



EFFECT OF MIND RELAXATION TECHNIQUES ON THE PSYCHOLOGICAL AND PHYSIOLOGICAL ASPECTS OF NURSING STUDENTS-A RANDOMIZED CONTROL TRIAL STUDY

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Abstract

Stress has become some portion of student's scholarly life because of the different inside and outer assumptions put upon their shoulders

Title: A study to assess the effectiveness of relaxation therapy on stress and anxiety among nursing students was conducted in Keshlata College of nursing and Rohilkhand College of Nursing.

Aim: The aim of the study was to assess the effect of mind relaxation techniques on psychological and physiological aspects among the nursing students.

Methodology: Quantitative research approach with randomized control trail- pretest and posttest control group design was adopted to this study. Probability sampling- Simple Random sampling technique was adopted to select 100 nursing students each in experimental and control group. Data collection was done using perception rating scale. Mind relaxation therapy was used by the investigator to teach various method to overcome different level of stress such as deep breathing exercise, progressive muscle relaxation, guided imagery, mind full meditation, body scan meditation and tie chu.

Results and Findings: The data gathered were analyzed by descriptive and inferential statistical method and interpretation was done on the basis of the objectives of the study. SPSS version 22 was used for data analysis. Data revealed that in experimental group on psychological aspects of mean pre-test stress score (64.29 ± 12.86) which was high in pre-test was reduced (37.7 ± 19.20) mean post-test stress score, hence it shows the effectiveness of mind relaxation techniques on psychological aspects among the nursing students. The calculated t value was ($t=11.74$) more than the tabled value ($t.2.33$). Hence there is significance difference in the mean post-test stress scores hence there is significance difference in the mean pre-test and post- test perception score. Data revealed that in experimental group on physiological aspects of mean pre-test stress score (64.29 ± 12.86) which was high in pre-test was reduced (41.03 ± 17.64) mean post-test stress score, hence it shows the effectiveness of mind relaxation techniques on physiological aspects among the nursing students. The calculated t value was ($t=4.39$) more than the tabled value ($t.1.98$). Hence there is significance difference in the mean pre-test and post- test perception score. Data revealed that in control group on psychological aspects the mean pre-test stress score (63.98 ± 16.53) which was high in pre-test was reduced (54.38 ± 15.31) mean post-test stress score, The calculated t value was ($t=4.39$) more than the tabled value ($t.1.96$). Hence there is significance difference in the mean post-test stress scores hence there is significance difference in the mean pre-test and post- test perception score. Data revealed that in control group on physiological aspects the mean pre-test stress score (67.11 ± 11.60) which was high in pre-test was reduced (50.61 ± 20.37) mean post-test stress. The calculated t value was ($t=7.53$) more than the tabled value ($t.1.98$). Hence, there is significance difference in the mean of the post-test stress scores, hence, there is significance difference in the mean pre-test and post- test perception score.

Conclusion: From the results of the study it was concluded that rendering a relaxation therapy to the students of nursing was successful in reducing Stress and anxiety. Nursing students with Stress and Anxiety can include this therapy in their routine activities. The student's leisure time may be enough and utilized for doing this relaxation therapy.

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Introduction:

Stress has become some portion of student's scholarly life because of the different inside and outer assumptions put upon their shoulders. Young people are especially helpless against the issues related with scholarly pressure as changes happen at an individual and social level. It in this manner, gets basic to comprehend the sources and effect of scholarly pressure to infer satisfactory and proficient intercession strategies¹. The National Mental Health Policy had a vision to advance emotional wellness, forestall psychological maladjustment, empower recuperation from dysfunctional behavior, and integration, and guarantee financial incorporation of people influenced by psychological sickness by giving available, reasonable and quality wellbeing and social consideration to all people through their life expectancy inside a rights-based edge work. The objectives are to lessen trouble, incapacity, avoiding grimness and untimely emotional well-being issues across life range of the individual, to improve comprehension of the psychological wellness in the country and to fortify the authority in the psychological wellness area at the public, state and region levels^{2,3,4}.

Need of the Study

The analyst chose the brain unwinding strategies that can make sway on the mental and physiological stressor of the nursing understudies and assists them with adapting up to push. The mental stressor incorporates Intrapersonal, Interpersonal and Family Stressor. The physiological stressor incorporates scholarly, time balance and natural stressor. Psyche unwinding procedures included Deep breathing Exercise, Progressive Muscle Relaxation, Guided Imagery, Mind full Meditation, Body Scan temptation, Tie chu.

