CHAPTER I
INTRODUCTION

Life-threatening diseases (e.g., cancer) affect people's future time perspective, and affect their mental health (Vinayak, 2005; Vinayak & Dhanoa, 2017; Zhou, Feng, Han, Yang, Song & Zheng, 2018). Cancer, after cardio-vascular and cerebrovascular diseases, is the third worldwide chronic disease that is increasing every year along with the growing technology and can become one of the most important reasons of death in humans (Gao, Chen, Lin & Han, 2015). About 14 million new cases of cancer are globally recorded each year (Bernard & Christopher, 2014).

According to reports by World Health Organization (WHO, 2014) oncology diseases have been introduced as the major causes of death globally and with 8.2 million deaths in 2014. Currently, it is said to be the second leading cause of mortality, with 25% death. The most common types of cancer related deaths are lung, liver, stomach, colorectal and breast cancers. However, it differs for males and females. Geographically, Africa, Asia and America have more than 60% of world’s total new annual cases. Globally, these areas have 70% of the world’s cancer death. The annual cancer cases are expected to grow from 14 million in 2014 to 22 million in the next two decades (WHO, 2014).

Oncology diagnosis has been seen as a most dreaded and severe life event that produces stress in both patients and their families (Vinayak, 2008; Finck, Barradas, Zenger & Hinz, 2018). Nevertheless, oncology explains more than 100 types of diseases that abnormal cells split uncontrollably and invades healthy tissue and spread throughout the body (National Cancer Institute, 2008). The process starts, when these irregular cells do not follow the normal progression of division, maturation, and death. In doing so, it weakens the immune system that naturally repairs or destroys the invaded cells. Thus, it causes the inappropriate function of the system (Mackay, Jemal, Lee & Parkin, 2006).

Generally, cancer is a vital health problem in Iran (Yavari, Sadrolhefazi, Mohagheghi, Madani, Mosavizadeh, Nahvijou et al., 2008) and is one of the most
frequent causes of death among Iranian males and females (Pourhoseingholi, Vahedi, Moghimi-Dehkordi, Pourhoseingholi, Ghafarnejad & Maserat, 2009; Mosavi-Jarrahi & Mohagheghi, 2006). With population of approximately 74 million in 2010 (the last statistic reported by government), Iran has an age-standardized death rate from cancer. It estimated 12% for males and 7% for females (WHO, 2010). Annually, more than 70,000 new cancers approximately occur in the country of Iran (Masoompour, Yarmohammadi, Rezaianzadeh & Lankarani, 2011; Bagheri Lankarani, Khosrovizadegan, Rezaianzadeh, Honarvar, Moghadami et al., 2013).

Cancers are found to be curable in some cases, and a chronic problem in others (Rowland, 2011). Treatment of cancer may require radiotherapy, chemotherapy, hormone therapy, immunotherapy or surgery (Stephens & Aigner, 2009), depending on the initial site of diagnosis and state of disease. In the case of early stages, it may involve one tumor, while in more advanced stages, it involves larger tumors, lymph nodes, or cancer spreading (metastasizing) to other parts of the body (Mackay, Jemal, Lee & Parkin, 2006).

Oncology treatments can extend life expectancy in patients, however the treatments often leave them with deficits. These deficits might have long-term physical, psychosocial, medical, vocational, and economic effects on both patients and their family (Esser, Hartung, Friedrich, Johansen, Wittchen, Faller & Wegscheider, 2018).

The fact that the number of survivals is growing up and patients live with cancer necessitates addressing the effects of cancer on physical and psychosocial needs of survivors (Vinayak & Rani, 2010; Rowland, 2011). Oncology interrupts social, physical and emotional wellbeing. It produces a range of negative emotions, including anger, fear, sadness, guilt, anxiety, embarrassment and shame. Depending on the type of the disease, symptoms of oncology changes. But, there are common symptoms caused by oncology and/or by its medical treatment (e.g., chemotherapy and radiation). These are pain, fatigue, sleep disturbances, loss of appetite, nausea (feeling sick, vomiting), dizziness, limited physical activity, hair loss, a sore mouth/throat and bowel problems. Similarly, it frequently causes psychological
problems such as depression, anxiety, mood disturbances, stress, insecurity, grief and decreased self-esteem (Daykin, Bunt & McClean, 2006).

