



# Clinical Benefits of Therapeutic Music & Spiritual Support in Healthcare

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A MEDWRITERS REPORT

## Individualized Therapeutic Music and Spiritual Support Can Boost Patients' Emotional and Physical Well-Being

Current health care practitioners often turn to pharmacological agents to treat a variety of acute and chronic medical conditions. For example, residents in long-term care communities often suffer from depression because of cognitive or functional impairment and are administered pharmacological treatments to elevate their mood. Additionally, patients undergoing surgery or invasive procedures in the intensive care unit may experience pain and distress and are typically given pain medications or sedatives to manage these side effects <sup>[1]</sup>. Individuals suffering from chronic diseases such as cancer are prescribed similar medications to deal with the discomfort that chemotherapy or radiation therapy may cause. However, pharmaceutical treatments are expensive, may cause additional side effects and can also result in dependence on drugs for symptom management. Further, while drugs may be able to target and decrease some symptoms, they unlikely treat all symptoms. Such is the case with acetylcholinesterase inhibitor drugs used to treat Alzheimer's disease, which only treat cognitive symptoms but not other psychological symptoms that may arise from the disease <sup>[2]</sup>.

Alternative therapeutic approaches are inexpensive methods that hospitals, health care facilities and long-term care communities can employ to address many of these issues and rely less on pharmaceutical treatments. Two such pharmacological alternatives--therapeutic music and spirituality--have been clinically proven to promote the overall health and wellness of individuals and alleviate many of the symptoms of acute and chronic illnesses.

### **History of Music and Spirituality as Therapeutic Options**

The idea of music or spirituality being used as therapy for patients is not new. Music has been recognized for its healing properties since the time of Aristotle and Plato and likely long before then <sup>[3]</sup>. The use of therapeutic music to treat patients formerly became a part of hospital practice around the time of World War I and World War II, when emotional and physical improvements were observed in veterans as a result of listening to music <sup>[3]</sup>. On the other hand,

religion, spirituality and health care have been intertwined since the beginning of recorded history <sup>[4]</sup>. The first hospitals in the West were built and run by religious officials up until the relatively recent separation of religion and medicine <sup>[4]</sup>. Nevertheless, spirituality and religion have come back into focus as being key for promoting patient wellness in the hospital setting.

## **Music and Spirituality as Part of the Care Plan**

In the current day, music therapists are trained specialists that use music in a therapeutic setting to alleviate distress in individuals suffering from mental or physical illness. They attempt to meet the social, emotional, physical and cognitive demands of individuals by assessing their needs and personalizing a music program that fits them well. Treatment can either be passive, which involves listening to music, or it can be interactive and can include creating music, singing or moving to music <sup>[3]</sup>. Music is thought to be an effective treatment by promoting movement, increasing engagement and providing a creative mechanism for individuals to communicate and express feelings <sup>[3]</sup>. In contrast, spirituality involves a connection to a nonmaterial being that is beyond and greater than oneself <sup>[4]</sup>. Spirituality is likely an effective therapy tool because it allows for individuals to find purpose to their lives and cope better knowing that their lives and experiences are controlled by a higher force <sup>[5]</sup>. Furthermore, being a part of a community of shared belief provides extra social support for individuals <sup>[5]</sup>.

Recent clinical studies have provided strong support for the necessity of therapeutic music and spirituality being widely incorporated into standard hospital practices. Unfortunately, with only 5,000 board-certified music therapists in the United States, the demand for music therapists far exceeds the supply <sup>[3]</sup>. As a result, companies such as Coro Health were specifically created to help meet this demand and supply clinically proven therapeutic music and spiritual services to health care settings that lack the ability to provide these services for their patients. For instance, CoroHealth's MusicFirst™ streaming service provides therapeutic music programs that are specifically tailored for an individual's needs. Similarly, their audio streaming service CoroFaith™ allows patients to stay connected to their spirituality even when they are unable to attend traditional places of worship. These products are beneficial in healthcare settings because

both music and spiritual therapy have been proven to have positive effects on mental health, heart health, cognition and pain management. For example, both kinds of therapy elevate mood in patients with mental illness. Depressed adult patients who listen to personalized music repeatedly for more than 3 weeks show a reduction in depressive symptoms, and this may be a cumulative effect because an even greater reduction in symptoms occurs after every week of treatment <sup>[6, 7]</sup>. Spirituality and religiousness are found to have similar effects on depressive symptoms. Individuals who are more spiritual and religious are more satisfied with their lives and have fewer suicidal thoughts, less depression and less tendency to abuse drugs or alcohol <sup>[8]</sup>.

Many studies have also linked therapeutic music and spiritual treatments to improvements in mental health in patients specifically suffering from long-term illnesses. Individuals with chronic diseases such as cancer, heart disease and dementia not only experience physical distress but also emotional pain, including depression and anxiety, from coping with their illness and mortality. Individualized therapeutic music interventions and spirituality can alleviate symptoms of depression and anxiety in these patients. It also lowers heart rate, respiratory rate and blood pressure, which is associated with a lower stress response in these patients <sup>[9]</sup>. However, it is extremely important that the music programs consist of a series of songs that the individual knows and responds well to due to positive memories. Songs must also be played in a specific order to accomplish the desired therapeutic outcome.

Similarly, spiritual patients are found to have a better quality of life, lower levels of depression and less distress about mortality, perhaps because their spirituality helps them make sense and find meaning in their illness <sup>[10]</sup>. In dementia patients, both music intervention and spirituality increase quality of life and reduce depressive symptoms <sup>[2, 11]</sup>. Furthermore, therapeutic music programs can have positive effects in individuals with heart disease or diabetes by lowering levels of stress, anxiety and systolic blood pressure <sup>[12]</sup>.