Statement of Problem

Effect of mind relaxation techniques on the psychological and physiological aspects of nursing students-A randomized control trial study.

Objectives

1. To assess the pre-test and post-test perception level regarding psychological and physiological aspects among the nursing students in experimental group and control group
2. To assess the effectiveness of mind relaxation techniques on psychological and physiological aspects among the nursing students
3. To associate the posttest perception level regarding psychological and physiological

aspects among the nursing students in the control group with selected demographic variables

Operational Definition

1. **EFFECT:** It refers to the out-come of the mind relaxation technique on the psychological and physiological aspects
2. **MIND RELAXATION THERAPY:** The techniques used to teach various method to overcome different level of stress.
3. **PSYCHOLOGICAL ASPECT:** Stressor of nursing students related to emotional strain and pressure.
4. **PHYSIOLOGICAL ASPECT:** Stressor of nursing students related to bodily effects
5. **NURSING STUDENT:** It refers to the students who are studying in first, second, third & fourth year B.Sc. Nursing in the institution which are offering B.Sc. Nursing programme in Bareilly.

Conceptual Framework

The conceptual framework used in this research study was based on Modified Imogene King's goal attainment Theory. King's conceptual system is composed of three interacting systems, namely personal system, interpersonal system & social system.

Review of Literature:

❖ Literature related to studies concerning stress and coping among student nurses

Kaur M, Kanika Guleria (2021)⁵ conducted a descriptive study to assess the levels of Stress among Nursing students. 63 nursing students of GNM 1st year, Post basic B.Sc.(N) 1st year chosen by convenience non-probability sampling technique. We collected data using the UN Management Stress Tool from the UNO Management Booklet. According to the study, 97% of GNM 1st year students and 67% of Post Basic B.Sc. Nursing students are moderately stressed. GNM 1st year students were more stressed than post-basic BSc Nursing 1st year students. Due to the institute's timings, living away from home, lack of time for self-study, and strict hospital rules and regulations, most of them had difficulty participating in social life. The fact that these students were finding the subjects challenging, living in hostels, working shifts in hospitals, and juggling academic loads resulted in a significantly higher incidence of stress. Experience, as compared to the general population. An induction program at the start of the nursing course, and positive mental health training can go a long way toward reducing strain on nursing students and can provide

betterment to their professional and personal well-being.

