CHAPTER-1

INTRODUCTION

Ageing is a natural phenomenon. The process of ageing, a consequence of high birth rate and the increasing life expectancy in the early and middle parts of the twentieth century, has increased exceptionally at rapid pace. The age criteria to define the older persons vary across the globe. In India, persons aged 60 years and above are considered older persons.

According to a report on world population aging, by United Nations, “the number of older persons was 841 millions in 2013. This is four times higher than the 202 million that lived in 1950. The older population will almost triple by 2050. It is expected to surpass the two billion mark. The proportion of world’s population aged 60 years and above increased from 8 per cent in 1950 to 12 per cent in 2013. It will increase more rapidly in the next four decades to reach 21 per cent in 2050”

By 2050, India will have one sixth the population of older persons in the world. According to a report India had 90 million elderly persons in 2011 and it will grow to 173 million by 2026.

Advancing age is well recognized important factor, which contributes to the psychiatric disorders among the geriatric population. The psychosocial variables, like female gender, widows, living alone, unemployed, nuclear family, low education, low social class, physical illness and neurological deficit are significantly associated with psychological disorders in the elderly. The loss of one’s job, including voluntary and involuntary retirement, carries with it the loss of financial resources, social status, and much of social network. Some of the challenges, which the aged have to cope with, include retirement, changes in the family structure, new roles, widowhood, grand parenting, illness, loneliness and death in the family.

Caring for the aged is part of Indian tradition. The depression in the aged is much less in our country than in the West. In India, elderly persons are held in reverence, are consulted in matters of marriage, festivals, property and they are given
prominence in all family functions. The elders also train the youngsters in the family tradition. This has helped elderly people in India in many ways.

But in a society that was known for the way in which it cared for its elderly, one is seeing a fast rise in the number of old age homes due to rapid urbanization, nuclear family system and growing economic constraints. The elderly people residing in old age homes as a sub-group are rapidly increasing in numbers. They have difficulties much different from the elderly residing in the community. Social issues like being widowed or no one to look after them, make them choose to stay in old age homes. In addition cognitive impairment and physical disabilities also determine the placement of elderly in such homes. The psychological distress in this population could be significant and merits extensive study and research. Error! Reference source not found..

Very few studies are conducted in India, on people living in old age homes and their psychiatric morbidity. Error! Reference source not found.. Depla, M. F., et al. (1999) in their study involving participants in six projects set up jointly by mental health care facilities and homes for the elderly have reported unsociable, apathetic behaviour of the residents as the most serious problem, followed by emotional problems. Error! Reference source not found..

“Singh AP et al. (2012) reported that the overall prevalence of Psychiatric disorders was less in the geriatric population in old age homes because of the better availability of care, being engaged in regular activities as per the schedule, group works, etc. Error! Reference source not found.”.

“Tiwari, S. C., et al. (2013) have reported that 64.4% old age home inmates suffering from psychiatric morbidity and reported Depression (37.7%) to be the most common mental health problem followed by anxiety disorders (13.3%) and dementia (11.1%). Error! Reference source not found.”.

“Varma G R, et al. (2010) reported that self reported quality of life is better when they are staying in homes for the elderly. Despite the socio-economic conditions, provision of a better and conducive environment by setting up more charity-based homes for the elderly may be one of the options for relative betterment of the QoL of the elderly, particularly those who are socially and economically deprived. Error! Reference source not found.. But many of the studies are limited in their focus and studies attempting comprehensive understanding of the important health issue are very scanty. Considering the increased proportion of elderly
population staying in old age homes and increased risk of psychiatric disorders especially in females, in depth analysis of these disorders, association with their personality traits and the coping strategies being used is the need of the hour.”

Older adults are more pathophysiologically heterogeneous than people at other stages of life (15).

Health promotion is very important for the elderly in existing health care system. (16).

Hypertension is very common in older adults. It is usually disabling and does not produce symptoms or warning of its danger. (17).

