Conclusion
CHAPTER 7

CONCLUSION

7.1 RESULTS OF QUANTITATIVE AND QUALITATIVE MEASURES

The objective of the study was to test the therapeutic effects of Indian music on cancer related pain and its interfering symptoms in all possible ways. Considering the fact that MT practice and research is in early developmental stages in Indian context with lack of systematized approaches and procedures for MT research and the preliminary nature of the present study, the methods used were both quantitative and qualitative to answer research questions as no study may seem to have been reported or published so far on the effects of music therapy on this population. As music therapy is just evolving in India, this study is an attempt to throw light on certain fundamental issues underlying testing this concept within a scientific frame and this chapter summarizes and discusses the results of the study. The significance of the findings, the theoretical framework formulated for musical selections and the conceptualization of music as a complementary treatment approach to cancer pain management are also discussed.

The primary outcome of the present study is the fact that musical selections have to be congenial to the participant's musical preferences to bring in possible therapeutic benefits. This is in agreement with the views expressed by Kopacz (2005); Standley (1996). The first group was
administered by light devotional music, the genre that emerged out of formative studies, survey and case studies adopted by the researcher. This was the common type of preferred music by participants in the lower socio economic strata who are generally musically untrained and have poor exposure to music. The second experimental group was administered with Karnatic music, which have been believed to bring in therapeutic influence by earlier studies. The poor adherence to the MT sessions in the Karnatic music group by the participants strongly indicated that musical selections can only be in accordance to the musical preferences which essentially revolve upon the musical culture of the individuals influenced by training and the music listening pattern. To perceive the music to be beautiful and enjoyable which is an important implication for MT, the patients, especially in a complex clinical setting like oncology, which this study indicates has to be familiar music, which could be understood easily and within the musical culture of the concerned subject. The perceived complex Karnatic music caused irritation and aggravated pain to participants in the classical music group and resulted in poor adherence to treatment schedules. This had a direct influence on poor receptivity to treatment which is an important factor for the possible therapeutic outcome.

The preferred music which evolved out of formative studies, the light devotional music had a spiritual and religious theme in nature and were structured with simple soothing words couched with simple melody and rhythm. These songs were in unison with the socio cultural ethos – the listening culture in the lower socio economic strata which formed an integral
part of their daily lives and which addressed their spiritual and religious needs to seek perceived happiness, peace of mind and comfort. This preferred music group had more than 80% of the participants adhering to music therapy schedules and completed the intervention. The receptivity to the musical intervention was positive and the perceived benefits were strong. The results indicated that music therapy interventions with musical selections conducive to musical preferences alleviated anxiety. This is in agreement with the findings of Iwanaga & Moroki (1999); Thaut & Davis (1993).

The study also indicated that approaches to be adopted in clinical situations should be in consonance with the musical culture and background of the participant and complex Karnatic music, which needed cultivated taste and prior knowledge may not be therapeutic to participants who are not familiar with such music.

The independent sample t tests and the paired sample t tests indicated that music therapy did not significantly modify pain levels in a sustained manner. The different levels of pain like worst pain, least pain, average pain and ‘pain now’ recorded as per subject’s own understanding of the pain, when statistically analysed revealed no difference. However, music proved to be an active focus of attention and reduced the perception of pain immediately after the intervention. Patients with moderate and mild pain could completely be distracted from pain when listening to music and also were relieved from pain totally immediately after listening to music. The immediate effect could even last for about an hour. This is in accordance to the gate control theory of pain by which the competing music stimulus was able to direct the patients’
concentration away from pain. This finding also endorses the views expressed by Beck (1991) and Magill (1993). Cancer related pain is not a stand alone element but a multi dimensional complex phenomenon involving psychological, social and spiritual factors and its dynamics during the course of the disease diagnostic procedures, treatment and prognosis requires not only of examining the subjective physical pain levels, but also needed comprehensive assessments relating to all the symptoms relating to pain. Pain impairs the individual, gives distress, affects QOL and also drives to a help seeking behaviour. Thus an effective pain management is to address not only the physical component but also the various functional impairments, which could influence the increase or decrease the pain levels.

