women. It is also the leading cause of cancer deaths, accounting for 23% of all cancer cases and 14% of cancer deaths. At present, it is the most common cancer among women in developed and developing countries. Great changes have taken place in the treatment of breast cancer. Early detection is more effective and the diagnosis is improved, thus improving the survival rate. However, many women who survive in breast cancer inevitably encounter a series of problems related to disease and treatment. These problems have persisted throughout their lives, including major psychosocial problems, psychosocial decline and health-related quality of life (HRQoL). Immediate and long-term sequelae usually lead to anxiety, depression, fear of recurrence, sleep disorders or physical problems of pain and fatigue. It is well known that psychosocial intervention can improve the emotional health and quality of life of cancer patients. Mindfulness based stress reduction (MBSR) is an 8-week program consisting of educational materials, practical courses and four meditation techniques (meditation, body scanning, hada soft yoga and walking meditation). MBSR has been used in healthcare practice to provide interventions.

METHODS

Participant or population: Female survivors of primary breast cancer.

Intervention: Mindfulness-based stress reduction (MBSR).

Comparator: Usual care or any other active treatments.

Study designs to be included: Randomized controlled trials.

Eligibility criteria: Female survivors of primary breast cancer.

Information sources: Ten databases will be systematically searched: Cochrane Library, PubMed, Web of Science, Embase, MEDLINE, The Offshore Vessel Inspection Database, JAMA, ClinicalKey, Scopus, Up to date.

Main outcome(s): cytokines:IL-6（pg / ml）;Production IL-6（ng/ml）;TNF-α（pg / ml）;Production IFN-γ（ng/ml）.

Additional outcome(s): Lymphocyte subsets:NKCA(LU 20%);CD3+（% lymph）;CD4+（% lymph）;CD8+（% lymph）;CD19+（% lymph）;CD4+/CD8+ ratio;CD16+/CD56+ratio;CD3+IFN-γ+ (Th1);CD3+IL-4+ (Th2);Th1/Th2.

Data management: All results of database searching will save into reference management software EndNote X9, duplicates will be removed via the duplicate search function and manually reviewing. After that, two reviewers will independently screen for eligible citations via title, abstract and keywords, any disagreements will be resolved through discussion or by a third reviewer. Two reviewers will independently extract relevant information using a predesigned form, which includes year of publication, numbers of patients enrolled, participant characteristics, the features of the interventions in the treatment and control groups, the types of outcome assessments, the methodological quality of the primary studies, the data analysis approaches, the sources of funding, and the primary conclusion(s).

Quality assessment / Risk of bias analysis: We will use the Cochrane Handbook for Systematic Review of InterventionsVersion 5.1.0 tool to assess the methodological quality of the included reviews.

Strategy of data synthesis: We will not use aggregate or individual participant data,but we will provide a narrative synthesis of the findings from the included reviews structured around the type and content of interventions and outcomes reported. A

narrative synthesis of the results of the RevMan5.3 will be conducted, and the data presented in a table to provide an indication of the overall quality and risk of bias of the included overviews.

Subgroup analysis: Not applicable.

Sensitivity analysis: Descriptive analysis.

Country(ies) involved: China.

Keywords: Mindfulness based stress reduction; Breast cancer; immune function

Contributions of each author:
Author 1 - Chenhao Yu.
Email: 18375634981@163.com
Author 2 - Lijuan Tian.
Email: 582367885@qq.com
Author 3 - Ju Zhang.
Email: zhangjucq@163.com