



A pre-experimental study to evaluate the effectiveness of demonstration on progressive muscle relaxation therapy on stress among nursing students in a selected college of nursing Agartala West Tripura

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Abstract

Background: The term stress is derived from Latin word “stringi” which means “to be draw tight”. The concept “stress” was first introduced in life science by “Hans Selye”. He defined stress as “the state manifested by a specific syndrome which consists of all the non- specifically induced changes within a biologic system” [1].

Objective: To assess the pre-test level of stress among nursing students in a selected college of Nursing, Agartala, West Tripura. To evaluate the effectiveness of demonstration on progressive muscle relaxation therapy on stress in terms of comparison of pre-test and post test scores among nursing students in a selected college of Nursing, Agartala, West Tripura. To find out the association between pre-test levels of stress of nursing students with their selected socio-demographic variables.

Subjects & methods: Quantitative research approach with Pre-experimental one group pre-test post-test research design was adopted by applying purposive sampling technique among 45 (Forty five) numbers of first year B.Sc. Nursing female students in Tripura College of Nursing, Hapania, Agartala, West Tripura. Self-administered questionnaire was adopted of the sample through Testmoz online method. Stress level was assessed by Modified Student Nurse Stress Index (5 points Likert Scale).

Results: The (mean) pre-test stress level score for experimental group was (53.06 and post-test stress level score for experimental group was (38.38 Paired t value was 6.374 (df- 44, table value 2.02) at 0.05 level of significance.

Conclusion: Demonstration on progressive muscle relaxation therapy was effective in reducing stress level among nursing students.

Keywords: effectiveness, stress, PMR therapy, nursing students

Introduction

According to Dr. Edmund Jacobson, Stress is necessary for life. We need stress for creativity, learning, and for our very survival. Stress is only harmful when it becomes overwhelming and interrupts the healthy state of equilibrium that our nervous system needs to remain in balance. When stress overwhelms the nervous system, our body is flooded with chemicals that prepare us for “fight or flight” [2].

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. Nursing students have stress related to their education and personal or social experience. Stress can be deleterious and can lead to physical and psychological distress to students. This psychological distress may hamper students “academic performance and hence impede their pursuit of the nursing career temporarily or permanently. Physical and psychological distresses have negative effects on the workforce of nursing students [3].

Martos P *et al* (2012) [4]. stated that Stress is a big problem in the society. 75% of bodily disease are said to be due to stress. There are many stressors like transitions in life, money problems, pressure of day-to-day life, no leisure time, problems in relationships and domestic problems. Nursing students face both academic as well as professional stress during their training period [4].

According to Elizabeth Scott, (2020) During the relaxation response, the body moves toward a state of physiological relaxation, where blood pressure, heart rate, digestive functioning, and hormonal levels return to normal levels [5].

Jose A (2015) from his study found out that among the first year students,35% were under stress due to clinical assignments, in second year 42% were under stress due to theoretical exams, in third year 53% and 54% of the fourth years were under stress due to academic assignment [6].

Aim of the Study

Progressive muscle relaxation therapy may help in minimize level of stress among nursing students in a selected college of Nursing, Agartala, West Tripura.

Hypotheses

H1: The mean post-test stress scores of nursing students is significantly less than the mean pre- test stress scores as evidenced by their post test scores and measured by Likert scale.

H2: There is a significant association between pre-test levels of stress of nursing students with their selected socio demographic variables.