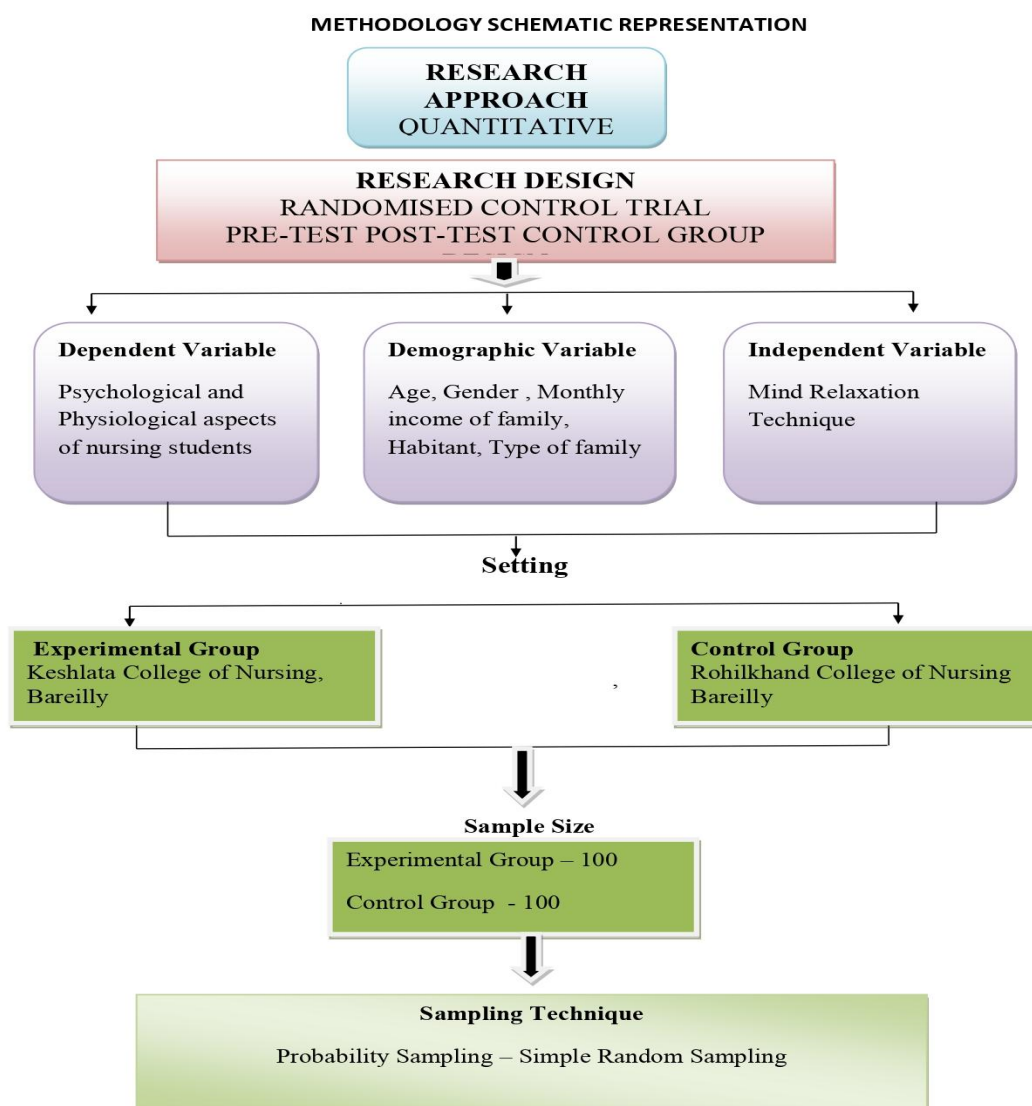
❖ **Literature related to studies on the effectiveness of mind relaxation techniques among student nurses**

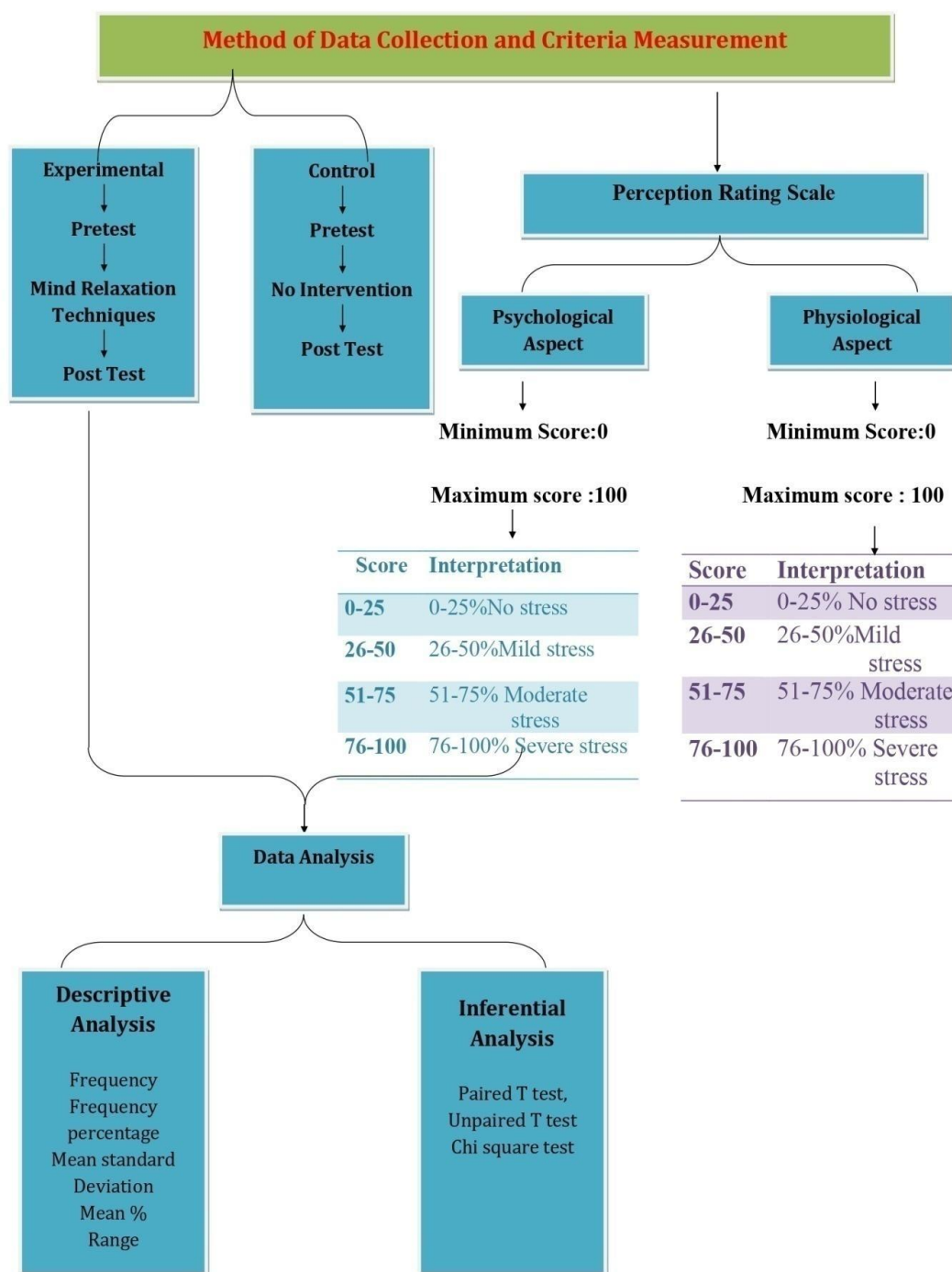
Rashid u. (2021)⁶ conducted a research study to assess the effectiveness of structured teaching programmes on knowledge related to management of selected obstetric emergencies among students of B.Sc. Nursing 3rd Year at Bibi Halima College of Nursing & Medical Technology Srinagar Kashmir with the aim to assess the effectiveness of Progressive Muscle Relaxation Technique. Quantitative research approach with Quasi Experimental, Non-randomized control group

