

**Using Music Therapy in (Re) Habilitation of
Prelingual Deaf Cochlear Implant Children**

Thesis

**Submitted for partial fulfillment of master degree in
Phoniatrics**

By

Mary Shafeek Kamel Girgis

Visitor Resident - Phoniatrics Department

Faculty of Medicine, Ain Shams University

M.B.B.CH

SUPERVISED BY:

Dr. Samia Elsayed Bassiouny

Professor of Phoniatrics

Faculty of Medicine, Ain Shams University

Dr. Marwa Mahmoud Saleh

Professor of Phoniatrics

Faculty of Medicine, Ain Shams University

Dr. Dina Ahmed Elsayed Elrefaie

Lecturer of Phoniatrics

Faculty of Medicine, Ain Shams University

2017

Acknowledgement

To the Almighty **God**, who always guides me through my life with his strong hands. He who had given me the strength and serenity to accomplish this work for the glory of his name.

To **Dr. Samia ElSayed Bassiouny**, Professor of Phoniatics, faculty of medicine, Ain Shams University, for her great supervision and great help, available advice, continuous encouragement, and her passion to accomplish this work .

To **Dr. Marwa Mahmoud Saleh**, Professor of Phoniatics, faculty of medicine, Ain Shams University, for her endless effort, fruitful advice, continuous support, and for her endless knowledge she offered me.

To **Dr. Dina Ahmed Elsayed Elrefaie**, Lecturer of Phoniatics, Faculty of Medicine, Ain Shams University, for her continuous support, endless effort, and fruitful advice that she had given me throughout this work.

Without their support it was impossible for this work to be achieved in this form and it is an honor to work under their guidance and supervision.

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INTRODUCTION
&
AIM OF THE WORK

Introduction

Music is the sound produced when an object tends to vibrate producing a sound wave which spreads out through air that reaches our ears and bodies. People hear different beautiful melodies and react differently having various types of feelings while hearing those melodies. Thus, music has subjective and cultural properties away of the physical one. It produces experiences that differ accordingly to people's cultures and certain occasions it's been played at (**Bunt & Brynjulf, 2014**).

Away of the different spoken languages all around the world, music is that language used universally around the whole world, through different cultures, by different kinds of people, as music enhances certain abilities of communications in each person, especially those who seem to be difficult to communicate with due to psychiatric, mental, and physical problems (**Zoller, 1991**). It is also obvious that speech and music are mirror image for each other, as addition of intonation, different intensity, tonicity, and rhythm enables speech to be more expressive. It also gives it its own criteria to be different among other dialects (**Adler, 1988**).

Music also, forms a basic component of each person's life, as for young child to be successful in any learning process such as reading and writing; he has to have the ability of recognizing his inner rhythm (**Birkenshaw, 1997**). Also, mastering speech, as a part of language, has certain requirements which include: memory, muscular co-ordination, spatial relationship,

imagination, even vocabulary growth. It was found that music helps in nourishing those abilities that are very important in speech and language maturation (***Sculberg, 1991***).

Because of the hypothesized overlap in neural networks that process speech and music, and because music tends to be associated with positive mood and reward (which may help with motivation and persistence) (***Patel, 2011***), there has been speculation that music training may be a valuable companion to more conventional forms of speech rehabilitation (***Kraus et al., 2009***), (***Chermak, 2010***) and (***Ingvalson & Wong, 2013***). Although, the efficacy of music (used in music therapy) in management of various communicative disorders, (including hearing impairment) is well established, still there is no available and documented schedule for rehabilitation of hearing impaired children with the help of music intonation therapy in Arabic language. The exact role of music therapy is not yet validated on Arabic speaking children having hearing impairment (***Barakah et al., 2003***).

In Cochlear Implant children, there have been many problems facing their proper language development including supra-segmental development such as: prosody, pitch detection, and pitch range. There was no previous program that was introduced to overcome these problems. Thus, a music therapy program was needed to be constructed in order to see its efficacy in facing these problems.

Aim of the work

To test the efficacy of a designed music program to be used in (re) habilitation of cochlear implant children during their first years of auditory habilitation in order to improve their communication abilities.

Abstract

The efficacy of music therapy in management of various communicative disorders, (including hearing impairment) is well established, still there is no available and documented schedule for rehabilitation of hearing impaired children with the help of music intonation therapy in Arabic language. The exact role of music therapy is not yet validated on Arabic speaking children having hearing impairment.

Keywords

Music therapy, cochlear implant.

REVIEW OF LITERATURE

Definition of Music Therapy and its uses in Medicine

Music therapy was defined by **Myra, (1999)** as a special way of music introduction to the patient in order to improve his/her way of living by changing one's behavior in a positive way. It is a way that's been used to encourage development in all one's abilities including psychological, motor, and learning abilities. It is a very effective method using music as a route of learning, as everyone has a special response to at least one style of music. Also, as stated by **Benezon (1997)** music therapy is the field of medicine which studies the man-sound- man complex in order to use movement, sound and music to open communication channels to produce therapeutic, psychoprophylactic and rehabilitating effects in man society.

Music therapy is a professional use of music and musical elements to enhance, maintain and restore mental, physical and emotional health. Music has nonverbal, creative, structural and emotional qualities. These are used in therapeutic relationship to facilitate contact, interactions, self-awareness, learning, self-expression, communication and personal development (**Barakah et al., 2003**).

As told by **Birkenshaw (1997)** music should be the bright right for every child, not only for the joy and fulfillment it can bring, but also because it teaches so much about our world, our inner selves and especially our language. Besides that, the value of music as an art lies not only in its potential in

entertainment or as cultural heritage, distractor, silence-filler, and medium for emotions, opinions and political statements. Music is used as a teacher's tool in music education, as a therapeutic intervention in the health care system, and as a communication tool for people who cannot communicate verbally (**FelixLoß, 2016**).

Regardless of age, culture, music abilities of the client, the effect of music therapy has been well established in various fields of medicine including: Psychiatry, neurology, physical medicine and even obstetrics. This could be shown clearly through its alleviating effect during childbirth, its tremendous emotional effect on the victims of sexual assaults victims, and the improvement it adds during stroke rehabilitation and Alzheimer's disease (**Bunt et al., 1994**), and (**Mysikja & Lindback, 2002**).

Historical notes about Music Therapy

Music was the first art to be introduced therapeutically (**Fleshman and Fryer, 1981**). In fact, healing by music was known centuries ago. It was used in ancient Egypt in the Egyptian temples. This was proved by Petric in 1899 who found it written in Egyptian medical papyri that was dated 1500 B.C. (**Benezon, 1997**). Also, it was in ancient Rome, where Aesculapius (God of medicine) used to cure mental diseases with songs. Even in the Thirteen centuries, in Arabic hospitals, they created special rooms for music therapy (**Antrim, 2006**).

In the 17th and 18th centuries, the curative effect of music was explained to be through the action of vibrations. These vibrations exert their effect through their own transmission through the tissues (skin, Muscles and organs). Through the changes that occur as a result of these vibrations (changes in tension and water circulation), the targeted pathology to be cured was removed (e.g.: circulatory failure and tissue tension) (**Galinska, 1987a**).

In the 19th and 20th centuries, the study of physiological function of the body system through music firstly appeared. It was noticed that people react differently to the same type of introduced melody. It was also discovered that a person's reaction towards music can't be predicted (**Galinska, 1987b**).

During World War II, this was the first time to build up a scientific based researches and applications for music therapy. Those procedures were aided by the tremendous numbers of war veterans who were in a great need for such a therapy as a psychotherapeutic medication. Then, the standard of practical