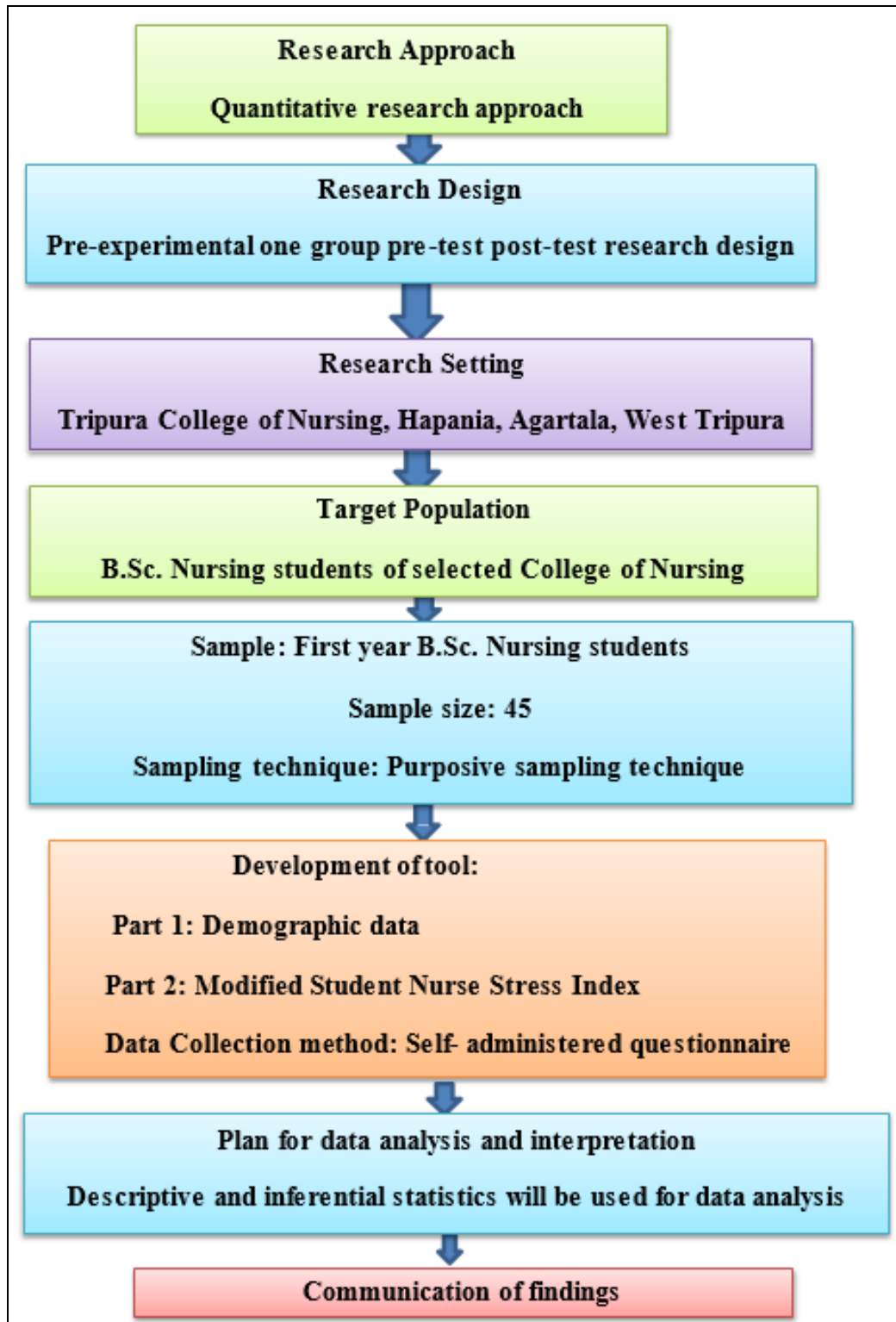
Research Methodology

Chart 1

A. Selection of the Tool

Socio-demographic data, Modified Student Nurse Stress Index were selected for the study to collect the data from the first year B.Sc. Nursing students and to assess their stress by Modified Student Nurse Stress Index.

Ethical Permission, Administrative Permissions

1. The permission was obtained from the research committee of Tripura College of Nursing, Hapania, Agartala, West Tripura. The ethical clearance was obtained from the ethical committee of Tripura Medical College & Dr. BRAM Teaching Hospital, Hapania, Agartala, West Tripura.

Pilot Study

The pilot study was conducted in Tripura Institutes of Paramedical Sciences, Agartala West Tripura.

