

## Effects of music therapy in depression and anxiety disorder

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Mental disorders are considered "the evil of the century" by renowned researchers, because a large part of the population in many countries is diagnosed, and currently affect youth and children. Among the numerous therapeutic interventions, the music therapy is a non-invasive approach. However, there are very few people who are professionally engaged in research and studies on the subject. Therefore, this article is a literature to talk about the benefits of music therapy sessions for people with stress, depression and anxiety disorders.

**Keywords:** music therapy; anxiety disorder; depression disorders; stresses; non-invasive techniques

The human race, in course of, approximately, 4 million years ago, lives with constant daily challenges for his survival, among them stands out the learning process, planting of ailments, the domination of the fire, the establishment of the society and the numerous wars; in particular the two world wars. In that context, in the 21st century we find what appears to be the biggest challenge: the global financial crisis that triggered numerous psychological diseases in different societies. About the above, a study conducted by the Center for Space Research and the Organizations from the University of Algarve in 3 European countries, interviewing 729 people over 18 years, were these unemployed 117, proved that young people are suffering from mental disorders caused by the uncertainty of your future with

regard to financial issues [2].

In addition to the insecurity generated by the economic crisis, the high rate of unemployment has increased the number of people in poverty. These two situations directly affect the dignity of the human being. As a matter of fact, in a study conducted by the European Commission, 60% of respondents consider that poverty has grown in your area of residence. Of those, approximately 17% do not have enough money to pay regular expenses, and 15% consider that lives with constant pressure to deal with the payment of bills [2].

The World Health Organization refers to the current economic crisis as a factor that encourages the emergence of new vulnerable groups, causing the increase of mental health problems and suicides, impoverishment, marginalization and domestic

violence, namely, affects mental health substantially [3].

Between 2008 to 2011, more than 10000 cases of suicides had taken place because of the global crisis. This info was revealed by the study of the English University of Oxford and the London School of Hygiene & Tropical Medicine, which analysed data from 24 European countries, United States and Canada. Here, is show an increase of 6.7% comparative to the years before the mental crisis [3]. These numbers are still increasing, because in 2012 were recorded a sum of around 804,000 suicide in the world [4].

### Definition of stress

When you talk about stress, you will automatically associate it with the negative symptoms. Nevertheless, stress alarms were a fundamental tool for the survival of primitive men, who, to confront dangerous

situations - such as fear of predators, storms and enemy tribes - they had your body prepared in order to face them, which, according to World Health Organization (2011), it is a set of physiological reactions that prepare the body for action [5]. There are several types of stress; can be physical due to overload, monotony or chronic [6]. Selye (1965) mentions that the body, while being subjected to stimuli that threaten your homeostasis, produces a set of specific answers, depending on how the individual responds. This stimulus can become a positive or negative stress. If the individual presents positive response, for example, be moved or have an increased heart rhythm when someone makes a surprise on your birthday, is call stress, but when it is facing a situation of public speaking, it unleashes a response negatively, as adaptive angst o insecurity. This is call distress [7].

Despite the fact the World Health Organization, not consider stress a disease, this reaches 90% of the world's population. According to the researcher Doublet (1998), stress is related to complaints of about 2/3 of medical consultations carried out in the United States. In addition, it is assigned a high rate of absenteeism and medical license in organizations, because the untreated stress in time turns into mental disorders. Among the most common are anxiety and depression [8].

There is no official definition that explains the term mental health, because has numerous complexities, among them, the fact of not being just a matter of absence of disease. In this way, the World Health Organization uses the term mental health as being a state of emotional and psychological well-being, in which the individual is able to make use of your emotional, cognitive skills and social, besides to answer the demands related to everyday life [3].

Mental disorders are classified internationally by the Diagnostic and Statistical Manual of Mental Disorders - V as: "A syndrome characterized by clinically significant disruption in cognition, emotional regulation or the behaviour of an individual that reflects a psychological process, biological dysfunction or underlying development to mental functioning [9]."

### **Depressive disorder**

The common feature of these disorders is the presence of

sad, empty, or irritable mood, accompanied by somatic and cognitive changes that affect significantly the operating capacity of the individual. What differs is the duration, that is, time or presumed etymology [9].

