

Efficacy of music therapy on stress reduction among spinal cord injury patients.



*“The nurse’s role is implicitly and chief one of handling stress” - Marshall.
“Music alone, with sudden charms can bind the wandering sense and calm the troubled mind”
- William Congrave.*

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Managing the spinal cord injures involve immobilization of the fracture site and realignment of any dislocation. The effects of immobility are systemic and functional, no body system is immune to the effects of immobility such as inflammation, reduced function, and contractors and muscle atrophy. For a number of years it has been recognized, that post traumatic stress disorder (1980) which can affect people who have experienced any serious accident or trauma. Post traumatic stress disorder present with the following symptoms as re-experiencing the trauma, a numbed response to environment, an exaggerated startle response, sleep disturbance, guilt about having survived, avoidance of activities that arouse recollections of the event.

It is expected hat person who has met with an accident will certainly develop stress. These psychological problems further worsen his physical condition which results in poor prognosis.

It is an accepted fact that any spinal cord injury lead to permanent disability throughout their life. The individual becomes permanently handicapped. They are totally dependent on others. Once these patients, understand the consequences of their illness, certainly they will develop denial and high level stress or tension which leads to the development of different types of psychological, physical and social problems. Biophysical changes, immobilization, restrains, sleep deprivation, discomfort, psycho-socio changes,

cultural changes, changes in body image, role changes, family maintenance and health maintenance affect the spinal cord injured adults who are hospitalized, and may be perceived as stressors. Stress is inherent in those having to undergo extended hospitalization. Nursing strategy will therefore, involve concentration on stress management.

At present the pharmacological approach plays a vital role to reduce the stress level. It is possible to follow this method till the patients are staying in the hospital for treatment. But once they are discharged, it is very difficult for the patients to undergo pharmacological treatment to reduce stress due to reasons like drug non availability and monitoring facilities. Further, the sedatives, barbiturates, anxiolytics, tranquilizers used to reduce the stress have lead side effects. So at this juncture, some alternative therapeutic approach is necessary.

Current many alternative methods like Yoga, Meditation, Relaxation technique, Bio-feed back, Music, Physical exercises are considered to be the methods to reduce stress. Among these methods a vital role that the music plays with reduction of stress, days back to the ancient period.

The power of music to promote change in the human mind is not a new concept. The Bible, Greek and Roman literature, and Egyptian records discuss music as a therapeutic device. The poets have written about the power of music to calm or stir the emotions and to inspire or suppress desire. Men march off to war with a song on their lips. “Songs which bring tears in the eyes of women and fire in the hearts of men” - Long fellow. Even children doze off to sleep with a melodic lullaby. We respond affectivity to music.

Physiological and psychological needs must be considered together. If nursing intervention is to help the person as a whole. Nurses are firmly committed to care for the whole client and the family of clients. Once basic nursing principle is application of good nursing care in making the patient comfortable and as relaxed as possible at all times. According to Leonard (1993), music therapy is the fertile ground for research. So the investigator was also interested to test the music therapy for stress reduction.

STATEMENT OF THE PROBLEM:

Efficacy of music therapy on stress reduction among spinal cord injury patients.

OBJECTIVES:

- ❖ Assess the level of stress in spinal cord injury patients.
- ❖ Play pre-recorded, selected instrumental music in ‘Nilambari Ragam’
- ❖ Find out the efficacy of music as a means of diversional therapy in stress reduction.

HYPOTHESIS:

The music therapy will significantly reduce both psychological and physiological stress level of spinal cord injury patients.

METHODOLOGY:

A quasi experimental approach was selected to conduct the study among 35 male patients who are suffering with spinal cord on the fifth day of the admission, without complications at the paraplegic unit of orthopedic department, Government General Hospital, Chennai. Samples were selected by convenience sampling technique.

The study was conducted in the paraplegic wards of the orthopedic department of Government General Hospital, Chennai. The Govt. General hospital is a 2026 bedded hospital with various specialties. The paraplegic unit is a 40 bedded, well equipped unit and has 3 wards, among which ward No.4, and 26A are reserved for the care of male patients and ward 19 for female patients. The male paraplegic ward contains 30 beds. The female paraplegic ward is a 10 bedded one.