The study has taken into account these multidimensional constructs of pain and has tested the influence of music on the factors like situational anxiety, fatigue and sleep quality, which have been tested to have an influence over pain. Independent t tests between groups indicated that music significantly modified mood and relationships. This finding further strengthens the views expressed by Bailey (1983); Bailey (1986). Independent t tests also indicated that experiences like situational anxiety and fatigue associated with pain. Sleep quality, another common interference with pain worsened in the control group compared to the music intervention group. Paired t test used also endorsed this finding. Lack of improvement in sleep quality in MT intervention group may indicate that individuals may require different levels of exposure to music based on their needs for the aural stimulation. Perhaps a continuous exposure in the form of back ground music
near the bedside, especially in a semi captive set up would significantly contribute to improving sleep quality. Subjects with moderate and mild pain were found to fall asleep during therapeutic sessions indicating that music could have blurred completely the perception of pain and helped in the onset of sleep. In case of severe pain it heavily interfered with the onset of sleep as the patients found it difficult to concentrate on music. The pain threshold was so less that any kind of stimulation, which was tactile or aural, caused more discomfort and they preferred to be left alone. Rather than administering aural stimulation by headphones, continuous exposure in the form of background music through speakers may prove beneficial in improving sleep to such patients. Also in the case of this population, the oral cancer patients, oral mucositis, a general side effect of radiation therapy has a direct implication on the procedures to be followed in administering the MT intervention to give a functional relief to these patients be it to improve sleep or alleviate anxiety or for the perceived benefits of fatigue. Oral mucositis, which is an oral inflammation causes the eustachian tube opening in the nasopharynx to be blocked and diminish the hearing. The common nerve supply to the cheek mucosa or the oral cavity mucosa and the ear region gets affected due to the irradiation in the area. This causes an unpleasant sensation when ear phones are applied and any touch sensation felt in the irradiated area or any area supplied by the same nerve. In these conditions, music through speakers may be more suitable to oral cancer patients to bring in therapeutic effects. Also, the position in which the aural stimulation is to be delivered to this population has to be slightly modified according to the individual needs of the patients.
Most of the patients preferred sitting positions than lying down while listening to music.

Though the finding reveals that music does not guarantee a sustained reduction in physical pain levels, the immediate effects of listening to music and attending to music therapy intervention involving musical selections based on musical preferences is promising to bring in functional relief and may be therapeutic. Music not only acted as an active focus of attention and was a distraction from pain, the immediate relief from pain also brought in perceived benefits of alleviating anxiety and worries, bringing in peace of mind and comfort in a sustained manner compared to the transient pain. The qualitative assessments clearly indicated that MT intervention indicated high levels of comfort and perceived peace of mind to the patients. The psychological responses like feeling supportive, confident, happy and being relaxed brings in a sense of control in the patients and helps to perceive the pain to be less or no pain.

Cancer intervention not only aims to eliminate the disease and mitigate cancer symptoms but also maximize QOL. QOL has a direct bearing on the pain experiences and studies have indicated that measurement of pain has to include measurement of QOL and vice versa. The present study has indicated that MT intervention improves QOL in psychological, social and spiritual dimensions. Positive results in components like mood, relationships, anxiety, optimism and belief contributing to QOL experiences have found to have improved by MT intervention.
The correlation and the regression analysis proved the veracity of the findings. The functional symptoms like fatigue, sleep quality and anxiety and QOL were highly correlated to worst pain, pain now and average pain levels reported by the subjects. The levels of anxiety had come down significantly with no difference in pain making it appear to be negatively correlated.