design [Pretest – Posttest Control group design] was used. Total enumeration sampling technique was utilized to gather data. Data was collected from the 40 subjects using Demographic data and standard perceived stress scale.

Findings of the research study concluded that progressive muscle relaxation was effective in reducing the level of stress among the nursing students The Progressive muscle relaxation was found to be effective & can be performed in any setting. After treatment the students of nursing in the experimental group felt relaxed & had a decreased level of stress. Daily practice of progressive muscle relaxation can reduce nursing students’ stress when they are faced with their daily stressful routines.

Materials & Methods:





Research Design: The research design is concerned with the overall framework for conducting the study. It helps the investigator in selection of the subjects, manipulation of independent variables, observation to be made and type of statistical research analysis to be used to interpret the data, selection of research design depends on the condition under which the

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experiment may be conducted. The research design selected for the present research study is “Randomized control Trail Study”.

Research Setting: The current research study was carried out at Keshlata College of Nursing (Experimental group) and Rohilkhand College of Nursing (Control group) Bareilly U.P.

Target Population: The sample in the study were B.Sc nursing students of Keshlata College of Nursing(Experimental group) and Rohilkhand College of Nursing(Control group).

Sample Size & Sampling Technique: A total of 200 students of nursing were added in the sample, divided into 100 in the experimental group and 100 in the control group. It is the way of selecting a representative part of the population. In this study probability sampling technique that is simple random sampling was used.

Tool: The tool used is structured perception rating scale the psychological and physiological aspect of stress level & it also include demographic data section.

Data Collection:

A validated structured perception rating scale was used to accumulate data about psychological and physiological aspects, since this technique was feasible and suitable to collect data from all samples. The total sample of the main study consisted of 100 experimental and 100 control

groups. 200 students participated in study. Pretest was conducted in both experimental & control groups. Then mind relaxation techniques have been provided to the experimental group and withdrawn from the control group. After that a posttest has been conducted using the same perception stress rating scale in both experimental & control groups. Data collected was processed one day, missed out data was identified and immediate next day it was rectified.

Data Analysis:

The data was tabulated and analyzed using descriptive & inferential statistics through SPSS version 20. Frequency and percentage was used for analysis for demographic data. Chi-square was used for association between posttest perception level regarding psychological and physiological aspects among the students of nursing in the control group with selected demographic variables and paired and unpaired ‘t’ test was used to assess the effectiveness of mind relaxation techniques within the group and between the group.

