



EFFECTIVENESS OF PROGRESSIVE MUSCLE RELAXATION TECHNIQUE ON LEVEL OF STRESS AMONG BSC. NURSING 1ST SEMESTER STUDENTS.

Mental Health Nursing

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ABSTRACT

Background: A Progressive muscle relaxation (PMR) entails a physical and mental component. The physical component involves tensing and relaxing the muscle groups over the legs, abdomen, chest, arm, face, with the eyes closed in sequential pattern. A tension is given in a muscle group approximately 10 second and then released for 20 second before continuing with the next muscle growth. The mental component focuses on the difference between the feeling of the tension and relaxation because the eyes are closed, one is forced to concentrate on the sensation of tension and relaxation because of the feeling of warmth and heaviness felt in the relaxed muscle, after it is tensed, mental relaxation is felt as a result with practice the student learns how to effectively relax and deter stress in his life. **Materials and Methods:** Quantitative approach with Quasi-Experimental non randomized control group design was used in this study. A total 60 BSc. Nursing 1st year semester Students, studying in Uttarakhand (PG) Bio- medical sciences Uttarakhand were included in the study, by using convenient sampling technique. A stress rating scale used to evaluate the effectiveness of progressive muscle relaxation technique regarding level of stress. **Results:** The mean pre-test score of experimental groups was 83.36 whereas post-test score of experimental groups was 55.77, with a mean difference of 27.59, and SD of pre- test was 10.29, SD of post- test was 12.29. The mean pre-test control group score was 84.7 and post-test control group 77.07, with a mean difference of 7.63 and SD of pre- test was 5.19 and post- test was 5.55. The calculated 't' value 6.39 was greater than tabulated 't' = 1.699 which was statistically proved at 0.05 level of significance. It revealed that progressive muscle relaxation technique was effective in decreasing the level of stress among BSc. Nursing 1st semester students.

KEYWORDS

INTRODUCTION

WHO defines health "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity".¹ Mental health is defined as a state of well-being in which every individual realizes his or her potential, can cope with the normal stressed of life, can work productively and fruitfully and is able to make contributions to his or her community (WHO).²

Stress has a different meaning for different people under different conditions. The first and most generic definition of stress was that proposed by Hans Selye: "Stress is the nonspecific response of the body to any demand."³ Nursing students are influenced by the various hospital stressor agents in addition to the stress caused by theoretical training environment. Hospitals are considered as one of the most stressful work environments, because there, it is the matter of humans death and life. The stress which is resulted from the environment can affect the way their personality develops and also cause the incidence of much undesirable behaviour in individual.⁴ There are various methods recommended to control or reduce stress. Stress management practices include; yoga, relaxation, progressive muscle relaxation, breathing exercises, meditation and mental imagery. Relaxation is a process that decreases the effects of stress on our mind and body. Relaxation techniques can help to cope with everyday stress and with stress related to various health problems.⁵

National Center for Complementary and Alternative Medicine (NCCAM) (FEB 2013) reported that Relaxation techniques include a number of practices such as progressive muscle relaxation, guided imagery, biofeedback, self-hypnosis, and deep breathing exercises. Relaxation techniques (also called relaxation response techniques) may be used by some to release tension and to counteract the ill effects of stress. This fact sheet provides basic information about relaxation techniques, summarizes scientific research on effectiveness and safety, and suggests sources for additional information.⁶ physical and psychological distress have negative effects on the workforce of nursing students have higher level of stress than students in other disciplines.⁷ Stress varies at different educational level of nursing students and at different programs.⁸ Stress related to away from home, clinical workload, age, gender, new surroundings, financial burdens, clinical practice, establishing relationships with others (clients, teachers, friends, health care professionals).^{9,10} However, excessive stress or distress created a negative impact on students

The study was conducted at Uttarakhand (PG) College of Bio- Medical Sciences & Hospital Dehradun Uttarakhand from 29 august to 13 September 2022. Quantitative Research Approach with Quasi - experimental research (non- randomized control group design) was used. Non- Probability convenient sampling technique was used for collecting the sample which comprised of 60 students.

Inclusive Criteria

- Students who are available at the time of data collection.
- Those who were willing to participate in the study.
- Those who were in BSc. Nursing 1st year semester students.

Exclusive Criteria

- Those who were having serious injury, muscle spasm, or back problems.

Tool Description

It includes socio demographic variables and Stress rating scale was used to assess the effectiveness of the samples.

Tool 1: Socio – Demographic Variables.

It consists of demographic variables. It includes age, gender, hours of sleep at night, type of family, marital status, residence, previous knowledge regarding Progressive Muscle Relaxation.

Tool 2: Stress Rating Scale.

It consists of Physiological stress, Emotional stress, social stress, psychological stress, Behavioural stress. The total score is 120 which is divided as mild, moderate, severe stress score, it is a five-point rating scale which consists of always, frequently, sometimes, rarely and never. Each carries a score of 5,4,3,2 and 1 respectively.

Scoring Of Tools

DESCRIPTION	SCORE
Mild level of stress	1- 50
Moderate level of stress	51-100
Severel level of stress	101-150

Statistical Analysis

The data were presented as mean and standard deviation. Independent 't' test used to assess Experiment and control group in pre and post-test stress level.

