



## A STUDY TO ASSESS THE EFFECTIVENESS OF PROGRESSIVE MUSCLE RELAXATION TECHNIQUE ON LEVEL OF STRESS AMONG 1ST YEAR B.SC. NURSING STUDENTS IN MADER-E-MEHARBAN INSTITUTE OF NURSING SCIENCE AND RESEARCH, SOURA, SRINAGAR, KASHMIR.

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**ABSTRACT** The study was conducted with the aim to assess the effectiveness of Progressive Muscle Relaxation Technique on level of stress among 1st year B.Sc. Nursing Students in Mader-e-Meharban Institute of Nursing Science and Research, Soura, Srinagar, Kashmir. Nursing students experience different stresses which make them more prone to psychological as well as physical problems. Identifying the level of stress among nursing students will help to assess the degree to which nursing students are affected so that recommendations can be made to arrange stress management programme on progressive muscle relaxation technique so that nursing students can manage their stress in any setting.

Quantitative research approach with Quasi Experimental, Non-randomized control group design [Pre test –Post test Control group design] was used to assess the effectiveness of Progressive Muscle Relaxation Technique on level of stress among 1st year B.Sc. Nursing Students in Mader-e-Meharban Institute of Nursing Science and Research, Soura, Srinagar, Kashmir. Total enumerate sampling technique was used to collect data from the 40 subjects who fulfilled the inclusion criteria and were assigned to control group ( $n_1=20$ ) and experimental group ( $n_2=20$ ). Data was collected using Demographic data and standard perceived stress scale. The experimental group participated in JPMR sessions (20 minute / day) for four weeks.

The (mean± SD) pre-interventional stress level score for control group was (23.35±4.870) and (mean± SD) pre-interventional stress level score for experimental group was (24.35±4.184) with the p-value 0.0000, whereas the (mean± SD) post-interventional stress score for control group was (25.45±3.536) and (mean± SD) post-interventional stress score for experimental group was (13.35±3.528) with the p-value of 0.000.

The results also revealed that there was significant association between the age, total monthly income of family and residence of study subjects with pre-interventional level of stress scores of control and experimental group. Whereas no significant association was found between demographic variables i.e. gender and type of family with pre-interventional level of stress scores of control and experimental group.

The findings of the study concluded that progressive muscle relaxation is effective in reducing the level of stress among the nursing students. Progressive muscle relaxation is effective and can be performed in any setting. After intervention the nursing students in experimental group felt relaxed and had decreased level of stress. Practicing the progressive muscle relaxation on daily basis can reduce the stress among nursing students which they come across their daily stressful routine.

**KEYWORDS :** Effectiveness, Progressive muscle relaxation, Stress, Nursing students.

Mental health is defined as a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community (WHO). The positive dimension of mental health is stressed in WHO's definition of health as contained in its constitution: "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."<sup>1</sup>

Mental health continuum is affected by number of factors and stress is one among them. The term "stress" is derived from Latin word "stringi" which means "to be drawn tight"<sup>2</sup>. The concept "stress" was first introduced in life science by "Hans Selye" in 1956. He defined stress as "the state manifested by a specific syndrome which consists of all the non-specifically induced changes within a biologic system" Selye, (1976)<sup>3</sup>.

The term stress refers to all negative experiences which leave an individual overwhelmed. Stress usually taken as something negative gives us a false impression of its true nature; However, Stress is a reactive outcome to a changing and demanding environment. Considering properly, stress is the capacity of an individual to handle change than it is about whether that change makes us feel good or bad. Changes happen all the time and stress is in large part what we feel when we are reacting to it. We can define stress by saying that it involves the "set of emotional, physical, and cognitive (i.e., thought) reactions to a change." Thinking about stress as our action to change suggests that it is not necessarily bad, and sometimes, could even be a good thing. Some of the life-changes such as getting a new job, moving in with a new partner, or studying to master a new skill are generally considered positive and life enhancing events, even though they can also be quite stressful. Other life changes such as losing a job or an important relationship are more negative and also stressful (Mills H, Reiss N, Dombeck M, 2008)<sup>4</sup>.

