



Music therapy as an augment for first-line anxiety treatments: a review

Alicia Jordan Malone



Abstract

Anxiety disorders are a growing, global concern. Treatment effects of current gold-standard therapies (e.g., cognitive behavioral therapy, pharmacotherapy) are modest and often come with limitations such as time restraints, high costs, high relapse rates, and health side effects. This review examines music therapy as both an emerging augment or adjunct to gold-standard therapeutics, explores the adaptability of music therapy across diverse demographics and clinical populations, and compares music therapy's efficacy against other experimental therapeutics like Art Therapy and D-cycloserine. The conclusion calls for further research on music therapy retention rates and the development of standardized music therapy policies to optimize its use in treating anxiety disorders.

Keywords:

Music Therapy, Anxiety, Mental Health, Experimental Therapeutic



Music as an augment for gold-standard therapeutics for the treatment of anxiety disorders: a review

In an era characterized by more frequent mental health disorders, anxiety disorders are of the most prevalent, affecting nearly 7.3% of the population worldwide—approximately 587.65 million people (Baxter et al., 2013). Notably, prevalence varies among different demographics—age, socioeconomic placement, chronic physical conditions, and other co-occurring mental health conditions all confer risk for developing anxiety (Kirmizioglu et al., 2009; Heneghan et al., 2013; Porter et al., 2003). Considering the magnitude and heterogeneity of the problem, treatment innovation is immediately needed. Here, I discuss the extant literature on the efficacy of music therapy (MT) in comparison to current gold-standard treatments, different facets of implementation and adaptability across diverse demographics, and how MT compares to other experimental therapeutics. Further, I explore varying challenges and opportunities of MT in primary care as well as consider implementation across different clinical samples, like cancer patients, surgical patients, dementia patients, and children. Lastly, this review highlights the importance of developing well-informed music therapy policies and standard music therapy strategies for people with anxiety disorders.

Current Anxiety Treatments

Anxiety is characterized by chronic anticipation of potential negative outcomes, and often consists of symptoms such as persistent worry, avoidance, and physical arousal (Craske et al., 2011). Among anxiety disorders, there are specific subtype phobias as well, the most common including: panic disorder and social phobia (Thibaut, 2017). Currently, the strongest evidence for treating anxiety disorders points at exposure-based cognitive behavioral therapy (CBT), pharmacotherapy, or a combination of the two—first initiated after a patient shows signs of distress or develops symptoms of the disorder (Bandelow et al., 2017). However, current first-line treatments are costly and inefficient; indeed, many pharmacotherapy patients show immediate relapse after ceasing medication while CBT patients often stay in treatment for extended periods of time (Bandelow et al., 2017). In addition, extant work has shown results of gold-standard treatments to be highly variable. Therefore, the development of novel therapeutics and augments to personalize current treatments are severely needed.

MT is a collaborative process between the therapist and client, aimed at using music to enhance positive relationship skills, targeting both external and internal symptoms. This approach involves working together to address the client's immediate and long-term needs through careful assessment, planning, implementation, and evaluation of a tailored MT program (Edwards, 2016). MT is a new and experimental treatment; thus, a standardized protocol has not yet emerged from the literature. As of now, there are different types of MT that consist of varying activities, including listening to music, learning an instrument, lyrical analysis, songwriting, and others following the same theme (Edwards, 2016). But how does MT compare in efficacy and retention to other therapeutics?

Comparing Efficacy of Music Therapy and Gold Standard Therapies

There is increasing evidence for the clinical utility of MT, particularly for reducing symptoms of anxiety and depression (de Witte et al., 2019). Some have found MT to improve emotional regulation, reduce stress, and enhance overall mental well-being (de Witte, 2019; Stefani et al., 2016). A meta-analysis by Martine de Witte and others (2019) found that MT significantly reduces stress-related outcomes, with larger effects of stress reduction observed in both physiological and psychological symptoms. Additionally, MT has been associated with improvements in social functioning, treatment retention, and quality of life, particularly when compared to standard care or passive listening therapy for Dementia patients (Raglio et al. 2015; Stefani et al., 2016).

MT and CBT both treat anxiety, but their efficacy varies depending on the population and specific outcomes measured. CBT, a well-established evidence-based treatment, focuses on identifying and changing negative thought patterns and behaviors, and is widely recognized as a first-line treatment for reducing symptoms of anxiety and depression (Hofmann et al., 2012). MT offers a nonverbal, creative approach that can be particularly effective for Dementia patients who might struggle with traditional approaches (Raglio et al., 2015). Comparative studies suggest that while CBT tends to show greater reductions in anxiety and depressive symptoms overall, MT can be just as effective for certain individuals, particularly those who are less responsive to standard CBT or who benefit from a more experiential form of therapy (Ahonen-Eerikäinen, 1999). This makes MT a valuable complementary option to CBT rather than a direct replacement.