Physically, oncology is a stressful experience. On one hand, as the result of the disease, cancer causes some acute chronic physical problems; on other hand the treatments of cancer such as chemotherapy and radiotherapy also have different physical and psychological side effects (Petrie & Reynolds, 2007).

Stress has impact on physical function of cancer, and intensifies existing distressing symptoms (Uchino, 2004). Stress has been recognized to be a normal and natural phenomenon, with both physical and psychological components that help people respond to circumstances, in which they observe a discrepancy between the demands of a stressor and their own biological, psychological, or social resources (Sarafino, 2006). But, in course of time the chronic, cumulative stress associated with cancer may lead to immune, endocrine, and autonomic nervous system abnormalities (Uchino, 2004). Nevertheless, stress can be managed by specific interventions that may also moderate immunity (Keller, Schleifer, Bartlett, Shiflett, & Rameshwar, 2000).

Whereas cancer is a devastating disease and necessitates survivors to make psychological, social, and behavioral adjustments, however, adjustment is difficult (Gfeller, 2008). It is not simple to overcome fear, stress, worry, guilt, depression and anxiety related to it. Loss of control is related with months and years of treatment and follows up (Adler & Page, 2008).

The psychological discomfort experienced by cancer patients is not closely correlated to their vulnerability or susceptibility to psychopathologies. This psychological discomfort, usually mentioned as distress, is a multi-factorial condition, which develops as a continuum, from common feelings of vulnerability, sadness and fear to more disabling conditions and fully fledged psychiatric disorders, including generalized anxiety, panic attacks and major depression (National Comprehensive Cancer Network, 2011). Quality of life is an important outcome criterion in oncology (De-la-Torre-Luque, Gambara, López & Cruzado, 2016).
Although physical and psychological effects of cancer are disturbing for cancer patients, social support may serve as a buffer to reduce distress (Delongis, Folkman & Lazarus, 1988). Music therapy acts as a buffer. Its purpose is to manage coping strategies of patients who experience a range of physical, psychological, emotional, and spiritual suffering. Practically, music therapists create an environment to engage cancer patients with therapists.

The purpose is to promote wellness, provide stress management plan, pain alleviation, and expression of feelings, memory enhancement, improved communication, and enabling of physical rehabilitation. When a seldom-offered therapy is examined, the profession and the therapeutic intervention grow considerably. Thus, most of national cancer institute–designated comprehensive cancer centers and many community cancer centers recommend music therapy for patients particularly in developed countries (World Federation of Music Therapy, 2016).

Researches on music therapy indicate that cancer patients may benefit from musical expression. On one hand, it helps patients to cope with their negative emotions. On the other hand, it can be used to benefit patients in a complex way as music is the most fundamental and unique form of art that affects people spiritually, emotionally, socially and physically (Rykow, 2008; Magill, 2006).

As an expressive method, music therapy is a process in which music therapists use all the features of music (emotional, mental, physical, social and spiritual) to attain the mental and physical improvement of the clients. Music therapists by using music experiences such as free improvisation, singing, and listening to, discussing, and moving to music to achieve treatment goals, improve the clients’ health in several areas, such as cognitive functioning, emotional development, social skill, and quality of life. Other health care professionals such as general physicians of naturopathy system of medicine may make referrals to music therapy services in psychology specialty or physical medicine specialty, and occupational medicine specialty. Clients can also choose to pursue music therapy services without a referral (American Music Therapy Association, 2013).
Music is a ubiquitous social phenomenon. It can affect the functions at the basic sensory level as well as at an unconscious level. To bring therapeutic changes in individuals, music therapy is mainly the practice of intervention over the medium of music. These changes unavoidably improve physical and mental health of individuals. Previous researches in the field of music therapy suggest that this intervention can actually be relatively efficient in helping a wide range of conditions (Fernández, Mato, Vázquez & Ferreiro, 2014; Hatampour, Zadehmohammadi, Masoumizadeh & Sedighi, 2011).

Music has been understood as an earthly manifestation of spiritual or primal vibration, also known as cosmic vibration, music of the spheres, universal mind, the word, Om, etc., in most of ancient cultures. All of these variations provide same premises. Primal vibration conveys the existence of an energy source, presumably of a spiritual nature, that emanates from the cosmos and impacts all the matters on earth. The earthly manifestation of this energy is assumed to be the music. It is unknown that, when music has started to be used as a method of healing practices (Bajaj & Vohra, 2015).