The World Health Organization (WHO) has estimated that by the year 2020 stress-related disorders will be one of the leading causes of disability<sup>5</sup>. Nursing students during their educational course experience a high level of stress and anxiety especially test anxiety throughout their education. There are many factors which contribute to

stress and anxiety in nursing students. Students in nursing programs often have competing priorities, decreased financial aid which can lead to higher stress levels. Many students struggle to pay for classes, for that they have to work while attending nursing school to make ends meet (Turner K and McCarthy V L, 2016).<sup>7</sup>

### Need of the study

Stress is an adaptation reaction of living organisms in response to internal or external threats to homeostasis. It is considered as a complex defence mechanism representing the final endpoint of numerous dynamic and interconnected factors of biological, psychological and social nature. Stress is not a simple, stimulus-response reaction, but the interaction between an individual and the environment.<sup>8</sup> Nursing has been identified as an occupation that has high levels of stress. Job related stress has brought hazardous impacts not only on nurses' health but also on their abilities to cope with job demands.<sup>9</sup>

Stress in nursing students may be related to attrition from nursing programmes and lead to a shortage of nurses entering clinical careers. In addition, stress leads to psychological morbidity which may have profound adverse consequences for individual nursing students. Undertaking a nursing programme leads to increased level of stress, burnout and psychological morbidity and this is largely related to individual personality and coping traits.<sup>10</sup> Challenges of nursing college can be very stressful for students. Busy schedules, critical thinking examinations, and clinical experiences at hospitals, students often feel overwhelmed by the many requirements of nursing curricula. All of these elements combined with outside responsibilities such as family, children, and job have the potential to create intense stress in students' lives.<sup>11</sup>

Nursing students are exposed to different stressors and are vulnerable to stressful situations from the student life. Nursing as a caring profession has been known to be a stressful profession.<sup>12</sup> Nursing students during their clinical posting exposed to clinical duties in different settings experience wide range stressors same as professional nurses. In addition, nursing students also have stress related to their education and personal or social experience<sup>13</sup>. Stress can be deleterious and can lead to physical and psychological distress to students<sup>14</sup>. This

psychological distress may hamper students' academic performance and hence impede their pursuit of the nursing career temporarily or permanently<sup>15</sup>. Physical and psychological distress have negative effects on the workforce of nursing students<sup>16</sup>. There is various existing evidence that indicate nursing students have higher levels of stress than students in other disciplines<sup>(17,18)</sup>, but stress varies at different educational levels of nursing students and at different nursing programs<sup>19</sup>. Common sources of stress to nursing students basically include:

- a) Stress related to academic areas such as assignment workload, lack of knowledge regarding nursing, examination, teaching style.
- b) Stress experienced during clinical practice, for example, lack of competency, assessment, supervision, shift changes, care of death and dying.
- c) Stress related to establishing relationships with others (clients, peers, teachers or other health professionals)<sup>20</sup> and
- d) Stress due to personal factors such as gender, age, new surroundings away from home, family structure, financial burdens and job roles<sup>21</sup>.

Personal experience of the investigator during the initial period as a nursing student was extremely stressful due to admission in new professional course and due to the new environmental setting and investigator herself had experienced a relaxing and beneficial effect from performing progressive muscle relaxation during her 1st year M.Sc. clinics and many studies have also depicted the increased amount of the academic stress among nursing students with varying degrees which could have been prevented if stress management was a part of the curriculum. One of the measures recently adopted to prevent such attrition is the orientation program given to first-year nursing students and evidence on the effectiveness of stress management techniques such as progressive muscle relaxation among nursing students have proved to be quite effective, so it is essential to include it as a part of the nursing program. Moreover the student nurses are more prone to stress and are less aware of stress management techniques. So keeping this in mind the investigator decided to analyze the stress level among student nurses and teach them Progressive Muscle Relaxation Technique, so that they may be educated and trained regarding relaxation techniques to manage their stress at student and later at the staff level.

**Statement of the problem**

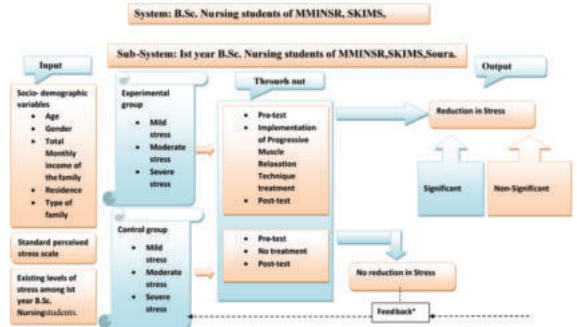
A Study to assess the effectiveness of Progressive Muscle Relaxation Technique on level of stress among 1st year B.Sc. Nursing Students in Mader-e-Meharban Institute of Nursing Science and Research, Soura, Srinagar, Kashmir.

**OBJECTIVES OF THE STUDY**

1. To assess the pre-interventional level of stress score in the control and the experimental group of 1<sup>st</sup>-year B.Sc. nursing students in Mader-e-Meharban Institute Nursing Science and Research.
2. To assess the post-interventional level of stress score in the control and the experimental group of 1<sup>st</sup>-year B.Sc. nursing students in Mader-e-Meharban Institute of Nursing Science and Research after the implementation of Progressive muscle relaxation technique.
3. To evaluate the effectiveness of progressive muscle relaxation technique by comparing pre and post-interventional level of stress scores between the control and the experimental group of 1<sup>st</sup>-year B.Sc. nursing students in Mader-e-Meharban Institute Nursing Science and Research.
4. To find out the association of pre-interventional level of stress score in the control and the experimental group with their demographic variables i.e. Age, Gender, Total Monthly Income of the family, Residence, Type of family.

