

Music Medicine and Music Therapy in Austria

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Abstract

In Austria Music Therapy and Music Medicine are in the focus. It is the only European country having a law that governs the legal implications of music therapy occupation. There are several University programs offering education as music therapists. Fields of implication are various and interest in musical interventions for health care is increasing. This article describes the history of music therapy in Austria, as well as educational programs and research projects and gives examples of clinical applications of music e.g. in neonatology.

Keywords: *Music Medicine, Music Therapy, Austria, Neonatology, Music Effect Research, Music Therapy Education*

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Introduction

The use of the positive vibrational properties of music for the amelioration of physical and psychological health has a very long history which dates back to ancient Greece and beyond. It is most likely as old as humanity itself. Music may have even existed before language. According to the Steven Mithen's hypothesis, the Neanderthals developed a peculiar proto-music/language that was holistic (not composed of segmented elements), musical (temporally controlled, rhythmic, and melodic), mimetic (utilizing sound symbolism and gesture), manipulative (influencing emotional states and hence behavior of oneself and others) and multi-modal (using both sound and movement), forming what Steven Mithen calls 'the 'HmMMM' communication system, a 'prelinguistic musical mode of thought and action.'

The idea that languages are specialized forms of music may explain, at least in part, *why* music is so important that no civilization seem to exist without it. Beyond our mental perception and cognition of music, sounds influence the human body directly. Provided the music is carefully selected, music can offer a harmonious form of auditory stimulation which constitutes the easiest, perhaps the even most effective intervention to synchronize the subtle functions of our nervous system in order to improve the biological and mental states of human health.

Research

During the past 20 years significant advances have been made in terms of both research and practical implementation of music as an accompanying factor in the healing process.

'Through successful music experiences, patients can regain a sense of control, independence, and confidence. Music can be a medium of communication and a strategy for refocusing attention during painful procedures or long treatments, and a source of emotional support. Music is clinically recognized to influence biological responses such as heart rate, blood pressure, respiration rate, cardiac output, muscle tone, pupillary responses, skin responses, the immune system, and endorphin production. Music can entrain the body to calm or to accelerate depending on what type of music is used. Sedative music can lower anxiety, pain, tension and stress levels resulting in less use of anaesthetics and pain medication, a shorter recovery period, higher patient compliance and higher patient and family satisfaction. Stimulative music can be a source of motivation both physically and psychologically and becomes a positive reinforcement during physical therapy and rehabilitation. In summary, music can contribute significantly to medical care providing psychological and physical comfort to patients with various needs.' (Lane 2008)

By far, the greatest research efforts in the recent years have been directed towards basic neuroscientific research on the effects of music. This has involved investigation into the different ways in which the brains of musicians compared to non-musicians process music, as well as the effects of instrumental instruction. The few clinical practice studies that are available mostly lack data on untreated control groups or those subjected to placebo interventions. Only few studies have

been performed to investigate possible differences in the ways people suffering from disorders and healthy people process musical stimuli. Only very recently, imaging techniques have been implemented with a view to demonstrating therapeutic effects of music in patients neurophysiologically.

Statistical reproducibility is a prerequisite for any form of intervention to be accepted into the canon of standard medical treatment. A large number of studies have been conducted to investigate the effects of music, but it is not only important to satisfy the criteria of evidence-based medicine. A combination of quantitative and qualitative research methods is needed to demonstrate the effects of music interventions on the different aspects of health, accepting that not all of the benefits which music can offer are statistically quantifiable.

Music Therapy in Austria

Austria plays a prominent role in music therapy in Europe. With the support of the state government of Lower Austria, it was possible to introduce, through the series of conferences, the state of the art in international research on music in therapy and medicine to the Austrian medical community and the general public. Since 2006 a bi-annual conference takes place under the title 'Mozart & Science' which brings together international top experts of the field specialized in the research and application of music therapy and music in medicine.¹

Music Medicine Research Program

Wherever standard interventions are employed in Music Medicine, and in receptive music therapy, it is possible to conduct randomized, placebo and waiting list controlled double-blind studies. Within the Music Medicine Research Program at the Paracelsus Medical University in Salzburg, Austria, standardized interventions have been developed and then evaluated in randomized, placebo and waiting list controlled double-blind studies. The combination of quantitative psychometric methods, analysis of various physiological parameters, qualitative methods such as in-depth interviews, and current perspectives provided by methods such as Morphological Media Effects Research represent a special focus within the scope of research conducted as part of the program.²