Considered to be the third leading cause of disease worldwide, it is expected to become the number one cause of disease by the year 2030, currently reaching to and currently reaches some 154 million people [10]. It is estimated that 40% to 60% of the people affected by this disease, will have a greater chance of dying prematurely compared with citizens in General [3].

Someone who has a depressive disorder usually presents the following attributes: decreased attention and concentration; loss of self-confidence and feelings of inferiority; ideas of guilt and be useless (even in minor episodes); somber perspective of the future; suicidal thoughts or self-judgment; sleep disorders; loss of appetite [9].

### **Anxiety disorder**

This disorder means an emotional state, with psychological and physiological components part of the development of the human being, can become pathological, when it happens in an exaggerated manner and without a real threatening situation that the triggers [11]. The anxiety can be it reaches a large part of the population, regardless of socioeconomic categories, with higher prevalence in women, generally, over 18 years of age [12]. In children and teenagers, the medical charts that more often present are separation anxiety disorder and generalized anxiety disorder [13]. In addition, is include disorders that features excessive fear and anxiety, apprehensive expectation and behavioral disturbances, such as: apprehensive difficulty concentrating, fatigue, irritability, having trouble falling asleep or staying asleep, sleeping rarely in a way that is satisfying; restlessness, usually getting scared very easily; permanent concern or tension [9].

### **Evaluation and diagnosis**

Both depression and anxiety require that the symptoms repeat for two weeks or more [9]. After the identification of the symptoms, one of the most used scales to evaluation, among the various, is the Beck scales for depression and anxiety, composed of 21 items, where, for every question, there is an answer with score ranging from 0 to 4 (missing, mild, moderate and severe), with

purpose to quantify the intensity of the symptom. Score higher 18 is considered indicative of the presence of depression [14].

### Types of treatment

Stress creates a cost to the European Union of at least € 20 billion a year, while in the United States \$ 220 billion a year [15]. The costs of mental disorders in 30 European countries, was estimated at 798 billion euros in 2010 [10]. a recent analysis of the World Economic Forum estimated that the overall impact of mental disorders in terms of economic losses, will result in about 16 trillion dollars in the next 20 years [3]. These expenditures represent around 20% of all health costs in public budgets, for the treatment of patients [3].

About of treatment, the goals point to reduce the distress caused by the disease, reduce the risk of suicide, and ensure a better quality of life. These interventions and treatment consist of Pharmacotherapy and/or psychotherapy. The psychopharmacological treatment depends crucially on the tolerability profile of the patient in relation to antidepressants and the SSRIS (selective inhibitors of reuptake of serotonin), being the first choice the citalopram and sertraline [16, 17].

In psychotherapy, a trend of literature is to consider, that specific strategies for treatment are more effective in reducing symptoms of depression and anxiety, than other condition. This therapy can occur individually or in a group [18, 19]. The group mode stands out because the attention of a larger number of patients, and have a lower cost, in addition to the benefits that the group therapy generate the patient with stressors, anxiety disorders or depression. Structured sessions with time and frequency determined, considered the best option to meet the demands of mental health institutions. The group care contributes of patient to develop empathy skills and socialization skills. Castilho (1998) considers that any somewhat affective relationship between the participants must be worked either affection, rejection, grief, love or hate [20].

Among the various types of group psychotherapy, is have music therapy as an intervention that presents significant results in the improvement of the patients, in addition to contributing in the potentiation of the effects of pharmacological medication, because

the music occupies the non-verbal communication allowing immediate access to all levels of functioning of human being: physical, intellectual and emotional affection [21].

### Music and mental disorders

Since the year 1000 BC, it can found one of the first accounts of the use of music in the Bible, to people with mental disorders. The story is about King Saul, tormented by an "evil spirit", so it became fearful, angry, homicidal and deeply melancholy. The king in a state of intense mental disorder, he ruled his entire empire, ending with as death, inflicted for self on the battlefield where he was facing an inexorable defeat [22]. "And that was when the evil spirit from God came upon Saul, David took the harp, and played with your hand; so Saul felt relief, and if you thought was best, and the evil spirit he was retiring him" [22].

