



Do asthmatics benefit from music therapy? A systematic review



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KEYWORDS

Asthma;
Music therapy;
Complementary
medicine

Summary

Objective: To determine the effectiveness of music therapy in asthma.

Methods: Searches for experimental and observational studies published between 01.01.92 and 31.12.13 were conducted through electronic databases: Medline/PubMed, Embase, SportDiscus, Cochrane Library, Teacher Reference Centre, Web of Science, Academic Search Complete, PsycINFO, PsycARTICLES, PEDro and Scopus. The selection criteria included any method of music therapy applied to patients with asthma, with respect to asthma symptoms and lung function. Two reviewers screened the records independently. The risk of bias was assessed using the Cochrane Collaboration's tool. Strength of recommendation was graded according to GRADE recommendation.

Results: The literature search identified 867 citations, from which 8 (three RCTs and five nRCTs) low and high risk of bias studies were included in the review. All RCTs used music listening as a form of complementary treatment. One RCT of the low risk of bias indicated positive effects on lung function in mild asthma. In two others, despite the decrease in asthma symptoms, music was not more effective than the control condition. In two nRCTs a decrease in asthma symptoms was reported as an effect of playing a brass or wind instrument; in two nRCTs the same effect was observed after music assisted vocal breathing exercises and singing. Mood improvement, decrease of depression and anxiety were also observed.

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Conclusion: The paucity, heterogeneity, and significant methodological limitations of available studies allow for only a weak recommendation for music therapy in asthma. This study highlights the need for further research of mixed methodology.

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Introduction

More than 300 million people from countries all over the world suffer from asthma. Rates vary between countries, as prevalence ranges from 1 to 18%.¹ This chronic inflammatory disease of the respiratory tract affects people of all ages. When left untreated, asthma can lead to a significant reduction in the patient's physical activity.² Studies on the quality of life in asthma patients have indicated that symptoms depend not only on the severity and duration of the disease, but also on the social and psychological condition of the patient and their family.^{3,4} Additionally, it is described how stress impacts the perception of asthma symptoms, respiratory tract health, and asthma control.⁵ Strong emotions can be responsible for the exacerbation of asthma. Furthermore, depression can affect the patient's compliance to treatment.^{1,6} Consequently, a lack of patients' adherence decreases asthma control, leading them to lose faith in conventional treatment's effectiveness. More and more often patients with asthma are turning to complementary and alternative treatments.⁷ Their great variety allows each patient to reach their individual needs and preferences.⁷ Literature also shows a development of multidisciplinary programs for asthma treatment that are complemented by relaxation methods such as progressive muscle, mental, muscular and functional relaxation, guided imagery, hypnotherapy, autogenic training, biofeedback techniques and music therapy.^{8–10} According to the American Music Therapy Association, music therapy is "the (...) use of music interventions to accomplish individualized goals within a therapeutic relationship by a credentialed professional who has completed an approved music therapy program". Music therapists provide a targeted treatment including both instrumental and vocal music activities. Creating, singing, moving to, and/or listening to music are all popular methods of employing the music therapy. It has been successfully used in different branches of medicine.^{11,12} The method is easy to use in a clinical setting, is non-invasive, and relatively inexpensive.¹³ Similarly to other asthma treatment interventions that fit the category of CAM, there is lack of a defined statement concerning music therapy effectiveness in asthma treatment. The aim of our article is to systematically review the evidence of music therapy as a treatment approach for asthma.

Methods

Objective

To review the evidence for and against the effectiveness of music therapy in the treatment of asthma subjects.

Search strategy

An electronic literature search through Medline/PubMed, Embase, SportDiscus, Cochrane Library, Teacher Reference Centre, Web of Science, Academic Search Complete, PsycINFO, PsycARTICLES, PEDro and Scopus was undertaken. Databases were searched for RCTs, clinical trials and observational studies published between 01.01.92 and 31.12.13 with the following key words: asthma, music therapy, music, complementary therapies, and acoustic stimulation. The detailed information about search process and key words applied in each database is presented in Table 1 of supplementary files.

Inclusion criteria

- **Subjects:**
Adults with asthma, teenagers and children (both in- and out-patient settings).
- **Intervention:**
Active music therapy (playing a musical instrument, creating music, singing and moving to music) and/or passive music therapy (listening to). These may be compared with each other and/or to any conventional or complementary method of treatment (including no treatment). The intensity of the music therapy can range from the main source of treatment to an augmenting treatment. No restrictions were made regarding length, frequency, or duration of the program.
- **Outcome measurements:**
Included experimental research had to assess at least one primary outcome, such as asthma symptom severity and/or lung function. Lung function had to be measured during spirometry or with a portable device. Secondary outcomes included disease control, medication use, psychosocial state, and health care utilization.

Selection

The final selection of papers, along with the decision for their exclusion at particular stages of the review process, was carried out according to the PRISMA statement (preferred reporting items for systematic reviews and meta analyses).¹⁴ Two reviewers independently established whether each study met the inclusion criteria. Disagreements were resolved by discussion. First, the titles and abstracts of all publications identified through the primary

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