Security Camera Network, Privacy Protection and Community Safety

Music therapy via wireless internet for stress symptom and crime prevention

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Abstract

In the world today, people are living with rush and competition for a better life and brighter future, which leads to stressful life and consequently causes physical and mental illness. Both kinds of illness can negatively affect oneself and others, especially the mental illness. That is the person with mental illness can, consciously and unconsciously, commit a crime both harmful to himself and others. Among various methods, music therapy is the effective ways to cure these symptoms and illnesses. Music therapy via wireless distribution (MTWD), is a concept that combines musical tele-therapy to the benefits of security camera, which is a very interesting new idea aiming to prevent and cure symptoms and illnesses caused by stress. The concept will be discussed in details.

Keywords: Innovative communication; stress symptom; music therapy, crime prevention; security camera; musical tele-therapy

1. Introduction

Stress can happen to anybody. In infants and toddlers, regarding the laboratory and psychology research on animal and human infants, it was found that pain from unfortunate medical conditions can create stress. So would pain from sensitivity reactions to formula or to foods passed along in breast milk. Physical abuse and extreme neglect provide a very high degree of stress. Even short-term separation from mother leads to elevated cortical in infants, indicating stress (Palmer, 2006). For adults, stress is mostly caused by rush and competitive lifestyle only to survive in career. Both the stress we take with us when we go to work and the stress that awaits us on the job are on the rise and employers, managers, and workers all feel the added pressure (Segal et al., 2008). For some elders, it is caused by living with no objective in their lives. The difficult changes that many elderly individuals face such as the death of a spouse or medical problems can lead to depression, especially in those without a strong support system (Segal et al., 2007). Stress can normally happen in the patients; for examples; patients with chronic illnesses; with chronic illness, family and friends may develop compassion fatigue over time, becoming less patient or less willing to take care of special needs or listen to ongoing complaints. They may not understand exactly what patient is experiencing, fail to recognize the kind of emotional support that the patient needs, or simply become emotionally
drained after a certain period of time. Patient may also feel a sense of guilt in needing help from caregivers or fear that he/she will become dependent upon them (Diamond, 2007); and handicaps, handicapped individuals will continue to require a disproportionate share of mental health services (Rutter, 1970).

Stress can cause physical illnesses; high blood pressure, heart disease, brain malfunctions, paralyses, Alzheimer, etc. Our natural defense mechanisms are geared to deal with circumstances that require a fairly immediate and relatively short-term response. This ‘fight or flight’ system is important for our wellbeing and survival, but problems arise when we are involved in situations that maintain our stress response. Prolonged activation of the sympathetic nervous system can result in an increased heart rate, high blood pressure, the formation of blood clots, fatty deposits and suppression of the immune system (Kennard, 2009), and mental illnesses; depressions, psychological disorders, anxiety, insomnia, aggressiveness and emotional inconsistency. Apart from pathological (caused by disease) or the problems in childhood, mental illnesses can be caused by stressful events of life. Stresses and problems affect every individual differently, and each person will adapt - or fail to do so - according to his or her physical and psychological makeup (Sams, 2008). The person with mental illnesses has high chance to commit a crime which both can hurt oneself, possibly suicide, or other people. The study of has investigated the relationship between the subjective perception of stress and support in the population (as independent variables) and the prevalence of homicide, robbery, and property offenses in society, while controlling for the effect of gender, i.e., how these crimes are related to the differential perception of stress and support among males and females. The theoretical framework is provided by a stress-support model which postulates that crime in society will be positively related to stress factors and negatively related to support systems (Landau, 1997).

Music therapy can effectively cure illness caused by human stress and emotions. For examples, a study using music therapy on people suffering from a severe mental illness has found that music increases the quality of life for sufferers. The themes of the Focus Group interviews indicated positive outcomes, for examples, song writing allows an important avenue of self-expression, and that the experience is a positive one, etc (Grocke et al., 2003). Anyway, in traditional method, the patients regularly go to clinic in order to meet the music therapist to have the therapy session. This is so inconvenient for elder patients, patients with chronic illnesses and handicapped patients. A concept of e-music: MTWD is an innovative idea of offering a musical tele-therapy session to help prevent and cure the symptoms and illnesses caused by stress. This is how a security camera plays an important role of taking care of people’s health in the communities. In the first section of introduction, the authors will describe the history of music therapy and its benefits to cure both physical and mental symptoms especially stress which can badly cause diseases and the origin of new concept, MTWD. In section 2, the concept of MTWD and how a security camera can be used to prevent and cure diseases for elders, chronic patients and handicapped patients remotely through music therapy method will be discussed. In section 3, the authors will explain about the models and process of MTWD method. In section 4, we will discuss how MTWD can be highly beneficial to the health and ways of lives of everyone in the communities. In the last section or section 5, the authors will give the discussion and conclusion about the various issues relating to MTWD method. In addition, the use of the additional system is proposed, where the security camera with the music therapy can be installed within the street lamp, which is consisted of infrared sensor, camera, speaker and microphone. In operation, the flow of music and volume can be decided for the appropriate time, season or weather. The microphone is installed to detect the background sound level for calibration.