In Greece, Pythagoras already used the music to help in the relief of concerns, fears and anger. Plato said, "music has the power to touch the deepest of our soul and ignites the imagination [23]." In addition, around 324 BC, the melody of lyre, restore to sanity of Alexander the great. Later, the physicist Thomas Campian, known for his lyrical and vocal compositions, practiced the philosophical cure of depression and related problems by songs, during the reign of Elizabeth I. Finally, in Jacobean England, Thomas Cogan and Richard Brown treated his patients with music [24].

### Music therapy

Among the numerous definitions of music therapy, will use in this article the best relates to the needs of patients with mental disorders, which according Bruscia: "Music therapy is an interpersonal process in which the therapist uses music and all its facets - physical, emotional, mental, social, spiritual and aesthetic - to help the client better, recover or maintain health" [25].

Music therapy is a systematic process, with main objective to provide the patient resources to improve your quality of life. This improvement, occurs thanks to the properties of the sound that can able to act in the human body by means of vibration and this in turn, acts as a good receiver of the sound waves, because your mass 70% being made up of water, means that best leads to vibration. The speed of sound in the water reaches 1,500 m/s (3,350 mph) providing the sound

effects reach all organs, and cells, which creates the physiological and psychological influences. Benenzon (1985) stresses the importance of such use to say that "good music harmonizes the human being, bringing back the rhythm patterns of the body, emotions and spirit" [24-26].

The World Health Organization recommends that cherish psychotherapies troubleshooting search, of vital or relational issues in sundry steps. Also that decide its main goals, the obstacles that are blocking these goals, and getting involved in the resolution of the that can be solved besides acceptance of what is inevitable: 1) problem identification; 2) generation of multiple alternative solutions; 3) choose the best solution from among the alternatives; 4) development of a plan; 5) implementing a tactical problem solving; 6) evaluation of the effectiveness of the method used [5, 27].

For a better understanding of the benefits of music therapy in the treatment of people with stress, depression and anxiety, it is mentioned parallel of the symptoms, matching with the way that music can contribute or influence in a positive way. As references of symptoms will be used the information contained in the International Classification of Diseases and Related health problems, the World Health Organization.

### **Depressed mood, loss of interest, fatigue**

Recent neurological studies have shown increased production of endorphins, dopamine, acetylcholine and oxytocin in people who were submitted to musical stimuli. Endorphins are substances related to motivation, life energy, which produce joy and optimism, helps to decrease the sensation of pain and stimulate a sense of well-being [28].

To participate in the music therapy sessions in a group causes the patient to interact with other people, generating common interests, because the music promotes the restoration of sociability for the creative community experience [29].

Activities with musical improvisation, which require participants who are focused and paying attention to what the group is playing, to thus be able to collaborate on loudness; play a musical scale, beat a drum, sing in groups, require perception and psychomotor system-wide attention. According to Wallon (2011) "always the driving action governing

the appearance and development of mental formations" [30].

Music activates the memory stream stored through the Corpus Callosum. As a result, the evocation of associative memories is intensified by music [31]. For centuries, songs have been used to evoke feelings, in this way, we can make use of letters or create lyrics from song melodies to stimulate self-esteem. A famous lyric singer Martinus described the virtues of music: that their voice through the sound vibrations, penetrate the patient's body, and restores the natural vigor and well-being [24].

### **Ideas of guilt and worthlessness**

Recognising the body as a musical instrument - as through body percussion, singing, perception of the internal sounds of organisms - expands the understanding and functioning of it for other activities. The acknowledgment of yourself, arouses the perception of own importance in the world you live in, this process of self-awareness is vital to the art of listening [24]. According to Steffen (2011), the interpersonal relationship provided by singing reveals and develops issues such as leadership, initiative, autonomy, security, cooperation, responsibility, communication, concentration, ability to make choices, self-esteem, organization, submission, authoritarianism among others [32].

### **Bleak and pessimistic views of the future**

For Qiu (2007), the music serves as vibratory influence to "tune" the vibration pattern of the person [33]. Musical composition is a tool that provides the patient express through your entire letter anguish, which can be worked by means of recreation, when creating a new perspective to life. Expressive activities in music therapy sessions, such as learning how to dance or body language freely, covers several psychological aspects, which Meur. "Express yourself with the body, translates your available or your indisposition in relations with things or people. This psychological aspect is very important, it helps us to better identify certain disturbances due to affective factors" [34]. Bush (1995) the comments that classical music with its uneven and unpredictable changes in their harmonies and time, can stimulate the midbrain (headquarters of emotional response), which accesses profound meanings and experiences

seizures to be explored [31]. Indications show that since primates, the music was present before and during the course of numerous battles, this function was to encourage soldiers and frighten the enemies, with use of strong vibrations of drums and wind instruments, changed the vital energy the soldiers in such a way that led to war [35]. A study involving elderly people proved that the use of the song provided care and sensations the acceptance of the conditions [36]. Gaston says that the possibility of repetition, to start again and resume the music again, provides to the person another chance, another attempt to achieve success [37].