The Demographic Data Discussed with the Help of Graphical Diagram

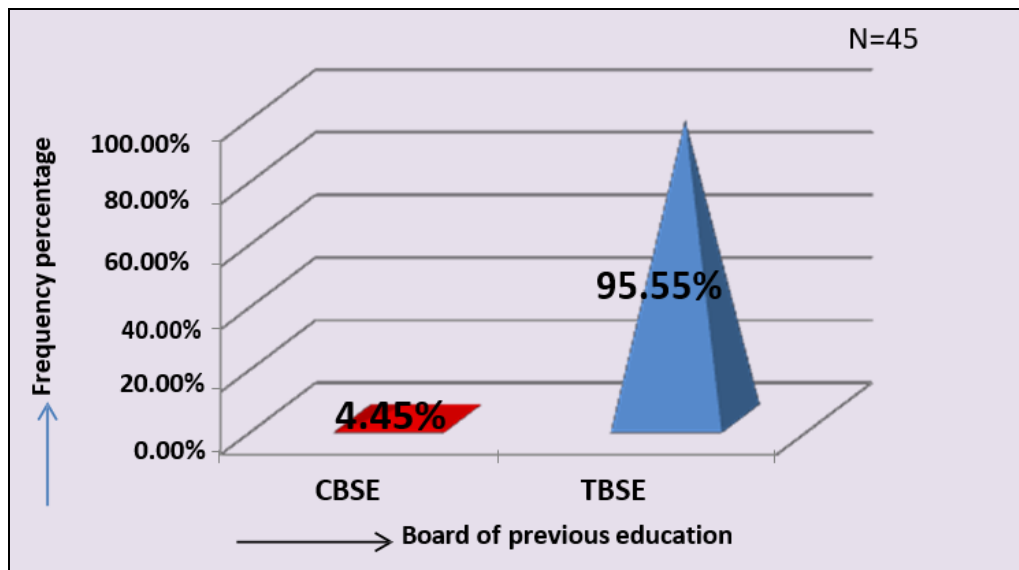


Fig 1: Cone graph showed frequency percentage distribution of board of previous education of nursing students

The data presented in figure 1 revealed that 95.55% of nursing students were from TBSE board and 4.45% of nursing students were from CBSE board.

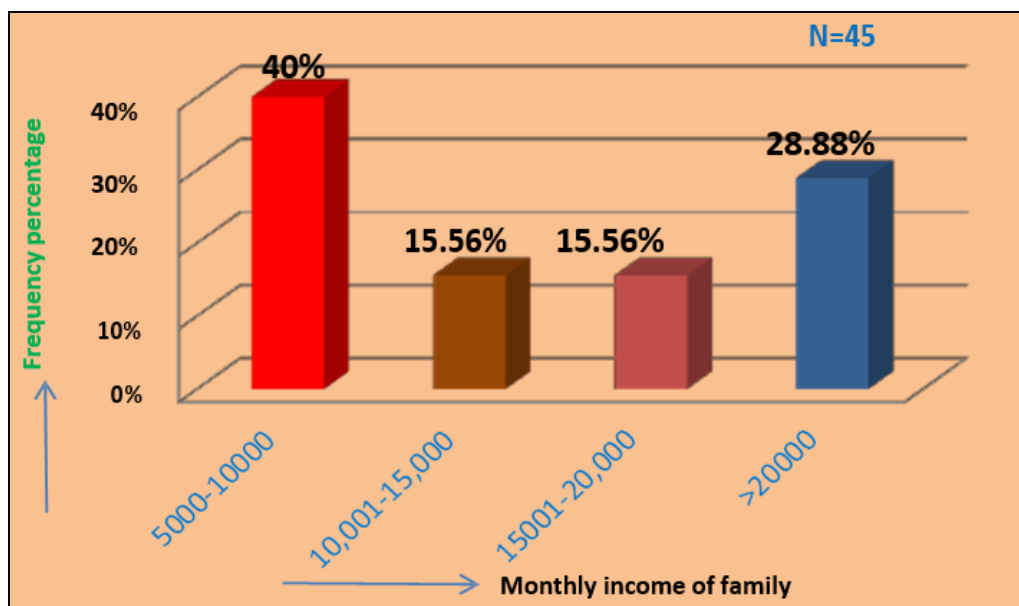


Fig 2: Bar graph showed frequency percentage distribution of monthly income of family of nursing students. Bar graph showed that 40% of nursing students' monthly income of family had Rs. 5000-10,000, 15.56% had monthly income of family Rs.10,001-15000, 15.56% had Rs. 15001-20,000, 28.88% had Rs. more than 20,000.