In primitive societies to the middle ages, illness was presumed originating from magical or religious forces or from braking of taboos. Music along with words and instrumental were viewed to be a way to appease Gods and a tool to heal wounds. Hence, for people of all these cultures, music was a great healer of any illness.

The ancient Greek thinkers like Socrates, Plato and Aristotle referred to music as a therapeutic tool. Certain emotional and the ethical characteristics to the various musical modes are attributed to Socrates. Later in the eighteenth century, scientists searched and studied the effects of music on the human body. These researches found the effect of music on functions such as cardiac output, respiratory rate, pulse rate, circulation, blood pressure, on electrical conduction of tissues, on fatigue, and on general vibratory effects on the body. More particular, it appeared that there is a relation between music and physiological or psychological responses. Specifically, the relation between music and emotion has been highlighted.
However, music therapy as method of treatment developed after the World War II, when large-scale screening techniques, group therapy developed and the use of music in hospitals increased (Dobrzynska, Cesarz, Rymaszewska & Kiejna, 2006).

Due to mental, physical, or psychological dysfunction, the patients feel that the world around them sometimes occurs on a subliminal, or unconscious, level. Music therapy strategies and techniques help the therapists to decrease this feeling of unconsciousness to consciousness and to open up lines of communication, in the broadest sense, by awakening, heightening, and expanding awareness. Several fundamental reasons are identified for the efficacy of using music as a therapeutic agent (Boxhill, 1981):

- It is a cross-cultural mode of expression.
- Its nonverbal nature makes it a universal means of communication.
- As a sound stimulus, it is unique in its power to penetrate the mind and body directly, whatever the individual’s level of intelligence or condition.
- As such, it stimulates the senses, evokes feelings and emotions, elicits physiological and mental responses, and energizes the mind and body.
- Its intrinsic structure and qualities have the potential for self-organization of the individual and organization of the group.
- It influences musical and non-musical behaviour.
- It facilitates learning and the acquisition of skills.

Music therapy in oncology uses music in preventive, curative and relaxing cancer care and is very useful to a wide variety of patients, who suffer from a large range of neoplasms. However, music therapy does not actually affect the disease itself, but it largely impacts the patient’s mood. Sometimes, it can make difference in the way the patient copes with and feels about their disease (Aldridge, 1993). Earlier studies have described the specific benefits of music therapy interventions. More in particular, its efficiency in cancer care that focuses on both physiological and psychological needs arising from the disease as well as from side effects of cancer treatment (Pothoulaki, MacDonald, & Flowers, 2006; Vinayak, Dehkhoda, Vinayak, 2017a).
The existing literature on the subject reveal that music therapy is introduced primarily to relieve symptoms such as anxiety and pain, side effects of chemo and radiation therapy. The fact that the music is the most fundamental and unique form of art that affects people spiritually, emotionally, socially and physically (Rykow, 2008), it can help patients to handle their negative emotions.

Similarly, music therapy in oncology care considers both physiological and psychological needs arising from the disease as well as from side effects of cancer treatment (Pothoulaki, McDonald & Flowers, 2006). It might relate to the medical treatment recommended to the patients in a variety of ways, as categorized by Dileo (1993):

(A) Supportive to medical treatment (e.g. the use of music listening during kidney dialysis),

(B) As an equal partner to medical treatment (e.g. the use of singing in conjunction with medication as a treatment for respiratory disorders),

(C) As a primary intervention for a medical condition (e.g. the use of music listening to directly suppress pain) (Wigram, Pedersen & Bonde, 2002).

A variety of music activities have been prescribed in cancer care setting. However, all of them have not been undertaken by professional music therapists. Unpaid caretaker, volunteers or performing musicians might be involved in music activity in cancer care. Aldridge (2003) remarked that music has been championed as a nursing intervention even when music therapists are not available. Pothoulaki, MacDonald, and Flowers (2005) distinguish between music therapy interventions undertaken by professional music therapists and music interventions undertaken by other clinical staff.

Bruscia (1998) distinguishes between music in therapy and music as therapy. The former exist in a variety of settings, as many professionals might use music to contribute to the care environment and create an atmosphere conducive to healing or the reduction of anxiety. Formal training in music therapy is not necessarily a requirement for this type of provision. In contrast, music as therapy entails music as the agent of therapeutic change. Bruscia’s (1998) definition of music therapy
encompasses several levels including improving, medical, healing, psychotherapeutic, recreational and ecological.