Aging imposes several changes on the cardiovascular system which may depend on circumstances and achieve practical relevance. (18).

The relationship between high blood pressure and risk of dementia and Attention Disorders seems to be age dependence (19).

Older patients may require additional support for monitoring and management for hypertension. (20).

More than 50% of people older than 60 years have hypertension, it occurs more frequently with increasing age and obesity (21).

Lifestyle modifications should be a part of initial treatment even in the elderly hypertensive patients (22).

Hypertension is mainly in middle aged persons and isolated systolic hypertension is mainly in older persons (23).

The most obvious reason for implicating stress as a factor in hypertension is the observation of the liability of BP which occurs with almost any perturbation of the organism (24).

Most cases of isolated systolic hypertension occur in older individuals and have no known cause, other than arteriosclerosis (25).

Today BP is under control in only 27% of older patients with hypertension. The increasing number of older people are at risk for complication of hypertension including heart failure, stroke etc (26).

“Hypertension patients can receive proper instruction and opportunity for blood pressure control in their medical care homes (27).

Hypertension and atherosclerosis are intimately related. (28).
Successful aging can have many different meanings. Freedom from illness and disease is a wishful thought as the life span progresses over many decades after the fifth decade of life. The aging process includes maturity in thinking, planning, acting, and evaluating the outcomes of decisions. It also means the aging of the human body. Some of the changes that occur with aging include declining function of some organs and body systems, which can produce illnesses and disease processes. (29).

The process of normal ageing, independent of disease, is accompanied by a myriad of changes in body systems. As evidenced by longitudinal studies such as the Baltimore Longitudinal Study of Aging (2010), modifications occur in both structure and function of organs and are most pronounced in advanced age of 85 years or older. (30).

When assessing elderly patients, they differ greatly from patients of other age groups. Elderly patients also vary greatly from patient to patient. Age-related changes affect individuals at different times and rates, and to different degrees. To assess older people effectively, we should adapt our assessment to take into account common age-related changes, role transitions, and psychological adjustments that may be affecting these patients. Although not synonymous with disease or disability, aging is commonly associated with an increased incidence of chronic disease. However, disease findings may be difficult to distinguish from those that represent normal age-related changes. What’s more, the patient commonly has vague symptoms that aren’t clearly characteristic of a disorder. Therefore, assessing physical and psychosocial function can provide key information about the patient’s status. Our assessments may take place in various settings: acute care facility, home, senior center, adult day-care center, and long-term care facility. Although the setting and the patient’s age don’t affect the specific methods we use to collect data, other factors can alter our assessment. (31).

Supporting people with long-term illness is viewed as a national health priority and one that can be achieved through the provision of individualized care. (32).

Normal changes of aging are sometimes considered to be inevitable and irreversible. However, there is a great deal of variability in these age-related changes. Just because an individual is advancing in years, it cannot be assumed that they will undergo specific changes. For example, while many older adults have wrinkled skin and gray hair, there are many others with unlined skin and blond, dark, or red hair;
some older adults have stooped posture, others have perfect posture. Individual aging is influenced by many factors that are both preventable and reversible. Cultural backgrounds also play an important role in how a person ages. For example, people with darker skin may possess more natural protection against the sun and, thus, may wrinkle less than those with lighter skin. It is generally agreed that biological aging changes begin to appear commonly in the third decade of life, with subsequent linear decline until death. Therefore, it is important for nurses to refrain from making assumptions about normal aging. (33)

**NEED FOR THE STUDY:**

The biological process of ageing is steady and unidirectional. It is a global phenomenon. In the words of Seneca; “Old age is an incurable disease”.

Sir James Sterling Ross says, “You do not heal old age. You protect it; promote it; you extend it”. We should attempt to minimize the ageing process and help older persons live as normal healthy and fruitful life as possible.