In addition to producing desired outcomes in mood and stress reduction, therapeutic music and spirituality have also been clinically proven to benefit cognition. The correct music programs can positively affect learning, attention and memory and has been used as an aid for treating dementia patients. Listening to music has a significant positive effect on cognition in dementia patients and is an even more effective treatment than more active therapies such as

singing or dancing <sup>[2]</sup>. Furthermore, singing specific songs from the past are shown to improve cognition in patients with mild Alzheimer's, as verbal memory performance is stable over time in patients who sing compared to patients who paint <sup>[13]</sup>.

Spirituality and religion, like music, may also have a positive effect on cognition. One study reported that cognitive symptoms associated with Alzheimer's disease progress at a slower rate in patients who are more religious and spiritual compared to those who are less so <sup>[14]</sup>. One possibility for these findings is that the repetition of prayers and rituals involved in religion and spirituality facilitates attention, strengthens connections within the brain and improves memory in these individuals <sup>[5]</sup>.

While music and spirituality can benefit the wellbeing of individuals with mental or chronic illness, these therapies also are able to provide relief for individuals experiencing acute conditions who may suffer from pain and stress, often requiring sedation and analgesics for comfort <sup>[1]</sup>. One study examined the effects of music on pain perception in mechanically ventilated patients. Prior to a daily bed bath procedure, none of the patients who participated in the study experienced pain. After the procedure, the patients that were provided with preferred classical music throughout their bed bath and 30 minutes after reported significantly less pain than those without music <sup>[15]</sup>. Spiritual support is also associated with a reduction in pain. Mechanically ventilated patients that were given picture-guided spiritual care and were able to talk about their emotions, pain and needs reportedly had reduced stress and an increased ability to cope with their hospital stay <sup>[16]</sup>. These studies illustrate how alternative therapies can decrease the necessity for pharmaceutical interventions to manage pain.

## **The Science Behind Individualized Therapeutic Music and Spiritual Support**

The biological mechanisms through which music and spirituality promote such positive outcomes in the brain and body have been recently investigated. It is believed that these treatments stimulate feelings of happiness by activating the reward pathway in the brain called the mesolimbic dopamine system. Once stimulated, this system releases dopamine in the brain in response to many pleasurable stimuli, resulting in a euphoric feeling. In support of this idea,

the nucleus accumbent and ventral tegmental area, two brain regions critically involved in this pathway, are more active while listening to pleasant music compared to resting, and also during singing compared to talking <sup>[17]</sup>. Dopamine is increased during spiritual practices such as meditation (prayers) as well and may subsequently interact with elevated levels of serotonin to combat depression <sup>[18, 19]</sup>. However, for each of these studies to be successful, the patient must receive music that is individually chosen in order to trigger the proper autobiographical response from the brain. This requires direct intervention from a music therapist or a program/process that has been designed to support such an outcome.

Meaningful music and spirituality also lowers stress and anxiety and improve heart health likely through decreasing activation of the sympathetic nervous system. The sympathetic nervous system becomes active in response to a stressful event and consequently elevates heart rate, blood pressure and respiration and releases norepinephrine and epinephrine to prepare the body for a fight or flight response. These chemicals in turn stimulate the release of cortisol, which provides fuel for the body to deal with the stressor. It has been found that listening to low tempo music decreases blood pressure, heart rate and respiration, as well as reduces the release of cortisol, epinephrine and norepinephrine in the body <sup>[20]</sup>. The spiritual practice of meditation has been reported to produce similar outcomes in the body <sup>[21]</sup>. Therefore, music and spirituality can reduce the body's response to stress assuming the correct content is provided that supports the individual's preferences.

The cognitive enhancement seen following the proper therapeutic music intervention is likely due to the ability for music to stimulate many different brain areas involved in the perception of sounds and attention. Because of this, music is thought to promote neuroplasticity and the formation of new connections in the brain <sup>[2]</sup>. Lastly, the decrease in pain perception following therapeutic music and spiritual interventions can be explained by an increased release of the endogenous opioid beta-endorphin, which when released can robustly suppress pain. It has been found that beta-endorphin is released following both music and spiritual treatments <sup>[20, 21]</sup>.

## Conclusion

Scientific evidence supports the critical need for therapeutic music and spiritual tools and resources in hospital and long-term care communities. These alternative therapies improve the physical, cognitive and emotional well-being of individuals suffering from acute and chronic illnesses and ultimately reduce the need for pharmaceutical agents. This can result in fewer expenses for the hospital and the ability for the patient to pursue a more natural course of health care. Coro Health's products facilitate the ability for hospitals and other health care settings to provide these clinically proven therapies to their patients. Coro Health's MusicFirst™ is an outcome-based therapeutic music streaming service designed by music therapists, music designers and neuroscientists that support patients based on their emotional and physical needs. Alternatively, CoroFaith™ is an audio streaming service geared toward keeping patients connected to their faith <sup>[22]</sup>. Coro Health's products have been shown to have clinically proven effects on the wellness of patients. For example, music programming provided by Coro Health strongly reduces anxiety, agitation and depression in dementia patients when given several times a day for 12 consecutive weeks <sup>[23]</sup>. Clearly, a certified music therapists or qualified spiritual leader delivering therapy one-on-one is the ideal way to deliver music and spiritual support. However, there are tools such as those offered by Coro Health that would be beneficial additions to any current health care regimen.

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