With regard to the quantification of analgesics used by the control and the preferred music group, though the trend revealed that more number of patients were retained in step I analgesic ladder having been prescribed NSAID and an improvement from usage of step II to step I analgesics, interpretation of these results may be hazardous especially when the study was done in a general ward setting. Logistic problems of following up with patients for their perceived needs for more analgesics on a day to day basis, whether the dosage of analgesics have been correctly taken, whether there were requests for more analgesics apart from the prescribed dosage on a day to day basis, which were complied with etc. were difficult to assess as the patients in the general wards were very huge and the researcher spent only limited time with the patients. Inquiry from patients were not helpful much due to the education level of the patients as most of the patients just took the tablets without even knowing the difference between a vitamin and an analgesic. However this form of assessment may be useful with more controlled observations as an objective measure to assess the effect of music on pain.
In the light of the findings, a complementary treatment approach to pain symptom management in oncology setting is conceptualised and is hypothesised as Music therapy as a complementary treatment approach will significantly modify positively cancer related pain and its functional symptoms.

The findings of the study indicate that music can act as an active focus of attention and can reduce perception of pain as an immediate effect. It acts as a cognitive behavioural intervention to bring functional relief to reduce perception of state anxiety and fatigue and may improve sleep quality by continuous exposure. It improves quality of life in physical, psychological, social and spiritual well being of the patients.

7.2 LIMITATIONS OF THE STUDY

The study had limited statistical power to detect the difference between the use of music as a therapeutic intervention in the experimental group versus a control group as the sample size was small. The sample size could not be increased due to various issues that had to be addressed. As there was a rigid set of criteria set for inclusion as to the language spoken by the patients, the stage of the disease, the site of the disease, the treatment regimen and also the patient having identical conditions like the wards in which they stay, the number became restricted. More samples could have been possible involving more time and if the study was multi centred. Also the appropriateness of requiring the highly vulnerable patients in advanced stage to participate in the study required complete consent from the patients which limited the sample
size. Still more, to require the participants having moderate to severe pain due to advance staged disease and the cancer treatment to complete any kind of self-report measure, the patients had to be physically fit enough to participate in the intervention and be able to complete the rigorous assessment made with questionnaires and inventories to withstand the scientific scrutiny. Also the difficulties faced by the researcher with the comprehending ability of the patients, the levels of literacy and the long time taken for the intervention and assessments reduced the sample size. Further, specific to this population, oral mucositis a general reaction to all the radiation therapy patients affected the patients in orally recording the responses. Assessments were difficult during the radiation therapy intervention. Patients were not able to take up the assessments though were very receptive to taking up the intervention. Hence, more sample had to be tried. In the absence of a single tool to assess the symptom cluster relating to cancer pain and as multiple assessment tools were used, the time taken for the intervention and the assessment was more which limited the sample size. Also the study was a cumbersome process as it involved administering multiple instruments for a comprehensive assessment of cancer related pain and its symptom cluster. With this population of oral cancer, the disease and the treatment impairs even the day to day communication due to the disease and the treatment and recording responses using multiple instruments from this population became challenging. Though this kind of assessment was necessary to meet the needs of a rigorous scientific inquiry, subjects found it difficult to respond to queries in the assessments especially during radiation treatment which caused oral mucositis and future studies could be separated into different components to the
convenience of the patients and in depth studies could be made using comprehensive single assessment tool.

7.3 SUGGESTIONS FOR FUTURE RESEARCH

The study could be replicated with a larger sample size involving multiple centers, which may strengthen the veracity of the findings. The approaches to musical selections conceptualised through the study could be tried on different clinical settings to be modified or improved for future applications. As this study is restricted to participants belonging to lower socio economic strata who have no musical training, further studies could be attempted applying the raga based approach with participants who have prior knowledge and cultivated taste in classical music. Also in oncology setting, the study can be replicated with different types of cancer with different stages and different treatment regimens so as to generalize the effects of music on the general cancer population. MT researches could be funded by the government and other funding organization to promote further research. Attempts may be initiated to integrate MT as a regular service not only in oncology but also in other clinical settings. As MT is just an evolving concept in India more and more interdisciplinary studies may be encouraged by universities to undertake systematic studies in the subject. Medical professionals and psychologists may collaborate with musicologists and work in a team to initiate to set up complementary therapy departments in hospitals to test the efficacy of music and also to bring to the international research arena, the therapeutic effects of Indian music.