Music therapy in oncology

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“M’m sure good music makes life longer”
Yehudi Menuhin (1916–1999)
VIOLINIST AND ORCHESTRA CONDUCTOR

Music: an art, a science. Music is the muse of muses; it’s one of the spheres of Humanities and a field of erudition. Music is a teaching and learning discipline early in life, from primary education to high school (only in those cultures that take music as a discipline). Music is an occupation, a commodity, an object of trade and a powerful instrument used in advertising. It is also a part of Physics and an attribute of Deity.

When, in this theatre of world history, the curtain rose, music was already a mature and permanent art. In mythology, Music is the daughter of Mnemosyne (Memory) and Zeus; in other cultures though, it is represented, together with her sisters, the Muses, as the daughter of Harmony, or Uranus, and Gaia, Heaven and Earth. These different genealogy aspects are obviously symbolic and associated in one way or another with a series of philosophical concepts concerning the supremacy of music in the Universe. While the perception of representative arts develops spatially, the perception of music develops in time. Time…and…rhythm. Rhythm is both the basic principle of music and the origin of dance. Rhythm is the basis of dance, and is innate and essential for man’s existence. There is nothing without rhythm. Dance was the origin of Music.

Rhythm exerts a stimulating or depressing action on man’s emotive faculties. The predominant rhythm of a specific moment or atmosphere may be regarded as a determinant factor for magic or enchantment since it generates much of the required ambience. From ancient times, the suggestive power that rhythmic cadency has on language has been accepted as true, much more than the meaning of rhythm alone, and psalmodies, invocations and spells of magic practices are, in general, chanted. Music may trigger a series of internal reactions and phenomena within the individual listening to it; these reactions range from an alteration in the breath frequency and blood circulation to changes in hormone secretion. It is therefore necessary to attribute a therapeutic implication to music. Listening to music always produces, when it is conveniently measured and adapted to the own nature of individuals and their surrounding circumstances, a series of beneficial effects as well as a highly elevated spiritual state, while it helps put aside psychological conflicts and depressive episodes.

Sound and music have played a crucial role in the different rites of mankind. In ancient times, ceremonies were not efficient unless they were accompanied by chants and sounds. These practices persist at present in many communities around the world, and today’s modern medicine practice includes this traditional and atavistic element in research works and studies.

Music therapy

Defining music therapy is not an easy task because of the inherent complexity attached to its study. Juliette Alvin, one of the pioneers of this scientific specialty, defines music therapy as the measured use of music for the treatment, rehabilitation, education and training of adults and children affected by mental, physical and emotional disorders. Other definitions describe music therapy as a branch of recuperative medicine that contributes to the organic, spiritual and emotional recovery of patients affected by diverse disorders. Music therapy is, in summary, the employment of music and its elements (sound, melody and harmony) aimed at improving the physical, intellectual or social functioning of people with problems associated to health or education.

As early as 1500 BC, medical papyri made reference to the power that music had on woman’s fertility. Egyptian physicians used music to heal the body, calm the mind and purify the soul. The Bible narrates how the prophet David healed Saul’s body and mind in delirium with his soft harp-accompanied chants. The Greeks made a reasonable and logical use of music, free from magic and religious impli-
cations since music represented for them order and harmony, so it was also used to reestablish balance and prevent and cure physical and mental diseases. Aristotle talked about the medical value of music, and Plato recommended music and dancing to fight off fears and phobias. Here is one of Plato’s sentences: “Music is to the soul what gym is to the body”.

Similarly, the great philosopher and humanist of the Florentine Renaissance of the 15th century, Marsilio Ficino, mixed medicine, music, philosophy and astrology to explain the effects of music on body and soul. In the 16th century, the British clergyman Robert Burton analysed the psychological effects of music on chronic melancholy in his book “The Anatomy of Melancholy”.

It was in the 19th century when the relationship between musical rhythm, pulse, music speed and breath frequency, blood pressure, digestion and other physiological effects that could be subject to biological rhythm began to be studied. Émile Jaques Dalcroze, born in Vienna in 1865, a musician and music educator who was regarded as the pioneer of music therapy, developed a method for the learning and experimentation of music through the execution of movements based on rhythm, solmisation and improvisation.

Musical sounds were used soon after the First World War to treat neurosis, language disorders and even paralysis. Hospitals for war veterans hired musicians to help in therapy treatments. Thanks to this valuable experience physicians took this therapy more seriously, so it led to the foundation of the National Association for Music Therapy in 1950. The Society for Music Therapy and Remedial Music, known today as the British Society for Music Therapy, was founded in Britain in 1958, and it now offers music therapist degrees. Also beginning in 1958, the Academy of Vienna organised specialised music therapy courses followed by practices in psychiatric and neurological hospitals. In Salzburg Herbert Von Karajan founded a music therapy institute devoted to research work on neuropsychophysiological specialties.

More and more institutions are now studying the secrets and properties of sounds around the world. The use of music, and all its diverse components, has become a very effective means for prevention and therapy, while it has been institutionalised in the form of university courses, post-graduate degrees and master’s degrees in more than 40 countries.

The power of sound

Music and sound feature in people’s lives, from cradlesongs to funeral marches. Music has always accompanied man in every moment of his life, whether it was sacred or profane, and, today, music is also present at many social events.

The positive and therapeutical influence of music is a complicated issue, which is determined by the structure and functions of the central nervous system, neurovegetative system, internal secretive glands and the internal organs of the human body. So, the combination of the musical work, its melody, harmony, rhythm and timbre, together with the patient’s particular psychical disposition at that moment, results in a complex structure. On account of these features, music can trigger or block the subject’s emotional sensibility, as well as his memory faculties, imagination and mental representations. Also, some rhythms, rather than provoking an emotional or mental dis- tension and relaxation, stimulate the psyche negatively, re- leasing consciousness-repressed instincts and fomenting some aggressive behaviours.

Music therapy treatments have been successfully used in psychotic patients, as well as in patients affected by neurosis, anguish, stress or fatigue due to excessive work or emotional tensions. There are also very promising results in shy children, who are excessively introverted, unstable or physically handicapped. Music therapy basically represents a method to liberate people from anguish, sadness and doubt through the induction of some emotional states that correct a deteriorated state of mind. Music has been proved to exert some actions on several organs and systems, such as heart rate, arterial pressure, gastric and bowel fluid secretions, muscular tone, sweating glands, thermal balance of the skin, etc. However, it is necessary to conduct more clinical studies to corroborate and reveal the absolute scientific validity of this therapy.

According to a review done by the Central and North-west London Foundation NHS Trust (UK) and published early in 2008, the few studies on this issue demonstrate that therapists could use music to help patients fight depression and improve, reestablish and maintain health.

Drugs and psychotherapy are the usual treatments for this condition, but researchers want to find more evidence on the possible benefits of music therapy. After an exhaustive search throughout the international scientific literature, scientists could find five studies that contained the determined criteria for including these studies in the review. Four of these research works concluded that there was a reduction in depression symptoms among those patients treated with music therapy when this group was compared with other patients assigned randomly to another therapy group without music. The fifth study, though, did not show this effect.

Anna Maratos, the main author of the study, affirmed: “although these pieces of evidence do originate from small studies, they suggest this is a field that needs more profound studies, and, if this therapy is endorsed by future studies, we will need to find out what forms of music yield major effects. It is worth pointing out there are only a reduced number of relatively low quality studies on this area, and we will only be sure of the efficiency of music-therapy when more high-quality assays are reported.”

The distinct physiological effects, mainly cardiovascular and respiratory, seem to be related more to the musical rhythm than to the music style, as expressed by a study con-