Results:

Section-A

Table-1: Frequency & percentage distribution of socio- demographic variables

S.No.	Socio-demographic variables		Experimental Group		Control Group	
			Frequency	Percentage	Frequency	Percentage
			f	%	f	%
1	Age	18-22	42	42	46	46
		23-26	51	51	46	46
		27-30	7	7	8	8
		30 Above	1	1	0	0
2	Sex	Male	28	28	21	21
		Female	71	71	79	79
3	Education	B.Sc. I Year	28	28	30	30
		B.Sc. II Year	29	29	29	29
		B.Sc. III Year	27	27	24	24
		B.Sc. IV Year	16	16	17	17
4	Monthly Income of the Family	<10,000	22	22	28	28
		10,001 to 20,000	29	29	38	38
		20,001 to 30,000	28	28	20	20
		>30,000	21	21	14	14
5	Habitant	Rural	43	43	39	39
		Urban	57	57	61	61
6	Type of Family	Nuclear	45	45	38	38
		Joint	52	52	58	58
		Extended	3	3	4	4

Table 1 depicts that in the experimental group, the majority i.e. 51% of the participants belonged to 23-26 years and 42% of the participants belonged to 23-26 years of age and the remaining 7% of participants belonged to the 27-30 age group. In the control group, equal 50 % of the participants belonged to 18-22 years and 23-26 and 8 % of the participants belonged to 27-30 years of age. Table

1 shows that in the experimental group, the majority 71 of the participants were female and remaining 28 % were male. In the control group, the majority 79 of the participants were female and the remaining 21 % were male. Table 1 depicts that in the experimental group majority 29% of the participants were students of B.Sc. (N) I year and 28% of the participants were students of B.Sc. (N)

II year remaining 17% of the participants were students of B.Sc. (N) III year and 16% of the participants were students of B.Sc. (N) IV year. In control group 30 % of the participants were students of. Sc. (N) I year and 29% of the participants were students of B.Sc. (N) II year and 24% of the participants were students of B.Sc. (N) III year and 17% of the participants were students B.Sc. (N) IV year. Table 1 shows that in experimental group, majority 29 % of the nursing student's monthly family income (in Rs.) were 10,001-20,000 and 22% student's monthly family income (in Rs.) 30,000. In control group, majority i.e. 38 % of the students of nursing monthly family income in Rs.) were 10,001-20,000, 20 % of the nursing student's monthly family income (in Rs.) were 20,001-30,000 and remaining 14% student's monthly family income (in Rs.) >30,000.

Table 1 depicts that in the experimental group, the majority i.e.57 % of the participants belonged to

urban habitant and 43 % participants' belonged to rural habitant. In the control group, the majority i.e. 761% of the participants belonged to rural habitant and 39 % of the participants belonged to urban habitant.

Table 1 shows that in the experimental group, 52 % of the participants belong to the joint family and 45 % of the participants belong to the nuclear family and the remaining 3% of the participants belong to the extended family. In control group, majority 58 % of the participants belongs to joint family and 38 % of the participants belongs to nuclear family remaining 4% of the participants belongs to extended family.

Section B

To assess the effectiveness of mind relaxation techniques on psychological and physiological aspects among the nursing students

Table 2: Effectiveness of mind relaxation techniques on Physiological & psychological aspects among the nursing student experimental group.

Mean	Pretest		Posttest		df	Paired t test
	Mean	SD	Mean	SD		
Physiological	67.39	9.87	41.03	17.64	99	4.39
Psychological	64.29	12.86	37	19.2	99	11.74

Table 2 depicts that in experimental group on physiological aspects of mean pretest stress score (64.29 ± 12.86) which was high in pre-test was reduced (41.03 ± 17.64) mean posttest stress score, hence it shows the effectiveness of mind relaxation techniques on physiological aspects among the students of nursing.

The calculated t value was (t=4.39) more than the tabled value (t.1.98). Hence there is significance difference in the mean posttest stress scores hence there is significance difference in the mean pre-test and post- test perception score.

Table 2 depicts that in experimental group on psychological aspects of mean pretest stress score (64.29 ± 12.86) which was high in pretest was reduced (37.7 ± 19.20) mean posttest stress score, hence it shows the effectiveness of mind relaxation techniques on psychological aspects among the students of nursing.

