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Original Article

A Study to Assess the Effectiveness of Music Therapy On Physiological Parameter of Elderly People of Old Age Home at Abu road, District-Sirohi, Rajsthan

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Abstract :
Introduction: Academic stress is a common concern among adolescents and may negatively affect their psychological well-being, academic performance, motivation, and interpersonal relationships. Adolescence is a critical developmental period characterized by emotional, social, and cognitive changes. Emotional intelligence, which involves recognizing, understanding, regulating, and appropriately expressing emotions, may play an important role in helping adolescents manage academic demands and stressful situations. This review examines the relationship between emotional intelligence and academic stress among adolescents.
Materials & Methods: A narrative review approach was adopted to examine published literature related to emotional intelligence, academic stress, emotional regulation, coping strategies, and psychological well-being among adolescents. The review focused on the conceptual relationship between emotional intelligence and academic stress, including the potential role of self-awareness, self-regulation, empathy, motivation, and interpersonal skills in managing academic challenges. As specific database searches and selection criteria were not provided, this review should not be interpreted as a systematic review.
Results: The reviewed concepts and available literature suggest that emotional intelligence may contribute to better management of academic stress by supporting emotional regulation, problem-solving, positive coping strategies, and resilience. Adolescents with stronger emotional competencies may be better equipped to respond to examination pressure, academic competition, parental expectations, and workload. Emotional intelligence may also support interpersonal relationships and psychological well-being. However, the relationship may be influenced by individual characteristics, family environment, peer relationships, and school-related factors.
Discussion: Emotional intelligence represents a potentially valuable component of adolescent stress management and educational well-being. Integrating emotional awareness, self-regulation, problem-solving, mindfulness, and appropriate coping strategies into school-based programmes may help adolescents respond more effectively to academic challenges. Further empirical research is needed to establish the strength of the relationship between emotional intelligence and academic stress and to evaluate the effectiveness of interventions designed to improve emotional competencies.
Keywords: Emotional Intelligence, Academic Stress, Adolescents, Emotional Regulation, Coping Strategies, Psychological Well-Being, Academic Performance.

INTRODUCTION

Ageing is a natural and inevitable process of life that brings about various physical, psychological, social, and emotional changes. With increasing age, elderly people may experience reduced physical activity, changes in sleep patterns, anxiety, loneliness, stress, and various age-related health problems. These changes can influence the normal functioning of the body and may be reflected in physiological parameters such as pulse rate, respiratory rate, blood pressure, and oxygen saturation. Therefore, maintaining the physical and emotional well-being of elderly people is an important concern for healthcare professionals.

The elderly population is increasing rapidly throughout the world, making the provision of appropriate care and support for older adults an important public health priority. Elderly people living in old age homes may be particularly vulnerable to loneliness, social isolation, emotional distress, and reduced family interaction. These circumstances may

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affect their psychological comfort and overall quality of life. Therefore, providing a supportive environment and appropriate care interventions is essential for promoting the well-being of elderly residents.

Non-pharmacological interventions play an important role in improving the quality of life of elderly people. These interventions can complement routine healthcare by promoting relaxation, emotional comfort, and psychological well-being. Music therapy is one such intervention that is relatively simple, economical, non-invasive, and easy to administer. It can be incorporated into routine nursing care without requiring complicated equipment or extensive resources.

Music is a universal form of communication that has been used for relaxation, emotional expression, entertainment, and social interaction. Listening to soothing music may promote relaxation, reduce anxiety and stress, improve mood, and influence the autonomic nervous system. These effects may contribute to changes in physiological parameters such as pulse rate, respiratory rate, blood pressure, and oxygen saturation. Appropriate music may also create a pleasant environment and encourage emotional comfort among elderly people.

Nurses have an important role in providing holistic care to elderly people by addressing their physical, psychological, social, and emotional needs. Incorporating music therapy into routine nursing care may help create a calm and comfortable environment, particularly for elderly residents experiencing loneliness, limited social interaction, and emotional stress. However, the effectiveness of music therapy on physiological parameters among elderly people living in old age homes requires systematic assessment to establish its potential benefits as a complementary nursing intervention.

Therefore, the present study aims to assess the physiological parameters of elderly people before and after music therapy and determine whether music therapy produces significant changes in these parameters. The findings may provide useful information regarding the potential role of music therapy in elderly care and help nurses consider appropriate non-pharmacological interventions for promoting the comfort and well-being of older adults.

OBJECTIVES

1. To assess the physiological parameters of elderly people residing in an old age home before administering music therapy.
2. To administer music therapy to the selected elderly people residing in the old age home.
3. To assess the physiological parameters of elderly people after administering music therapy.
4. To determine the effectiveness of music therapy on physiological parameters among elderly people by comparing the pre-test and post-test findings.
5. To find out the association between pre-test physiological parameters and selected demographic variables such as age, gender, educational status, marital status, duration of stay in the old age home, and existing health conditions.