In a typology that may be helpful in distinguishing creative practice that requires formal therapy training he also identifies four levels: auxiliary (functional use for non-therapeutic/recreational use); augmentative (enhancing other treatment modalities); intensive (in which music therapy occupies a central and independent role); and primary (with music therapy in a singular and indispensable role) (Wigram Pedersen & Bonde, 2002).

Both acts of listening to music or making music are an absolute pleasure for many people. Music is viewed differently. It is a beloved form of entertainment for some and a passion or career for others. Thus, it can play a significant role in the care of cancer patients (Vinayak, Dehkhoda & Vinayak, 2017b). Likewise, music therapy can help medical treatment to promote wellness, manage stress, alleviate pain, enhances memory, assists patients communicate and express feelings, and even promote physical rehabilitation. The significance of music is high as it shows its effect in lowering blood pressure, heartbeat and breathing rates (Lane, 2016).

The most important contribution of music to individuals undergoing cancer treatment is, how it can stir a person at the core, bringing out and honoring the real person behind the diagnosis and allowing for more freedom of self-expression (Lane, 2016). Music therapy includes, but not limited to, the following music activities: individual and group listening; guided imagery; music and improvised individual and group music making (Bunt & Hoskyns, 2002). Oncology patients can benefit listening to music. As a passive/receptive forms of therapy music could be easily introduced into clinical situation. Patients receiving chemotherapy often experience harsh side effects, such as nausea, difficulty in breathing, and many flu-like symptoms. Patients receiving radiotherapy often experience anxiety, fear, stress or sense of loneliness. Listening to recorded music while receiving those forms of treatment can help to deviate patients away from the discomfort caused by the treatment and help them to cope with high levels of stress, fear and loneliness. Not only listening to music is effective, but also participation in live music concert can help the patients. Live music can be used to create a mood of peace, relaxation, to improve the level of comfort,
express feelings and emotions. Music therapists and patients often participate in spontaneous playing of the instruments. Playing musical instruments can facilitate a sense of control, as patients play an active role in creating the sounds and in setting the rhythm and mood (Bunt & Hoskyns, 2002).

Music therapy may include creating, singing, moving to or listening to music in an attempt to: release negative emotion, express feelings that would otherwise go unsaid, reduce stress and relax the mind and body, allow for a sense of normalcy during uncertain times, help people live in the “here and now”. The present study intended to understand the effectiveness of active and receptive music-therapy on various psychological variables in cancer patients in three groups. The sample was categorized into groups of males and females (aged 20 to 40 years). While there are few comprehensive research studies on active and receptive music-therapy effectiveness, and on male and female difference in the west, there is a dearth of comprehensive research studies on active and receptive music-therapy effectiveness, and in males and females in the eastern countries on the variables being studied in the present research.

With continuing need for research to identify the clinical effects of music-therapy and other supportive care interventions, there is a need to explore further the impact of the organizational contexts in which these interventions take place. These contexts can influence the development of care provision as well as the results of clinical evidence. It is to this area of the debate that our study contributes. This study seeks to evaluate the clinical effects of music therapy within cancer care and to explore the ways in which music therapy is perceived by those responsible for providing care.

Music therapy most of the time is considered as a complementary and alternative therapy, as is reflected in the inclusion of music and art therapies in a recent directory of complementary and alternative therapies provision in cancer care. Music therapy in palliative care aims to provide psychosocial support, assistance with pain and symptom management and opportunities for life review and legacy work (Black, Rodin & Zimmermann, 2017). Although there have been a variety of studies conducted on the effects of music therapy in palliative care facilities, there is a gap in
research examining the experience and feasibility of music therapy on acute palliative care units within cancer treatment settings.

Present study aimed to assess effect of two types of music therapy on various variables in cancer patient undergoing chemotherapy or radiotherapy. The objective was also to determine the efficacy of active and receptive music therapy as compared to no music therapy only traditional treatment, which was control group; and understand as to how these psychological variables differed amongst active and receptive music therapy and gender. So this study was designed to study the effect of music therapy on anxiety, pain, fatigue, sleep quality and affect in oncology inpatients.