RESULTS

frequency and percentage distribution of demographic variables among BSc. Nursing 1st year Semester students is shown in Table 1.

MATERIAL AND METHODS

Study Design

Table 1: Demographic Variables

Age	Experiment Group		Control Group	
	Frequency	Percentage	Frequency	Percentage
17-18 years	21	70	23	76.7
18-20 years	9	30	7	23.3
Gender				
Female	22	73.3	21	70
Male	8	26.7	9	30
Hours of sleep at night				
5-6 hrs	14	46.7	15	50
8-10 hrs	11	36.7	11	36.7
> 10 hrs	5	16.6	4	13.3
Type of family				
Joint	4	13.3	8	26.7
Nuclear	26	86.7	22	73.3
Marital Status				
Married	30	100	30	100
Unmarried	0	0.0	0	0.0
Residence				
Living in hostel/PG	18	60	14	46.7
Living in parents	12	40	16	53.3
Previous knowledge regarding PMR				
No	26	86.7	27	90
Yes	4	13.3	3	10

Table 1 shows that majority of 70% students had 18-19 years age in experiment group. The majority of 76.7% students had 18-19 years age and 23.3% students in control group. In gender majority of 73.3% students were female and 26.7% students were male in experiment group and in control group 70% students were female and 30% students were male. The majority of 46.7% students took 5-6hrs sleep at night in experiment group. The majority of 50% students took 5-6hrs sleep hrs sleeps at night in control group. The majority of 86.7% students had nuclear family in experimental group and 73.3% students had nuclear family in control group. The majority of 100% students were unmarried in experiment and control group both in this study. The majority of 60% students were living in hostel or PG in experiment group. The majority of 53.3% students were living with parents in control group. The majority of 86.7% students had no previous knowledge in experiment group. And in control group majority of 90% students had no previous knowledge.

Table 2: Effectiveness Of Progressive Muscle Relaxation Technique On Level Of Stress Among BSc. Nursing 1st Year Semester Students In Experimental And Control Group.

Stress level	Experiment group (mean $\pm$ SD)	Control group (mean $\pm$ SD)	Mean difference (SD)	Independent t test	DF	P-value	Result
Pre test	83.33 $\pm$ 10.545	80.10 $\pm$ 17.899	3.233 (3.793)	0.852	58	0.397	In-significant
Post test	54.53 $\pm$ 13.167	80.10 $\pm$ 17.899	25.567 (4.057)	6.302	58	0.001	Significant

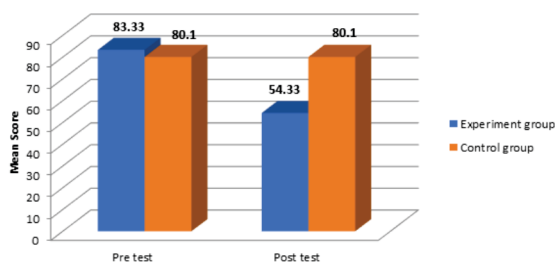
Comparison between Experiment and control group in pre and post test stress level

Table shows that there was no statistically significant comparison between experiment and control group in pre-test stress level. The

obtained t value 0.852 and the table value at df (58) 2.001 was no significant with $p > 0.05$ level. There was statistical significant comparison between experiment and control group in post-test stress level. The obtained t value 6.302 and the table value at df (58) 2.001 was significant with $p < 0.05$ level.

DISCUSSION

The present study was conducted to assess the effectiveness of progressive muscle relaxation technique on level of stress among BSc. Nursing 1st year semester students. The investigator collected the sample by non-probability convenient sampling technique. The investigator collected the data by using stress rating scale to assess the effectiveness of Progressive Muscle relaxation technique on level of stress. The investigator used quasi-experimental non randomized control research design. The tool consists of demographic variables, and stress rating scale. The mean pre-test score of experimental groups was 83.36 whereas post-test score of experimental groups was 55.77, with a mean difference of 27.59, and SD of pre- test was 10.29, SD of post- test was 12.29. The mean pre-test control group score was 84.7 and post-test control group 77.07, with a mean difference of 7.63 and SD of pre-test was 5.19 and post- test was 5.55. The calculated 't' value 6.39 was greater than tabulated 't' = 1.699 which was statistically proved at 0.05 level of significance. It revealed that progressive muscle relaxation technique was effective in decreasing the level of stress among BSc. Nursing 1st semester students. In this study, BSc. Nursing 1st year semester students who were having mild to moderate stress showed significant reduction in stress with a MD of 27.59 following 15 days of progressive muscle relaxation technique as measured by Stress rating scale.

A similar study conducted by Bushra Mushtaq (2021) shows that mean pre- interventional stress score for control group was 23.35 and for experimental group was 24.35. The post- interventional stress score for control group was 25.45 and for experimental was 13.35 with p- value of 0.000 revealed that progressive muscle relaxation technique is effective in reducing the level of stress among B.Sc. Nursing 1st year students with a MD of 11.00.¹¹

CONCLUSION

The result of present study highlights that progressive muscle relaxation technique effective in reducing the level of stress among BSc. Nursing 1st year semester students.

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