HYPOTHESIS

H_1 (Research Hypothesis): There will be a significant difference in the physiological parameters of elderly people before and after administration of music therapy at the 0.05 level of significance.

H_0 (Null Hypothesis): There will be no significant difference in the physiological parameters of elderly people before and after administration of music therapy at the 0.05 level of significance.

H_{12} (Associative Hypothesis): There will be a significant association between the pre-test physiological parameters of elderly people and their selected demographic variables at the 0.05 level of significance.

MATERIALS & METHODS

Research Approach

A quantitative research approach with pre-experimental one group pre-test post-test research design was used in the study, 30 elders at oldage home Aburoad was implemented music therapy.

Research Design

A pre-experimental one-group pre-test and post-test research design will be adopted.

The design can be represented as:

$O_1 \rightarrow X \rightarrow O_2$

Where:

- O_1 = Pre-test assessment of physiological parameters
- X = Administration of music therapy
- O_2 = Post-test assessment of physiological parameters

Variables of the Study

- Independent Variable: Music therapy
- Dependent Variable: Physiological parameters of elderly people, such as pulse rate, respiratory rate, blood pressure, and oxygen saturation.
- Extraneous Variables: Age, gender, health status, medication, sleep, environmental conditions, and other factors that may influence physiological parameters.

Setting of the Study

The study is conducted in a selected old age home situated at Abu Road, Rajasthan.

Population

The target population of the study is consist of elderly people residing in the selected old age home at Abu Road.

Sample

The sample consist of elderly people who fulfill the predetermined inclusion criteria and are available during the period of data collection.

Sample Size

A sample of 24 elderly people is selected for the study. Male-8 and Female-16.

Sampling Technique: A purposive sampling technique is used to select the elderly people who meet the inclusion criteria.

Inclusion Criteria

The study participants are elderly people who:

1. Are aged 60 years or above.
2. Are residing in the selected old age home at Abu Road.

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3. Are willing to participate in the study.
4. Are able to hear music adequately.
5. Are conscious and able to understand and follow instructions.
6. Are available during the period of data collection.
7. Give informed consent to participate in the study.

Exclusion Criteria

Elderly people will be excluded if they:

1. Have severe hearing impairment.
2. Are unconscious or unable to communicate.
3. Have severe psychiatric or cognitive impairment that prevents participation.
4. Are critically ill or medically unstable.
5. Are unwilling to participate in the study.
6. Are already receiving another structured relaxation or music therapy intervention during the study period.

Data Collection Tools

Part I – Demographic Data:A structured questionnaire is used to collect information regarding age, gender, marital status, educational status, previous occupation, duration of stay in the old age home, dietary habits,

Part II – Physiological Parameter Assessment: A standardized assessment sheet will be used to record:

- Pulse rate
- Respiratory rate
- Blood pressure systolic and diastolic.
- Oxygen saturation (SpO_2)
- Blood sugarThe physiological parameters are recorded before and after the intervention.

Intervention –

Music Therapy is provided in a quiet and comfortable environment i.e in a meditation hall. The participants will be encouraged to sit or rest comfortably and listen to the selected music through an appropriate audio device was played on that hall.

A suitable intervention schedule may be:

- Duration: 45min. to 1 hour per session
- Frequency: Once daily
- Period: 1month consecutive days
- Environment: Quiet and comfortable setting
- Music: Soft, soothing and culturally acceptable instrumental/devotional or relaxation music.

Data Collection Procedure

After obtaining permission from manager of old age home and informed consent from the participants, collected baseline demographic information.

The physiological parameters are first assessed as a pre-test. Music therapy then administered according to the planned intervention schedule. After the intervention, the physiological parameters again assessed as a post-test using the same instruments and procedure.

The pre-test and post-test measurements is compared to determine the effectiveness of music therapy.

Data Analysis

The collected data are organized, tabulated, and analyzed using descriptive and inferential statistics.

Descriptive statistics:

- Frequency
- Percentage
- Mean
- Standard deviation Inferential statistics:
- Paired t-test is used to determine the significant difference between pre-test and post-test physiological parameters.
- Chi-square test or an appropriate statistical test be used to determine the association between selected demographic variables and pre-test findings.

The level of significance will be set at 0.05

Ethical Considerations

- Permission is obtained from the concerned authority of the old age home.
- Ethical approval is obtained from the appropriate institutional authority/ethics committee, wherever required.
- Informed consent is obtained from each participant.
- Participants is informed about the purpose and procedure of the study.
- Participation is voluntary.
- Confidentiality and privacy of participants is maintained.
- Participants will have the right to withdraw from the study at any time without penalty.

