INPLASY

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Meta analysis of music therapy on anxiety and depression in patients with breast cancer

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ADMINISTRATIVE INFORMATION

Support - Shanghai University of sport.

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 17 October 2023 and was last updated on 17 October 2023.

INTRODUCTION

*R*eview question / Objective To systematically evaluate the intervention effect of music therapy on anxiety and depression of breast cancer patients.

Condition being studied The incidence rate of female breast cancer often ranks first in female malignant tumors, accounting for 7%~10% of all kinds of malignant tumors in the whole body. On the basis of previous studies, this study further explored the impact of breast cancer patients' characteristics, music selection, intervention duration, intervention cycle and intervention period on anxiety and depression, aiming to supplement the blank systematic review, analyze more effective and reliable music intervention programs, so as to provide guidance for breast cancer patients and provide reference for researchers.

METHODS

Participant or population Breast cancer Patient.

Intervention Music therapy.

Comparator Conventional therapy.

Study designs to be included The type of literature included is randomized controlled trials.

Eligibility criteria Literature inclusion criteria① The subjects were breast cancer patients; ② Intervention methods include music therapy including music relaxation; ③ The outcome indicators or partial outcome indicators are anxiety and depression; ④ The type of literature included is randomized controlled trials.1.3 Exclusion criteria1) Non Chinese and English literature; 2)

Repeated publications and low academic standards of literature; 3) The experimental data description is unclear and cannot be calculated; 4) The experimental group is a joint intervention study, such as music therapy combined with aerobic exercise.

Information sources The data extraction mainly includes: basic information of literature (first author, publication year), basic information of experimental subjects (sample size, age, gender), music therapy (Chinese classical folk music, world-renowned music, music recommended by the American Music Therapy Association, and Chinese leisure music, melodious, comfortable, romantic, gentle, peaceful, gentle, and beautiful tracks, etc.), and the main outcome indicators are anxiety and depression.

Main outcome(s) Meta analysis results showed that music therapy could significantly improve the effects of anxiety and depression in breast cancer patients, and the combined effects were SMD=-0.82 [-1.03, -0.61] and -0.76 [-1.15, -0.38], with statistical significance of P<0.0001. Through meta-analysis of anxiety effects, it was found that the best way to improve anxiety was when music was chosen as the type recommended by experts, the intervention method was non live music, the intervention duration was less than or equal to 30 minutes, the intervention frequency was 2 times per day, and the intervention period was 2-3 weeks. According to the meta-analysis of the effect of depression, music recommended by experts, with the intervention duration of 30 minutes, the intervention frequency of 1 time/day, and the intervention period of 2-4 weeks has the best effect on the improvement of depression in breast cancer patients. Conclusion: Music therapy can effectively reduce anxiety and depression in breast cancer patients, but due to the number of included studies and their confounding factors, more standardized and high-quality studies should be carried out in the future to verify it.

Quality assessment / Risk of bias analysis The literature quality score uses the risk bias assessment tool recommended in Cochrane Handbook 5.1.0 to evaluate the bias risk of included literature from seven aspects. Including random sequence generation, allocation concealment, blinding of subjects and researchers, outcome evaluator blinding, incomplete outcome data, selective reporting, and other biases, each indicator is judged using "low bias risk", "bias uncertainty", and "high bias risk".

Strategy of data synthesis This article uses Review Manager 5.4 for statistical analysis of the data. The outcome indicators included in this article are all continuous variables, and the measurement tools used in various studies are inconsistent. Therefore, the effect indicators are calculated using Standard Mean Difference (SMD). Using P-values and I2 for heterogeneity testing, if there is no statistical heterogeneity between the study results (I20.10), a fixed effects model is used. If there is heterogeneity, a random effects model is used to merge the effects. Use Stata17.0's Egger test for publication bias analysis, and if there is publication bias, use the pruning method to correct for it.

Subgroup analysis Conduct subgroup analysis on factors such as average age, intervention duration, intervention cycle, intervention frequency, music choice, professionalism, and music style.

Sensitivity analysis As shown in Figure 5, observing the funnel graph of music therapy on anxiety of breast cancer patients can find that the graph is basically symmetrical. The Egger test results show that Z=-0.22, P>| z |=0.8224, indicating that there is no publication bias in the study.

Country(ies) involved China.

Keywords Music therapy, breast cancer patients, anxiety, depression.

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