### **Disturbed sleep**

According to Bruscia (2000) "the musical relaxation allows bringing up the reaction of relaxation as therapeutic intervention with the goal of bringing (the person) to your own natural healing process, triggering internal resources ..." [25]. Music acts on the central nervous system and can cause the individual relaxation effects. Musical elements as low intensity, slow tempo (slow, largo, Adagio), regular and uniform rate can cause a feeling of relaxation [38]. Some authors correlate the notion of tension and relaxation, with consonance and melodic dissonance [39, 40].

### **Decreased appetite**

The rhythm is the main factor of organization and control, energy generator that drives and drives the music. You can take the individual to a progressive mastery of yourself and of your personal organization [37]. Playing an instrument requires activation of all motor areas, and frameworks such as the mesolimbic system and the nucleus accumbens and the release of substances such as dopamine and serotonin, which will influence the homeostatic adjustment processes, these by using time generates signals physiological hunger and satiety [8]. Studies indicate that physical activities generate an increase in food intake.

### **Symptoms of anxiety**

#### **1. Persistent jitters**

Through improvisation in music therapy, is to express and communicate emotions, which helps to improve our health by reducing the levels of stress and anxiety [41]. The rhythmic skill plays an important role in the representation of emotions,

through gestures, movements and sounds, releasing muscle tension to strike an instrument, pipes the feelings of distress through the non-verbal, significantly decreasing the levels of anxiety in the group exposed to music [42, 43].

#### **2. Tremors; perspiration**

When sound waves are perceived by the brain, respond with emotions that cause physiological changes that Act on the central nervous system, in the limbic system, and the parasympathetic system that responds to a situation of calm, in actions such as slowing of the heart rate Cardiac artery pressure decrease and decrease of adrenaline in the blood [44, 31]. Rhythm is associated with body organization and body schema [37].

#### **3. Muscle tension**

Second Dewhurst, vocalization contributes to the relaxation of body parts that are about muscle tension, such as the neck, back, chest and head [24]. This statement is confirmed by practice of modern medicine, which uses a beam of vibrant sound can blow up kidney stones [45]. As the relationship people, Steffen (2011) states that the sing can reveal moods, develops the emotional, self-expression, changes in mood, relieves stress, leads to a reflection on feelings, emotions among others. In music therapy, singing allows the patient if you get hold on your State and work out their issues [32]. Palpitations; dizziness; epigastric discomfort. The mantra harmonizes the heart beating and respiratory rate through sound vibration. There is a continuous stream that runs the audible vibrations to the internal vibrations, that is, the sound of the breath [45].

Responsive experiences according to Bruscia, "can focus on the physical, emotional, intellectual, spiritual or aesthetic of music." A study shows lowering heart rate in patients with breast cancer, by the release of dopamine in the induced enjoyable music-induced system involved in cardiac autonomic regulation. Valenti discusses that music can help in considerable improvement of the perceptions of personal affection, in relief and reduction of tensions, problems and anxieties, fears, blockages and anxiety [46]. Stimulating the auditory and tactile sensory receptors, psychophysical and emotional balance, modifies the psychophysiological responses (heart rate, breathing and amplitude reflection psychogalvanic) [46, 47].



## Conclusions

By way of conclusion, thanks to the present revision, it was notorious that music therapy helps in improving the quality of life in people with stress, depression and anxiety disorder, due to the psychological and physiological effects of music. Despite the fact that beneficial results, were proven there are fewer publications focused on this subject, in as much as the existing ones relate to people in hospital areas or Senior Center. Another difficulty encountered was the lack of bibliography that relates the use of music therapy in people with stresses due to issues of the financial crisis of 2008 to 2011. Thus, in addition to contributing as a research base, this article serves to promote further research.

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