RESULTS (STATISTICAL CALCULATIONS)

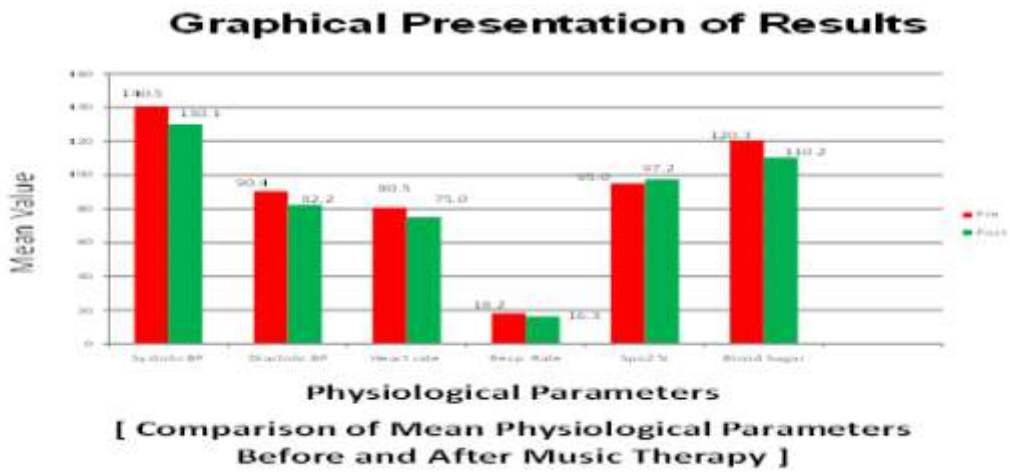
The results showed significant improvements in all physiological parameters:

Parameter	Pre-Test Mean	Post-Test Mean	t-Value	p-Value	Effect Size
BP Systolic (mmHg)	140.2	130.1	13.14	<0.0001	Large
BP Diastolic (mmHg)	90.4	82.2	12.89	<0.0001	Large
Heart Rate (bpm)	80.5	75.0	13.97	<0.0001	Large
Respiratory Rate	18.2	16.3	13.75	<0.0001	Large
SpO2 (%)	95.0	97.2	-19.53	<0.0001	Large
Blood Sugar (mg/dL)	120.3	110.2	7.08	<0.0001	Medium

Graphical Presentation of Results-

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Below Comparison of Mean Physiological Parameters Before and After Music Therapy. Effect of Music Therapy on B.P,Pulse,Respiration,Oxygen saturation and Blood sugar level



[Comparison of Mean Physiological Parameters Before and After Music Therapy]

Result -The ABOVE illustrative graph shows that after administration of music therapy, there was a **decrease in mean pulse rate, respiratory rate, systolic blood pressure, and diastolic blood pressure**, while the mean oxygen saturation showed an **increase**.This indicates a possible beneficial effect of music therapy on the physiological parameters of elderly people For research project, the **result outcome is presented graphically by comparing the mean pre-test and post-test physiological parameters.**

DISCUSSION

The study is discussed the major findings from the result of the study and expected to determine whether **music therapy produces a significant beneficial effect on the physiological parameters of elderly people** residing in the selected old age home at Abu Road. The findings may support the use of music therapy as a simple, economical, and non-invasive complementary intervention in elderly care.

1. **Significant Reduction in Blood Pressure:**

a) The mean systolic BP decreased from **140.2 mmHg to 130.1 mmHg** ($p < 0.0001$).

b) The mean diastolic BP reduced from **90.4 mmHg to 82.2 mmHg** ($p < 0.0001$).

c) This indicates music therapy effectively reduces hypertension in elderly individuals.

2. **Improvement in Heart Rate and Respiratory Rate:**

a. The mean heart rate reduced from **80.5 bpm to 75.0 bpm** ($p < 0.0001$), suggesting improved cardiovascular efficiency.

b. The mean respiratory rate decreased from **18.2 breaths/min to 16.3 breaths/min**, indicating better respiratory function.

3. **Increase in Oxygen Saturation (SpO2):** SpO2 levels improved from **95.0% to 97.2%** ($p < 0.0001$), showing enhanced oxygenation and lung function.

4. **Reduction in Blood Sugar Levels:** Mean blood sugar dropped from **120.3 mg/dL to 110.2 mg/dL** ($p < 0.0001$), suggesting Rajyoga may help in better glucose regulation.

5. **Statistical Significance:** All results showed a statistically significant difference with **p-values < 0.0001**, confirming the effectiveness of Rajyoga Meditation.

Interpretation: The calculated *p* value is **less than 0.05**, i.e the difference between pre-test and post-test physiological parameters is considered statistically significant, and the null hypothesis is rejected. The music therapy is effective in influencing the physiological parameters of the elderly participants. The reduction in blood pressure and heart rate indicates better cardiovascular health. The improvement in respiratory rate and SpO2 suggests enhanced lung function

CONCLUSION:

Thus, the study demonstrates that music therapy significantly improves physiological health in elderly individuals by reducing hypertension, lowering heart rate, improving oxygen saturation, and increasing tissue perfusion. This suggests that Music therapy can be used as a non-pharmacological intervention for improving overall well-being in geriatric people in oldage home.

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