Pharmacological treatments, particularly antidepressants and anxiolytics, are commonly prescribed and can be effective for reducing symptoms by altering brain chemistry (Hofmann, 2013). However, these treatments often come with side effects such as increased risk of dependence, increased risk of Dementia, and withdrawal symptoms, which can affect patient adherence (Thibaut, 2022). Comparatively, MT offers a unique, non-invasive alternative with high patient retention and engagement, particularly in therapeutic settings that emphasize creativity and patient involvement (Stefani et al., 2016). However, while MT can improve emotional regulation and social functioning, its effects on core symptoms of anxiety are generally considered to be modest compared to pharmacological treatments (Lu et al., 2021). Overall, while pharmacological treatments often provide quicker symptom relief, CBT offers durable benefits with minimal side effects, and MT may serve as an effective complement when enhancing patient engagement and adherence to treatment plans. In addition, MT in combination with pharmacotherapy also shows promising prospects. MT in conjunction with medication on GAD patients showed significant improvement in the psycho-behavioral profile, effectively addressing both anxiety and depression symptoms following GAD (Gutiérrez, 2015).

Training

Effectively administering MT requires formal training, culminating in a certification to ensure competency and adherence to professional standards. In the United States, music therapists typically hold at least a bachelor's degree in MT from an accredited program, which includes coursework in psychology, music, and therapy-specific techniques (American Music Therapy Association [AMTA], 2023). In addition to academic training, students are required to complete a clinical internship culminating at least 1,200 hours under the supervision of a

qualified music therapist (AMTA, 2023). After completing the educational and clinical training requirements, practitioners must pass the board certification exam to earn the credential of Music Therapist-Board Certified (MT-BC; CBMT, 2023). This certification ensures that music therapists meet professional standards and are qualified to practice. Moreover, board-certified music therapists are required to engage in continuing education to continuously update their expertise based on the fast-emerging literature (CBMT, 2023). Some states also have additional licensure requirements, which may include state-specific exams or continuing education credits to ensure that music therapists adhere to regional regulatory standards (CBMT, 2023). These rigorous requirements ensure that music therapists are well-equipped to provide effective and ethical care to their clients.

Administration, Distribution, and Patient Engagement

The cost of MT can vary widely depending on the setting, frequency, and duration of sessions, as well as the qualifications of the therapist. In private practice, sessions typically range from \$50 to \$200 per hour, which can present a financial barrier for some patients (American Music Therapy Association [AMTA], 2023). Payment options for MT include out-of-pocket payments, private insurance, and sometimes coverage through Medicaid or Medicare, although insurance coverage for MT is not universally guaranteed and often depends on the insurance provider, policy specifics, and state regulations (Silverman, 2015). Some insurance companies may cover MT when medically necessary, particularly for conditions like autism, dementia, or mental health disorders, and when provided by a certified music therapist (Silverman, 2015). Additionally, certain organizations and nonprofits may offer grants or financial assistance programs to help offset costs for those who cannot afford therapy (AMTA, 2023). Hospitals, schools, and rehabilitation centers may include MT as part of their comprehensive care services, potentially lowering costs or providing the service at no charge to patients under broader treatment plans (Knight & Matney, 2014). Despite these options, access to MT through insurance remains inconsistent, and advocacy efforts continue to push for broader recognition and coverage of MT services.

The effort required of patients in MT can vary significantly depending on the format of the therapy and the specific goals of the treatment. Active MT formats, such as improvisation, songwriting, and instrument playing, demand higher levels of engagement from patients as they are directly involved in creating or responding to music in real-time. This active participation can enhance the therapeutic process by promoting emotional expression and facilitating deeper personal insights, but it also requires patients to be willing and able to actively engage, which may be challenging for individuals with severe mood-related conditions (Magee et al., 2017). Conversely, receptive MT, which includes activities like listening to music selected by the therapist, generally requires less effort from patients as they are more passively involved in the therapeutic process (Bruscia, 2014). This format can still be highly effective, particularly for individuals who might find active participation overwhelming; but it relies on the patient's ability to be present and attentive during sessions. Regardless of the format, patients must engage consistently with the therapy process, which includes attending sessions regularly and participating in any recommended activities outside of therapy, such as listening to prescribed music at home (Grocke & Wigram, 2007). Thus, the level of effort required can range from moderate to high, depending on the therapy's structure and the patient's capacity to engage.

Culture and Identity Integration

MT is highly adaptable and sensitive to cultural contexts, allowing for a more personalized and effective therapeutic experience by integrating cultural elements into treatment than a set MT protocol. By aligning the therapeutic process with the client's cultural background, MT can foster a deeper connection and enhance therapeutic outcomes. Edwards (2023) emphasizes the importance of culturally sensitive approaches, noting that music therapists often modify their methods to reflect musical preferences, traditions, and cultural values of the clients they serve. This cultural adaptation can create a more familiar and comfortable therapeutic environment, which can be crucial for establishing trust and promoting engagement. Similarly, Brown (2002) discusses how music therapists use personalized music and consider clients' cultural narratives to create a more inclusive and resonant therapeutic process. They argue that this approach not only supports the emotional and psychological needs of clients but also honors their identities. By actively incorporating cultural elements into sessions, MT not only meets the immediate therapeutic needs of clients but also supports broader cultural competence and sensitivity in mental health services.