2. Music therapy and the concept of MTWD

Nowadays, due to technology advancement discovered by human, the standard of living of people is getting better and better, including home, food, clothes and medicines. This has helped human to live longer. However, the longer they live, the new disease has emerged, including those caused by new kinds of bacteria and virus or by the pollutions caused by utilizing those advanced technologies inappropriately and regardless to public environment. These include toxin and adulterated thing contaminating in foods derived from animals or plants grew by chemical process, air and water pollutions. Apart from those diseases caused by external factors mentioned above, we, as humans, are currently facing the internal diseases caused by our own emotions, thoughts and anxiety, later on results in stress or tension. Stress or tension can cause variety of diseases; mental disorders, which leads to behavioral disorders, for examples; aggressiveness or depressiveness, and physical disorders, for examples, high blood pressure, palpitation, insomnia, will soon be harmful to human body and consequently it will possibly create complications. Apart from physical illness, stress can affect family, friends, colleagues, and etc. For examples, father and mother with stress can badly affect their children’s growth and emotional development.

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The reports from research of above institutes has revealed the effect of music as an instrument to treat the emotion disorders, mental disorders and malfunctions of the brain which has deep effect on human behaviors. Truly, music has the ability to relax human from tension which can possibly caused various diseases. Numbers of research has shown that music therapy is proved effective for various groups of patients, which are postoperative patients, patients with chronic diseases, drug addict, patients with mental disorders, patients with stress, handicap, elders, terminal patients, patients with depression.

Researchers have found that the appropriate type of music used in the therapy session, apart from the ability to reduce stress, can cure the symptoms of insomnia, anxiety, depressions, etc. In addition, music can help to improve effectively in career performance and increase concentration. Music therapy is an established healthcare profession that uses music to address physical, emotional, cognitive, and social needs of individuals of all ages. Music therapy improves the quality of life for persons who are well and meets the needs of children and adults with disabilities of illnesses. Music therapy interventions can be designed to: promote wellness, manage stress, express feelings, enhance memory, improve communication, promote physical rehabilitation. Worldwide and International Music Therapy Associations: Australian Music Therapy Association, Austrian Music Therapy Association, Uniao Braileira Das Associacoes De Musicoterapia, Canadian Association for Music Therapy, Dansk for bund for musikterapie, Finnish Society for Music Therapy, Deutsche Gesellschaft fur Music Therapists, Hong Kong Association of Music Therapists, Korean Association for Music Therapy, New Zealand Society for Music Therapy, Swiss Association of Music Therapy, Music Therapy Association of Taiwan, British Society for Music Therapy, World Federation for Music Therapy –Subscribe to the music therapy world Newsletter and Music Therapy Today, a free, e-magazine and host of the discussion board, European Music Therapy Confederation, European Association of Music Therapy Students.

It is clear that the effectiveness of music therapy is accepted worldwide, both for physical and psychological. Traditionally, the patients need to go to see the doctors in hospitals or clinic, have a body checkup or get physically healed, get the prescription or take the medicine home. Same procedure happens in music therapy. At the clinic, the patients get diagnosed by the music therapist. And then the music therapist will choose the appropriate for each individual. The patients have to go to the clinic regularly according to the therapist’s appointment. In the concept of MTWD, the first time that patient meets the music therapist, where the patient’s profile will be recorded in the system. After finishing diagnosing already, the music therapist decides the appropriate type of music for individual patient to listen at home. After the first time, the patient can communicate and have the remote therapy session via the communication and internet technology with the camera to deliver audio and picture. The objective of the Musical Tele-Therapy, as set by the authors, is to reduce and prevent stress which can cause variety of illnesses.