Hypertension is a medical condition in which the systolic blood pressure of the person is more than 140mmHg and/or diastolic blood pressure more than 90mmHg. Hypertension is one of the major conditions, which is commonly found among the elderly. It leads to heart failure, cerebral stroke and the kidney failure. So the management of the old age home is recommended to provide some measures which can be arranged through governmental and voluntary organizations. The college and school students from the nearby educational institutions can be motivated to make periodical visits and make them cheerful with different forms of entertainments.

India is home to one out of 10 senior citizens of the globe. The number of elders, who are forced to stay in old age homes, is steadily increasing. This is evident from the fact that the number of old age homes too is steadily increasing. In such old age homes the morbidity and mortality rates of elderly population are increasing compared to the elderly living with their families in the community.

Emerging biophysical and psychological problems of the elderly have to be properly diagnosed and quantified, as the old age dependency ratio is gradually increasing in geriatric homes present in the rural and urban community. In the hospice or in the geriatric centers various sessions on music therapy were conducted in Japan which showed a valuable result on reduction of psycho social factors of the elderly.
“A study conducted by Tiwari et al. in rural Northern India found psychiatric morbidity to be 43.32%.” Error! Reference source not found.

“An epidemiological study sponsored by Indian Council of Medical Research (ICMR) conducted in a rural area of Lucknow found the prevalence of psychiatric morbidity to be 23.7%.” Error! Reference source not found.

To summarize, the epidemiological studies have found prevalence of psychiatric morbidity ranging from 2.2% to 33.3% in the general population surveys. Error! Reference source not found. The psychiatric morbidity was higher among the elderly population ranging from 8.9% to 43.3%. Error! Reference source not found. The discrepancy commonly found in the reported prevalence of mental health morbidity in general as well as in the elderly population is due to the differing methodologies viz., the choice of tools used to assess the morbidity, choice of sample (general vis-à-vis elderly) and locations (urban vis-à-vis rural), etc. Error! Reference source not found.

Nandi PS et al. (1997) conducted door to door field-survey in two villages by a team of psychiatrists and assessed the mental morbidity of population. According to report, “Sixty one percent of the elderly population is mentally ill. The illness was higher in women than men (77.6% and 42.4% repetitively). The overwhelming majority of the affected persons were reported to be depressives. Rate of dementia was low.” Error! Reference source not found.

Chen SL et al. in their 2009 study “explored the perceptions of group music therapy among elderly nursing home residents in Taiwan”. The authors used “Focus group discussions to understand the perceptions and verbatim transcripts of audio taped interviews, which were analysed using content analysis”. “All the study participants were wheel chair bound residents of an elderly home. Elderly subjects provided positive views regarding experiences with group music therapy. The authors recommended that “health care providers should consider integrating group music therapy into their programmes for elderly nursing home residents and design the therapy to add variety to their life, give them a sense of autonomy by having them choose their preferred musical activities, and improve their cognitive function”. Error! Reference source not found.
Siritunga, S., et al. in their 2013 study, studied “the effect of music on blood pressure, pulse rate and respiratory rate of asymptomatic individuals”. The authors have reported that “statistically significant reduction in systolic blood pressure (8.53 mmHg), diastolic blood pressure (5.8 mmHg), pulse rate (5.16 beats per minute) and respiratory rate (2.55 breaths per minute) were observed in the study group after listening to the music (P<0.01). In the control group, changes observed during the period of intervention were not significant (P>0.05). The reduction was independent of gender, age, education level, practicing a mind relaxation technique and preferred type of music of the participant.

Conclusions: Listening to Indian classical music for about 22 minutes significantly reduced systolic and diastolic blood pressure, pulse rate and respiratory rate of asymptomatic individuals. Hence, music may have a potential benefit in cardiovascular disease preventive programmes.” Error! Reference source not found..

Specialists in the developed countries use wide variety of alternative and complementary therapies to help elderly with chronic illnesses like hypertension, cardiovascular diseases, etc. To name some of them are biofeedback, reflexology, exercise, imagery, hypnosis, yoga, aromatherapy, talk, diversionary, music and relaxation therapy.