While adapting MT to align with clients' cultural backgrounds is often seen as a beneficial practice, some argue that it can also present significant challenges and potential drawbacks. One major concern is that cultural adaptation in MT may inadvertently reinforce stereotypes or oversimplify complex cultural identities, leading to a superficial engagement rather than a genuine therapeutic connection (Hadley, 2013). Therapists might lack the necessary cultural competence to effectively integrate culturally relevant music without making assumptions or generalizations that do not accurately reflect the client's personal or cultural experiences—especially when considering many characterize MT as the definition of “white privilege and culture,” revealing the practitioners and patients alike believe MT is open only to White audiences (Magee et al., 2017). Additionally, the process of adapting MT to fit cultural contexts can be resource-intensive and may require extensive time and training, potentially diverting focus from other therapeutic goals (Hadley, 2013). In some cases, there is also a risk that the emphasis on cultural adaptation could overshadow the primary therapeutic objectives, such as emotional expression and psychological healing, especially if the adaptation is not executed with a deep understanding of both the culture and the therapeutic needs of the client.

Age Effects of Music Therapy

MT can be tailored to meet the developmental and emotional needs of both children and adults. For children, MT frequently involves active, play-based methods such as singing, movement, and instrument playing, which align with their developmental stages and natural modes of expression (Stegemann et al., 2019). In contrast, MT for adults may involve more reflective and receptive techniques, such as guided imagery with music or lyric analysis, which cater to adult clients' cognitive and emotional processing abilities. Moreover, the adaptability of MT allows it to address different therapeutic needs across the lifespan. For example, in pediatric settings, MT reduces anxiety and pain perception during medical procedures, while in adult populations, there is more focus on managing stress, improving mood, or enhancing cognitive function in older adults with dementia (Ma et al., 2023). This adaptability highlights the broad

applicability of music therapy across age groups, with interventions customized to suit the specific developmental and psychological needs of children and adults.

Music Therapy versus Other Experimental Therapeutics

How does MT compare to other experimental therapeutics? Music therapy and D-cycloserine (DCS), an experimental therapeutic agent, offer contrasting approaches to treating anxiety disorders, with differing mechanisms and outcomes. MT employs non-pharmacological methods, such as guided listening, improvisation, and active participation, to promote relaxation, emotional expression, and cognitive reframing, which have been shown to effectively reduce symptoms of anxiety (Hofmann et al., 2006). In contrast, D-cycloserine is a partial NMDA agonist and has been studied as an adjunct to exposure therapy for anxiety disorders, including social anxiety and post-traumatic stress disorder (PTSD). While music therapy provides a holistic and patient-centered approach, D-cycloserine represents a targeted pharmacological strategy aimed at modulating neurobiological pathways involved in anxiety. However, the efficacy of DCS is inconsistent across studies, with some research indicating only modest benefits and others suggesting no significant enhancement over placebo when combined with cognitive-behavioral interventions (Hofmann et al., 2006).

MT and art therapy are both creative art-based interventions that address a variety of psychological and emotional conditions, but they differ in their mediums and specific therapeutic mechanisms. For example, art therapy employs visual art-making, such as drawing, painting, or sculpting, to help clients express thoughts and emotions that may be difficult to verbalize. Art therapy facilitates nonverbal communication, self-exploration, and the externalization of inner experiences, which can be particularly beneficial for individuals dealing with trauma or those who find verbal communication challenging (Shukla et al., 2022). Art therapy also focuses on mind-body connection—which consists of mental-imagery combined with artistic activity influencing the physical symptoms of anxiety. While both therapies offer creative outlets for emotional expression, they engage different sensory modalities—music therapy primarily through auditory experiences and art therapy through visual and tactile mediums. Studies suggest that both therapies can effectively improve mental health outcomes, but individual preferences and the specific nature of a clients' needs often determine the choice of therapy. Therefore, the efficacy of MT versus art therapy may vary based on the therapeutic goals and personal engagement of the client.

Limitations of Music Therapy

However, while beneficial in various therapeutic contexts, MT has notable limitations. One major challenge is the lack of standardized protocols, which leads to inconsistent treatment outcomes. Research suggests that the subjective nature of music therapy preferences and a lack of standardized protocol can impact therapeutic efficacy, as patients may not respond equally to these musical interventions (Lu et al., 2021). Additionally, there are concerns regarding the overreliance on MT for complex conditions such as severe neurological disorders, where its benefits might be limited compared to more established medical treatments like previously discussed disciplines CBT and pharmacotherapy (Raglio et al., 2015). Furthermore, the absence of rigorous, large-scale studies limits the generalizability of MT's effectiveness



across different populations (Lu et al., 2021). So, while MT can serve as an effective adjunct therapeutic in some contexts, more research is needed to establish credibility and efficacy.

Conclusion

Interest in incorporating music to improve psychological health is rapidly increasing. While the specific mechanisms of change in anxiety treatments need further exploration, the limited evidence on MT as an augment to gold standard therapies motivates future research on its efficacy and effectiveness across cultures. Considering the immediate need for innovation in novel therapeutic research, MT should be of serious interest for researchers examining low-stakes, low-cost augments to gold-standard treatments for pathological anxiety.



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