3. Model and process of MTWD

Even though today the music therapy is more accepted among the medical profession, it is difficult to make the subject more understandable for everybody due to its abstract. Anyway, the music can effectively affect the human body (brain music therapy). Hence the idea combining the concept of MTWD with the musical tele-therapy should be educated to everybody through main channels; radio, television, and mobile phone. Educating the idea about music therapy helps building trust about the effectiveness of the therapy. Apart from the research on music therapy reveal, the education process includes the demonstration and sample of the musical types used in each therapeutic case. The process of the musical tele-therapy is as shown in Figure 1. Each patient needs to fill in his/her profile in the registration form and have the interview with the team. The information from the form and the interview will be used in the diagnose procedure later on. The form to be used in the musical tele-therapy process is the standard form called “The Individualized Music Therapy Assessment Profile (IMTAP)”, developed to help therapist to have a better understanding about each patient. The form will be the computer-based analysis for the highest benefit of the patients and this will help keeping the reference and data collection systems organized (Baxter et al., 2007).

IMTAP consists of several components: intake is completed with the referring individual or the parent/guardian and used to motor; sensory; receptive communication/auditory perception; expressive communication; cognitive; social; pinpoint assessment domains and plan assessment sessions, cover sheet summarizes the intake data and indicates the domains to be assessed, session outline form is used to plan assessment sessions, allowing the clinician to plan activities which directly assess the domains indicated during the intake process, domain scoring forms collect data on ten domains of functioning: grass motor; fine motor; oral emotional; and musicality. Within each domain there are various sub-domains which further clarify client functioning, summary sheet provides a means to
summarize assessment data, resulting in subsets of client strengths and needs to facilitate a deeper understanding of client abilities. The summary sheet also provides a useful format for discussions with parents, educators, and others interested in the music therapy process, goals and objectives form provides a clear process for creating goals and objectives to address client needs, quantification module provides a quantified replicable score on a single skill which can be used for research and documentation purposes, computer software allows the therapist to centralize client information, score the assessment electronically, create reports and graphs, and track process.

Figure 1 Therapist-patient discussion

After having been informed about the profile and therapy objective for each patient, the therapist will plan and then start the first therapy session at the clinic. Consequently, when the first session is over, the patient will be allowed to go home and further continue the MTWD procedure as shown in Fig. 2. Therapist and patient will communicate on the internet system during the MTWD process. The process will be recorded by the security camera to be used in the assessment procedures. In the therapy process, the appropriate kinds of music or songs will be assigned for each patient. With close collaboration of the patient, the therapist will assess every session according to IMTAP.

From Figure 3, the system can be used to expanding to the whole community, which can be performed the music therapy and crime prevention, which is effects; (i) possible crime notices that he is detected, (ii) he looks up to camera and his face is already record. The additional system is as shown in Figure 3, where the security camera with the music therapy can be installed within the street lamp which is consisted of infrared sensor (IR sensor), IP or
stand alone camera (NPO, 2009), speaker and microphone. In operation, the flow of music and volume can be decided for the appropriate time, season or weather. The microphone is installed to detect the background sound level for calibration.

Figure 3 shows an crime prevention based on MTWD, where OS: operating system, IR: Infrared, IP: Internet Provider.

4. Positive effect of MTWD

MTWD brings a better quality of life to the patients and caregivers and better standard of living as followed: Save time: save the time that patient spent on traveling to clinics, Save cost: save the cost the patient need to spend on traveling to clinics, Save energy: save the energy to be wasted on traveling, including the fuel and electricity, Decrease the number of patients in the community since the program helps reducing the stress which can cause many illnesses. So this leads to lowering the patients’ caregivers’ task. At the same time, the government can save the budget to be spent on taking care of these patients, More comfortable and convenient to have the therapy session from patients’ own home, The session is continual and uninterrupted due to no issue on time, cost and bias on meeting the therapist, No burden of caregivers on taking the patients to the clinic.

5. Discussion and Conclusion

The effectiveness of music therapy is depending on the communication network which, at the present, is not qualified and the information is not administered as well as it should be. Anyway, if we are to enter into the age of next generation network, these problems will be eliminated. Apart from this, just like other kinds of medical science, there should be the education of the knowledge, concept and benefits of musical tele-therapy to the community. The concept of MTWD helps the patients’ family to have burden less than on taking care of patients, including elders, chronic illness patients and handicaps. This will bring about the better quality of life and society.

In conclusion, the musical tele-therapy is a positive and innovative concept in the medical professions, even though this kind of subject needs a continual study. This musical tele-therapy is a science that uses music, a kind of sound that is retrieved from nature, as a tool for healing. Therefore, different from chemical treatment as medicine, there is no side effect to the patients, no matter long term or short term. The concept of MTWD is a suitable concept for lifestyle of people in the age of globalization which is full of stress and competitions in daily life and therefore will reduce the risk of illnesses caused by stress. Furthermore, the crime prevention using MTWD can also be applied incorporating the conventional system.
References


