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The Impact of Mindfulness Intervention on Negative Emotions and Quality of Life in Malignant Tumor Patients: A Meta-Analysis

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ADMINISTRATIVE INFORMATION

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Review Stage at time of this submission - Completed but not published.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 22 August 2024 and was last updated on 22 August 2024.

INTRODUCTION

Review question / Objective This study aims to evaluate the impact of mindfulness intervention on negative emotions (anxiety and depression) and quality of life in patients with malignant tumors. By searching databases such as CNKI, Wanfang, PubMed, Embase, etc., the search period is from database establishment to January 2024. A randomized controlled trial was selected to investigate the effects of mindfulness intervention on negative emotions and quality of life in patients with malignant tumors. A meta-analysis was conducted using RevMan 5.1 software on 11 included studies involving 993 patients. Compared with conventional nursing, mindfulness intervention can effectively alleviate negative emotions such as anxiety and depression in patients with malignant tumors, and has a positive impact on improving their quality of life.

Condition being studied This study has a team of 6 people with their own computer equipment.

METHODS

Participant or population The 11 included articles[9-19], encompassing both Chinese and English literature, involved a total sample size of 993 cases, with 496 patients in the intervention group and 497 patients in the control group.

Intervention Positive thinking intervention (including breathing training, positive thinking meditation, body scanning, positive thinking yoga, etc.)

Comparator Patients in the control group received conventional interventions (such as health education, psychological support, social and family support, etc.)

Study designs to be included RCT.

Eligibility criteria In recent years, the global incidence and mortality rates of malignant tumors have been on the rise, with rates in China surpassing the global average. Malignant tumors

not only pose a severe threat to human health but also present significant physical and psychological challenges to patients. Malignant tumor patients often endure pain, weight loss, and a reduced lifespan. Combined with the financial strain of treatment, these symptoms frequently lead to negative emotions such as anxiety and depression, profoundly impacting their quality of life. With the deepening of psychological and medical research, the role of positive thinking intervention in chronic disease management has been widely recognised . For patients with malignant tumours, in addition to physical suffering, psychological stress and negative emotions are common problems. Anxiety, depression, feelings of helplessness, and fear of the future often cause patients' quality of life to be seriously impaired. And these negative emotions not only weaken patients' psychological resilience, but may also adversely affect the immune system, thus further affecting the progress of the disease and treatment outcome.

Information sources CNKI, VIP, Wanfang, Chinese Biomedical Literature Database disc (CBMdisc), PubMed, Embase, Cochrane Library, Web of Science (WoS).

Main outcome(s) Anxiety, depression, quality of life.

Quality assessment / Risk of bias analysis According to the Cochrane Handbook RCT Quality Assessment Criteria.

Strategy of data synthesis Statistical analysis was conducted using the Meta-analysis module in RevMan 5.1. Risk ratios (RR) and 95% confidence intervals (CI) were used for count data. The I2 statistic and P value were employed to assess heterogeneity among results. If $P \geq 0.1$ and $I2 < 50\%$, indicative of no significant heterogeneity, a fixed-effects model was applied for meta-analysis. Conversely, if $P < 0.1$ and $I2 \geq 50\%$, indicative of significant heterogeneity, a random-effects model was used. Subgroup analysis was performed to explore sources of heterogeneity. For continuous variables, weighted mean differences (WMD) and 95% CI were employed if the same measurement tool was used; otherwise, standardized mean differences (SMD) and 95% CI were employed.

Subgroup analysis Subgroup analysis by exploring different assessment tools, different types of positive thinking interventions, and the impact of positive thinking interventions on different tumour types.

Sensitivity analysis Sensitivity analyses were performed by RevMan software to reflect the sensitivity of the article by the change in effect sizes after the removal of one of the studies..

Country(ies) involved China, Japan, New Zealand.

Keywords Mindfulness intervention; malignant tumor; anxiety; depression; quality of life.

Contributions of each author

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