Employing these research methods, we were able to develop a 72 hour audio program for post operative care which is based on chronobiological principles and which is specifically tailored to the need of the patients in a regular hospital for acute cases. Beyond this effort, our research has focused on interventions designed for ambulant patients in outpatient care. In the course of our research projects, we were able to show that the music programs and protocols that we developed for specific diagnoses can indeed improve precisely those disorders for which they were created. In a large clinical trial we tested our intervention for the treatment of depression³, dysthymia and burnout syndrome. Further studies focused on sleeping disorders, essential hypertension and cardiac arrhythmia with psychosomatic causes have also been conducted. The effects were reproducible and demonstrable by means of various, objectively measured parameters. Furthermore, all the interventions were characterized by a significant improvement in the patients' subjective quality of life. Another large multi-center trial testing the

efficacy of a specific music therapy program to ease chronic pain and a dementia study is currently underway.

The auditory stimulation method developed for the treatment of depression is available to patients through psychiatrists in Austria and Germany. It consists of an individualized program of specifically designed compositions which the patient can enjoy on special equipment in his own home.⁴ All these developments were funded with the help of sponsors, including the City of Vienna and the Austrian National Bank which provided the opportunity to conduct the clinical trials on the effect of music for specific diagnoses that are unparalleled in the field.

Music Therapy Occupation

In 2008, the Austrian parliament issued the Austrian Music Therapy Law (MuthG, BGBl. I Nr. 93/2008), which came into force on July 1, 2009, fifty years after the first music therapy course began in Vienna.

Austria is now the only European country having a law that has a law that governs the legal implications of the music therapy occupation. The law includes the protection of the professional title 'music therapist' which can now only be carried by professionals who studied music therapy in an accredited institute. There are currently 245 accredited music therapists registered by the Austrian State Ministry of Health, most of them are working in hospitals and other institutions. The Austrian Professional Association for Music Therapists (OEBM) fulfils, since its foundation in 1984, the goal to represent the interests of music therapists working in Austria and aims to enhance the recognition for music therapy within the Austrian health care system. As of August 2012, the OEBM has 192 full members, 39 student members, 15 supporting members, 9 organisational members, and 4 honorary members. OEBM is a member of the World Federation of Music Therapy (WFMT), of the European Music Therapy Confederation (EMTC), and of the Austrian Gesundheitsberufekonferenz (a consortium of associations of Austria's recognised health care professions).⁵

Students interested in studying music therapy on a university level, have a number of choices; there are currently three university programs that offer training for music therapists in Austria. The University of Applied Sciences (IMC) in Krems conducts a 3-year music therapy bachelor degree program which is expected to be expanded to a masters degree program in the near future.⁶ The music therapy program at the Art University Graz^{7,8} is a new 4-year program and it is offered on the same legal basis as the program conducted in Krems. The University for Music and Art Vienna also offers a music therapy program with 8 semesters. In all three cities, graduates of these music therapy degree programs are qualified to practice music therapy on the basis of their comprehensive interdisciplinary theoretical and practical education.⁹ The students earn theoretical and practical competence that allow them to design and conduct music therapy treatments, as well as to reflect, document, and evaluate these interventions. Next to the theoretical and practical artistic education, a priority is set on learning different music therapy methods and others means to work with music in a broad range of therapeutic

situations. The Carl Orff Institute at the University Mozarteum in Salzburg represents the integration of music and dance within artistic areas and its pedagogical transmissions - combining experiential 'hands-on'-oriented teaching with theoretical support in reflecting and analysis; practical orientation by observing and participating in groups as well as working together in social and special pedagogical settings and traditional school training.¹⁰

Application of Music Therapy

The current clinical applications of music include many medical areas; a recent effort has been made by the palliative care doctors at the Medical University in Vienna at the Vienna General Hospital.