**HYPOTHESES**

- H<sub>1</sub>: There is a significant decrease in mean post-interventional level of stress score in the experimental group as compared to the control group of 1st year B.Sc. Nursing students after implementation of progressive muscle relaxation technique at 0.05 level of significance.
- H<sub>2</sub>: There is a significant association of pre-interventional level of stress Score in the control and the experimental group of 1st year B.Sc. nursing students with their demographic variables (i.e. age, gender, total monthly income of the family, residence and type of family) at 0.05 level of significance.



Modified Ludwig Von Loffy's General System Model,\*Not included

**REVIEW LITERATURE**

The related literature review for the present study has been organized as under:

1. Studies related to stress among nursing students.
2. Studies related to stress among 1st year B.Sc. nursing students.
3. Studies related to effectiveness of Progressive Muscle Relaxation Technique.
4. Studies related to effectiveness of Progressive Muscle Relaxation Technique on stress.

**Studies related to stress among nursing students:**

Lydia C, Anchala M, Hemamalni<sup>22</sup> in 2016 conducted a descriptive study to assess the level of academic stress among nursing students at SRM college of nursing, Kattankulathur. A total of 80 samples were selected using non probability purposive sampling technique. The tool used for the study comprises of 2 sections. Section A contains demographic variables which include age, type of family, religion, education of the father, and education of the mother. Section B is a 4 point rating scale which was developed by the investigator which includes 20 questions which comprises of 10 positive and negative questions to assess the level of academic stress. The data was collected from 80 samples and the analysis was done using descriptive and inferential statistics. The result of the study concludes that majority of the students 66(82.5%) had the moderate level of academic stress and 6(7.5%) students had severe academic stress.

**Studies related to stress among 1st year B.Sc. nursing students.**

Castelino PS<sup>23</sup> in 2016 conducted a study to assess the level of Teenage Stress among first-year B.Sc. nursing students in a selected college of Mangaluru. A univariate descriptive survey design was used for the study. Purposive sampling technique was used to select 80 first year B.Sc. Nursing students. A demographic Performa and a structured rating scale were used to assess the level of teenage stress. The findings were that Majority (63.75%) of samples were 18 years of age. Most of the samples (98.75%) were females and least percentage (1.25%) were males. Highest percentages (45%) of samples were first and second children in the family and the lowest percentage (10%) were third born or higher. The majority (63.75%) of samples exhibited a severe level of teenage stress and the least percentage of samples (36.25%) exhibited a moderate level of teenage stress. There was significant association between the level of teenage stress and age, monthly income and order of birth. There was no significant association between level of teenage stress and gender, religion and type of family.

**Studies related to effectiveness of progressive Muscle Relaxation Technique:**

Reddy B, Kumar C, Bhardwaj G<sup>24</sup> in 2017 conducted a quasi-experimental study to assess Effectiveness of Progressive Muscle Relaxation on Inducing Sleep among Cancer Patients in Selected Hospitals of Pune City. One group Pre-test and Post-test research design was employed and Non-probability convenient sampling technique was employed to select 40 samples. All the 40 subjects of the study majority of them were falling in Dissatisfied Sleep 31(77.5%), 9[22.5%] subjects were falling under Disturbed sleep and no were falling under Sound Sleep category. Other findings reveal that there is a significant decrease in the post-test score (mean 30.7) of subjects after administration of Progressive Muscle Relaxation Technique compared to pre-test score (mean 55.62). Hence regular muscle relaxation exercise can help the patient induce sleep and maintain in their healthy sleep pattern.

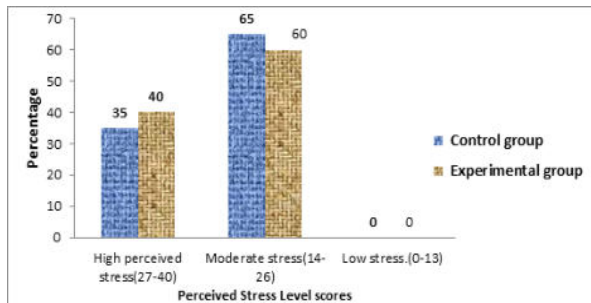
**Studies related To Effectiveness of Progressive Muscle Relaxation Technique on stress:**

Gangadharam P, Madani AH<sup>25</sup> in 2018 conducted a study on the effectiveness of progressive muscle relaxation technique on stress, depression, and anxiety among undergraduate nursing students from College of Applied Medical Sciences (Campus for girls, Moahil) King Khalid University. The finding of the study showed that, among 218 nursing students surveyed, the prevalence of Depression, Anxiety, and stress found to be 75(34.4%), 119(54.6%) and 78(35.8%) respectively. Study results revealed that stress, anxiety, and depression were significantly decreased among the study group after the intervention (p = .0001).