The author intended to study “the effect of music on biophysical and psychological problems of elderly with hypertension by assessing their blood pressure, pulse rate, respiration rate, brain electrical activity and subjective well being status”.

Careful selection of music as complementary therapy is crucial for the reason because wrong selection of music will lead to adverse reactions, as undesired sound becomes a nuisance. The investigator selected the music based on Indian Classical Hindustani Raga, ‘Malkauns’ which is similar to the Carnatic Raga Hindolam. These Ragas are called ‘KING OF RAGAS’. It has got many known therapeutic benefits especially the lowering of blood pressure.

The Music was intuitively designed and edited by Dr Shiv Bhushan Sharma, Guide of present study, and rendered by a famous Sitarist, Pandit Janardhan Mitta of Chennai. Sitar is an excellent and versatile instrument and can bring forth the subtle beauty of the Indian Classical Ragas.
According to Dr Shiv Bhushan Sharma, Indian Classical Raga Malkauns was conceived by Goddess Sati to calm Lord Shiva when he got angry and started doing Tandava Nritya as depicted by Nataraja statue. Malkaun Raga calms the sympathetic nervous system and integrates the sacral and cranial parasympathetic components of the nervous systems, thereby enforcing the parasympathetic predominance. It is well established that the ninth cranial nerve, Vagus, lowers the heart rate and the blood pressure. 2 of 7 basic notes (swaras), which stimulate the sympathetic nervous system are cleverly and beautifully omitted in the composition of Malkauns Raga.

Dr Shiv Bhushan Sharma also says that the word Mal of Malkauns and Lam of Hindolam are derived from the phonetic sound, “LAM”, of Muladhar Chakra, the Basic Centre of Human body, mind and consciousness, as expounded by Sat Chakra Nirupana, an ancient Indian text on Tantra, the science of human anatomy, physiology and psychology. Muladhar Chakra is found in the base of pelvic cavity and is associated with Ganglion Impar, where both the chains of sympathetic nervous system meet in the pelvis. The detail information of autonomic nervous system is given in the previous chapter and this forms the fundamental basis of the present study.

Music therapy may not be an exact science. It is still in the infancy stage in our country. But there is no disputing the fact that music has a value, which affects one of our prime senses, namely listening. Quite a few nurses in our country in their undergraduate and post graduate levels of nursing have conducted research “on the effect of music on pain, relaxation, anxiety, etc”.

“This integrated venture of testing the effect of Indian Classical Raga based instrumental music on the systemic blood pressure, heart rate, respiration rate, brain electrical activity and subjective well being status is perhaps the first of its kind. With the help of EEG, it attempts to convert purely Subjective Study into an Objective Study”.

Developed countries are focusing on taking the nursing practice to the next level, i.e. holistic nursing practice. Holistic nursing practice embraces all nursing and the synergy enables healing the whole person from beginning to the end. Music can be used to help the growing fetus too. To be an effective holistic nurse one must identify and utilize holistic modalities.
The elderly in the experimental group experienced a positive effect of this Music Therapy in relieving their biophysical and psychological problems. The results of this study could be helpful in holistic nursing practice. Thus the investigator has made an earnest attempt to inquire scientifically, envisages music as an alternative and complementary therapy for the elderly with biophysical and psychological problems.

The researcher has realized the need for such a therapy with no side effect for the elderly hypertensive patients. The health professionals and the elderly attending certain music therapy centres in Chennai and Pondichery, where the investigator conducted the need analysis, have also acknowledged the need for Music Therapy.

The researcher is thus justified in conducting this quasi experimental study, and use the control and experimental group residing in Geriatric homes, which are run by the same trust and providing similar facilities and benefits.

Keeping these factors in mind the proposed study has been undertaken.

**STATEMENT OF PROBLEM:**

“A study to assess the effectiveness of music therapy on biophysical & psychological problems of the elderly residing in selected geriatric homes, Kancheepuram District, Tamil Nadu, India.”