“ ‘It concerns improving the affected people’s quality of life in their remaining time with us’, says Herbert Watzke from the University Department of Internal Medicine I, ... [and concludes] ‘music has a healing effect, even when healing in the narrowest sense of the word is not possible. With the support of Konstantin Wecker, [a renowned artist] whose close relative has also been cared for over a long period of time in a palliative medicine department, music medicine should be promoted in the palliative care ward at the MedUni Vienna in the Vienna General Hospital. ... ‘We are also hoping that Wecker’s example sets a precedent. This project should be continued with other musicians’, says Klaus-Felix Laczika [a specialist in internal medicine] from the University Department of Internal Medicine I. ... Laczika has been working with music on the intensive care ward for three years. [He finds] ... there is a ‘three-way relationship’ between the therapist, the patient and the music. ... In experiments Laczika has measured the breathing and the variation in heart rate of members of the Vienna Philharmonic Orchestra and its audience during a Mozart concert.

‘Every Mozart piano concert is a rollercoaster of all the human states of mind, ranging from ecstasy to peace and humour, which are able to be made visible by means of modern stress detection techniques’, explains Laczika. This method of visualising stress and relaxation is also possible in critically ill cancer patients on the palliative care ward. ‘Even in these patients music is generally able to be used to put a patient into either a relaxed or a stimulated condition’ says Watzke, Austria’s only professor for palliative medicine.¹¹

Music therapy with sick newborns and premature babies is a young field, whose origins can be dated to the early 20th century. Since then, research results have advanced the practice to the point that the effectiveness of music therapy on newborn infants with health problems is recognized across the board:

- Music Therapy interventions reduce stress reactions. Music improves the oxygenation of the blood and the weight increase and supports the child’s self-regulation.
- Active music therapy work encourages the vocal contact by the mother and the father. This promotes communication and interaction, boosts self-confidence and satisfaction of the parents and can cause lasting positive effects on the mutual bond (Noecker-Ribaupierre 2012).

Findings in medicine, of infant research, sound-effect research, attachment theory, stress research and pain research, indicate that music therapy can soften the non-physiological sensory overload in a neonatal intensive care unit. The use of music in infant care may prevent later developmental delays or mental disorders. Thus, music therapy is a very suitable addition to the range of therapeutic means in a nursery. Since 2005, Leslie Schrage-Leitner works at the neonatal intensive care IMC and NICU of the Children's Hospital Glanzing at the Wilhelminenspital in Vienna as a music therapist specialized in neonatology. A project which was made possible by the NGO 'Light into the Dark' and the University of Music and Performing Arts (Schrage-Leitner et al. 2011). Andreas Lischka, director of neonatology at the hospital is open to the use of alternative methods in his department, ranging from homeopathy to music therapy. Especially the latter produced significant improvements in the children's breathing and heart rate. With music therapy, the preemies have a lower energy consumption allowing them to gather their forces and use them to recover more quickly. Their facial expressions are no longer contorted with pain but relaxed. Scientific studies are almost obsolete, because 'I can see exactly whether a child is smiling or crying,' says Lischka. Nevertheless, the researchers are working on refining the data in order to create measurable scales.¹²

Recently, music therapy is also being applied in the neonatal monitoring ward of the State Hospital Weinviertel in Mistelbach, a town in the province of Lower Austria.¹³ The effect of music therapy is undisputed. It has become increasingly important in the treatment of inpatients of all ages,' says Wolfgang Sobotka, State Deputy Governor, about the new offer of music therapy for premature infants which was launched in mid-November of 2011. Music therapist Joerg Schuppler not only works with the children, but also includes their mothers or both parents. Resonances between the child and therapist are created by gentle tunes (mostly comprise only two tones), the voice and touches, allowing the baby to calm down and giving a sense of security. 'The positive effect is a stimulation of respiration and a significant relaxation of the child, which in turn is conducive to weight gain. Joint therapy sessions with the mothers are also strengthening the parent-child relationship during these difficult times,' says the music therapist.

Conclusion

In the light of Austria's musical heritage marked by the work of prominent figures like Wolfgang Amadeus Mozart and Richard Strauss, it seems natural that music effect research and music therapy are held in focus. This is also reflected by the passing of the Austrian music therapy law in 2008 which has had a positive influence as it provided objective professional standards for the entire field. Music Medicine and Music Therapy have found their way into numerous areas of application, and current research findings indicate even more promising treatment perspectives. These in turn challenge education and training for the music therapy occupation as well as research such as the Music Medicine Research Program at Paracelsus Medicine University in Salzburg.

Endnotes

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