**RESEARCH METHODOLOGY**

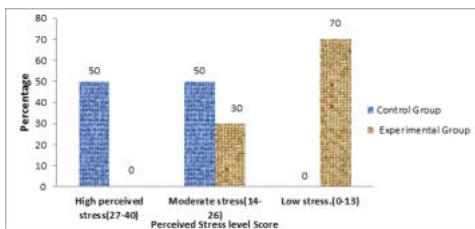


**ANALYSIS AND INTERPRETATION**



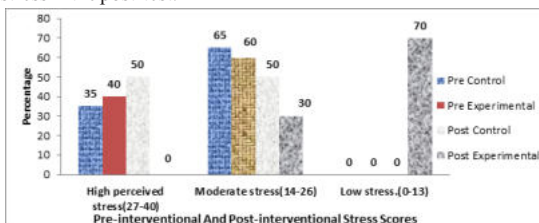
**Percentage distribution of the study subjects according to pre-interventional level of stress score in the control and the experimental group of 1st year B.Sc. Nursing students.**

shows that in the pre-interventional level of stress scores among the control group were: 7(35%) study subjects had high perceived stress, 13(65%) study subjects had moderate stress and none had low stress level. And among the experimental group were; 8(40%) study subjects had high perceived stress, 12(60%) study subjects had moderate stress and none had low stress level.



**Percentage distribution of the study subjects according to post-interventional level of stress score in the control and the experimental group of 1st year B.Sc. Nursing students.**

shows the post-interventional level of stress score in the control group were 10(50%) had high level of stress and 10(50%) had moderate level of stress and in the experimental group maximum number of the study subjects i.e. 14(70%) had low stress level, 6(30%) had moderate level of stress in the post-test.



**Percentage distribution of the pre-interventional and post-interventional stress scores in the control and the experimental group.**

The data presented in table (19) and figure (16) shows that the pre-interventional stress scores of in the control group were; 7(35%) study subjects had high perceived stress, 13(65%) study subjects had moderate level of stress, none had low stress and post-test stress scores in the control group were; 10(50%) study subjects had high perceived stress, 10(50%) study subjects had moderate level of stress and none had low stress. Similarly pre-test stress scores in the experimental group were; 8(40%) of study subjects had high perceived stress, 12(60%) study subjects had moderate stress and none had low stress and post-interventional stress score in the experimental group were; none of subjects had high perceived stress, 6(30%) study subjects had moderate stress and 14(70%) study subjects had low stress.

**Comparison of post-interventional stress scores in the experimental Group by paired-t-test. n<sub>2</sub>=20**

	Experimental Group	
	Pre-interventional stress scores	Post-interventional stress scores
Mean Score	24.35	13.35
S.D.	4.184	3.528
Median Score	23	12
Mean %	60.88	33.38
Mean % Difference	27.5	
Mean Difference	11.000	
Paired t-test	19.575	
P value	0.000***	

\*\*\* Highly Significant

The difference between pre-interventional mean score and post-interventional mean score in the experimental group was 11 with t-value (19.575) which was found to be statistically significant (p=0.000) at p<0.05 level of significance.

**FINDINGS**

The post-interventional (Mean ±SD) stress score of study subjects in the experimental group was (13.35±3.528) which is significantly lower than the pre-interventional (Mean ±SD) which is (24.35±4.184) with the mean difference of (11.000). The mean difference was statistically significant (p=0.000). The post-interventional (Mean ±SD) stress score of study subjects in the control group was (25.45±4.536) which was higher than pre-interventional (Mean ±SD) which is (24.35±4.870) and the difference in post-interventional mean stress level score between the experimental and the control group was 12.100 which was found to be statistically significant (p=0.000). This indicated that the intervention “Progressive Muscle Relaxation” was effective in decreasing the level of stress in the experimental group of 1st year B.Sc. Nursing students.

**CONCLUSION**

The nursing students are more prone to the stress related to various factors like academic, environmental, clinical etc. and reduced stress is necessary for mental wellbeing. Progressive muscle relaxation technique is safer and effective intervention and helps to relieve stress and promote the wellbeing of a person. In the present study progressive muscle relaxation technique was effective in reducing stress in 1st year B.Sc. Nursing students, the effectiveness was measured by comparing pre and post-interventional level of stress scores. As Nursing is an independent profession and has independent roles in health care system, the knowledge and skill about these kinds of interventional therapies from the very beginning will help to contribute in strengthening the aspirations of the nursing profession.

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