Nilambari Ragam was selected under the guidance of the great musician Dr. S. G. Siva Chidambaram, M.D., Physician in Renal Transplant Unit, Government General Hospital with working knowledge in music and medicine. This ragam has comforting effect on the persons, calms the mind and produces deep sleep. Only instrumental music is played. The instruments used were clarinet and flute. Music therapy was provided by prerecorded cassettes with individual tape recorders. During the session visitors are not allowed and the patients are given guidelines.

DATA COLLECTION TOOL:

Instruments: The instruments used in this study consisted of three parts.

Part 1: Demographic data.

Part 2: Stress assessment scale.

Part 3: The observational check list.

This check list consists of physiological signs of stress in the patient, especially the physiological parameters which were measured such as, respiration rate, oxygen saturation, pulse rate, blood pressure and blood sugar.

DATA ANALYSIS:The descriptive statistics like mean, standard deviation and percentage were used to arrange the data in scientific way. Further inferential statistics like paired ‘t’ test and one way analysis of variance were used to test the framed hypothesis.

RESULTS: Psychological Stress Level Before and After Music Therapy.

Table No. 1: Mean, SD, ‘t’ value of the psychological stress of spinal cord injury patients before and after music therapy.

	N	Mean	SD	‘t’ value	Level of significance
Before music therapy	35	63.14	6.01		
After music therapy	35	32.57	5.25	35.96	0.01

It shows that the ‘t’ value 35.96 is highly significant at 0.01 level. It indicates that the music therapy significantly created an impact to reduce psychological stress level among patients with spinal cord injury.

EFFECT OF MUSIC THERAPY ON BLOOD PRESSURE:

Table No. 2: Mean, Sd, 't' value of systolic blood pressure in spinal cord injury patients before and after music therapy.

	N	Mean	SD	't' value	Level of significance
Before music therapy	35	138	12.4		
After music therapy	35	121.14	18.15	9.21	0.01

It is also noted that the systolic pressure is reduced with 't' value 9.21 which is highly significant at 0.01 level.

These findings fully support that the systolic pressure is reduced after music therapy.

Table No. 3: Mean, Sd, 't' value of diastolic blood pressure in spinal cord injury patients before and after music therapy.

	N	Mean	Sd	't' value	Level of significance
Before music therapy	35	90.28	12.4		
After music therapy	35	78.8	4.6	9.61	0.01

The table displays that the diastolic pressure is significantly at 0.01 level reduced after music therapy with 't' value 9.61 which is highly significant at 0.01 level.

These findings fully support that diastolic pressure is reduced after music therapy.

RECOMMENDATIONS:

Nursing Practice:

- ❖ Nurses can be encouraged to include music therapy as an adjuvant therapy in stress management.
- ❖ Music can be played on a routine basis, in Government General Hospital Orthopaedic wards.
- ❖ The patients with spinal cord injury can be allowed to use individual tape recorders to enhance their coping strategies by listening to music whenever they feel.
- ❖ An audio tape library can be established to help the spinal cord injury patients in government General Hospital, Chennai.
- ❖ The stress scale developed by the investigator can

be utilized to measure the level of patients with spinal cord injury in various settings.

Nursing Research:

- ❖ A similar study can be done with a large sample size.
- ❖ A similar study adopting the experimental design can be done to determine the efficacy of music.
- ❖ Further research using preferred music rather than a fixed one to reduce the stress can be done.
- ❖ An experimental study can be done with other health problems to determine the efficacy of music.

CONCLUSION:

Music therapy significantly reduced the overall psychological stress level of the patients with various age, education, occupation, income, marital status, types of family they live, duration of injury and level of injury.

Similarly music therapy reduced the physical parameters, like systolic pressure and diastolic pressure and further it increases the oxygen saturation level which was low. Moreover the music therapy reduced the physiological- stress signs among the spinal cord injury patients.

References:

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