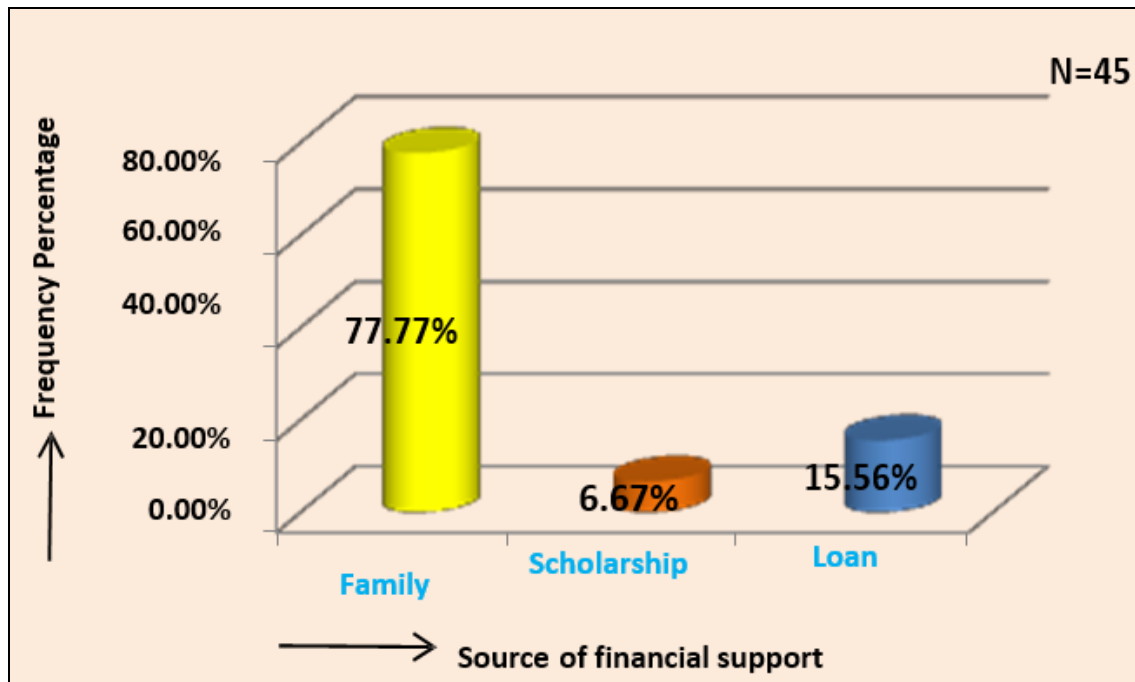


Fig 3: Cylindrical graph showed frequency percentage distribution of nursing students according to source of financial support to study

The above figure 3: Cylindrical graph showed that 77.77% of nursing students' financial support to study had from family, 6.67% had from scholarship, and 15.56% had from loan.

Table 1: Frequency & percentage distribution of pre-test post-test level of stress among nursing students

N = 45

Level of stress	Pre-test		Post-test	
	Frequency (f)	Percentage (%)	Frequency(f)	Percentage (%)
No stress (1-22)	-	-	-	-
Mild stress(23-44)	10	22.22%	35	77.78%
Moderate stress(45- 66)	30	66.67%	10	22.22%
Severe stress(67-88)	5	11.11%	-	-

The data presented in table 1 depicts that, in pre-test out of 45 (Forty five) Nursing students, (10) 22.22% had mild stress, (30) 66.67% had moderate stress and (5) 11.11% had severe stress in pre- test. In post-test out of 45 (forty five) nursing students, (35) 77.78% had mild stress, (10) 22.22% had moderate stress.

Table 2: Mean, Median, SD, t- value on effectiveness of demonstration on PMRT on stress among nursing students of pre-test and post-test stress scores

N = 45

Groups	Mean	Median	SD	Mean difference	Paired t value
Pre-test	53.06	57.25	12.46	14.68	6.374*
Post-test	38.38	30.5	9.14		

Note *= Significant, at 0.05 level (df- 44, table value 2.02)

Table no 2 data revealed that out of 45 (Forty five) nursing students pre-test mean stress score was 53.06, median was 57.25, and standard deviation was 12.46. Post-test mean stress score was 38.38, median was 30.5, standard deviation was 9.14. The data presented in the table 2 depicts that there was significant difference between the mean stress score of pre-test (53.06) and the post-test (38.38). The computed, t^{cc} value (6.374) was greater than the table value (2.02, df- 44) at 0.05 level of significance. So the null hypothesis (H01) was rejected and research hypothesis (H1) was accepted. Hence it was concluded that demonstration on progressive muscle relaxation therapy was significant, it was effective on stress among nursing students.

Table 3: ANOVA (F value) on association between pre-test levels of stress of nursing students with their selected demographic variables

N= 45

Sl no	Demographic variables	Category	Frequency (f)	DF		Mean sum of square between group	Mean sum of square within group	Tabulated F value	Calculated F value
				Between group	Within group				
1	Age	18 years	3	3	41	671	4157	2.84	0.161 NS
		19 years	22						
		20 years	17						
		21 years	3						
2	Monthly income of family	5000-10,000	18	3	41	3677	2948	2.84	1.247 NS
		10,001-15,000	7						
		15,001-20,000	7						
		>20,000	13						
3	Source of financial support	Family	35	2	42	148	1747	3.23	0.084 NS
		Scholarship	3						
		Loan	7						

Table 4: ANOVA (F value) on association between pre-test levels of stress

N=45

Sl no	Demographic variables	Category	Frequency (f)	DF		Mean sum of square between group	Mean sum of square within group	Tabulated F value	Calculated F value
				Between	Within group				
4	Study hours at home	1-2 hour	3	3	41	655	1715	2.84	0.381 NS
		2-3 hour	26						
		3-4 hour	11						
		>4 hour	5						
5	Hours of sleep in night	6 hours	11	2	42	2960	9090	3.23	0.325 NS
		7 hours	30						
		>8 hours	4						
6	Any nursing person in family	Relatives	8	4	40	281	4114	2.61	0.068 NS
		Brother	3						
		Sister	1						
		Mother	1						
		No nursing person in family	32						

Note: NS= Not significant, at 0.05 level

The data presented in the table no 3, 4 depicts that computed F value was lesser than table value at 1.5 level of significance. Hence the research hypothesis(H2) was rejected and null hypothesis (H02) was accepted and it was inferred that the age, monthly income of family, source of financial support to study, study hours at home, hours of sleep in night, any nursing person in family (Yes/ No) if yes relationship with student have no significant association with the pre-test stress score.

Conclusion

The findings of the present study showed the mean post-test stress score (38.38) was lower than the mean pre-test stress score (53.06). The comparison of level of stress before and after administering the progressive muscle relaxation therapy. It shows that in pre-test most of the nursing students 22.22 % had mild stress, 66.67% had moderate stress and 11.11% had severe stress. In post-test most of the nursing students had mild stress 77.78 % and 22.22% moderate stress. The comparison of pre-test and post-test stress score (paired t value= 6.374, table value 2.02 degree of freedom 44 at 0.05 level of significance) showed that there was a significant reduction in stress scores of nursing students after administration of progressive muscle relaxation therapy.

This shows that progressive muscle relaxation therapy was effective. The study findings revealed that level of stress among nursing students were reduced after administering progressive muscle relaxation therapy. So there for demonstration on progressive muscle relaxation therapy was effective in reducing stress level among nursing students.

Recommendations

1. Similar study can be replicated on larger sample to generalize the study findings.
2. A descriptive study can be conducted to assess perceived stress and coping strategies among nursing students.
3. Progressive muscle relaxation therapy for terminally ill patients for pain and stress management.
4. A comparative study can be conducted between PMR and other complimentary therapies like meditation, yoga guided imaginary therapy and other strategies.
5. The experimental study can be conducted to find out the effectiveness of Progressive Muscles Relaxation Therapy on stress among caregivers of mentally ill patient.
6. The effectiveness of Progressive Muscles Relaxation Therapy in reducing stress among cancer patients admitted in hospitals.

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