The calculated t value was (t=11.74) more than the tabled value (t.2.33). Hence there is significance difference in the mean posttest stress scores hence there is significance difference in the mean pre-test and post- test perception score.

Table 3: Effectiveness of mind relaxation techniques on Physiological & psychological aspects among the nursing student control group.

Mean	Pretest		Posttest		df	Paired t test
	Mean	SD	Mean	SD		
Physiological	67.11	11.6	50.61	20.37	99	7.53
Psychological	63.98	16.53	54.38	15.3	99	4.39

Table 3 depicts that in control group on physiological aspects the mean pretest stress score (67.11 ± 11.60) which was high in pretest was reduced (50.61 ± 20.37) mean posttest stress score, hence it shows the effectiveness of mind relaxation

techniques on physiological aspects among the students of nursing.

The calculated t value was (t=7.53) more than the tabled value (t.1.98). Hence there is significance difference in the mean posttest stress scores hence

there is significance difference in the mean pre-test and post- test perception score.

Table 3 depicts that in control group on psychological aspects the mean pretest stress score (63.98 ± 16.53) which was high in pretest was reduced (54.38 ± 15.31) mean posttest stress score, hence it shows the effectiveness of mind relaxation techniques on physiological aspects among the students of nursing.

The calculated t value was ($t=4.39$) more than the tabled value ($t.1.96$). Hence there is significance difference in the mean posttest stress scores hence there is significance difference in the mean pre-test and post- test perception score.

Section C: To associate the posttest perception level regarding psychological and physiological aspects among the students of nursing in the control group with selected demographic variables.

Table 4.1- To find the association the posttest perception level regarding psychological aspects among the students of nursing in the control group with selected demographic variables.

S. No.	Socio-demographic variables		Psychological Aspects				Chi Square	df	'P' Value
			0-25 No Stress	26-50 Mild Stress	51-75 Moderate Stress	76-100 Severe Stress			
1	Age	18-22	4	16	22	5	1.26	6	0.97
		23-26	5	14	20	6			
		27-30	0	3	4	1			
		30 Above	0	0	0	0			
2	Sex	Male	2	8	10	1	0.24	3	0.97
		Female	7	26	42	4			
3	Education	B.Sc. I Year	3	7	18	0	14.56	9	0.1
		B.Sc. II Year	1	10	17	0			
		B.Sc. III Year	4	8	15	2			
		B.Sc. IV Year	1	6	5	3			
4	Monthly Income of the Family	<10,000	3	9	18	1	12.89	9	0.16
		10,001 to 20,000	3	15	20	0			
		20,001 to 30,000	2	6	3	3			
		>30,000	1	7	10	2			
5	Habitant	Rural	4	11	22	2	1.1	3	0.77
		Urban	5	23	29	3			
6	Type of Family	Nuclear	1	12	22	2	5.39	6	0.49
		Joint	7	24	25	5			
		Extended	1	0	2	0			

Table 4.1: depicts that association of socio-demographic characteristics of Control group with post-test perception score on psychological

aspects. The analysis revealed that there is no significant association established with the selected socio-demographic variables.

Table 4.2: To find the association the post- test perception level regarding physiological aspects among the students of nursing in the control group with selected demographic variables.

S.No.	Socio-demographic variables		Physiological Aspects				Chi Square	df	'P' Value
			0-25 No Stress	26-50 Mild Stress	51-75 Moderate Stress	76-100 Severe Stress			
1	Age	18-22	14	8	26	0	7.67	6	0.26
		23-26	10	3	23	4			
		27-30	2	3	3	0			
		30 Above	0	0	0	0			
2	Sex	Male	4	3	15	2	3.18	3	0.36
		Female	17	18	32	9			
3	Education	B.Sc. I Year	6	15	7	1	25.24	9	0.003
		B.Sc. II Year	14	18	4	0			
		B.Sc. III Year	8	7	6	0			
		B.Sc. IV Year	6	7	1	0			
4	Monthly Income of the Family	<10,000	6	7	16	0	6.6	9	0.73
		10,001 to 20,000	9	8	15	5			
		20,001 to 30,000	6	3	9	1			

		>30,000	4	3	7	1			
5	Habitant	Rural	12	10	17	1	3.48	3	0.32
		Urban	12	12	30	6			
6	Type of Family	Nuclear	10	8	15	4	7.92	6	0.24
		Joint	16	10	29	3			
		Extended	1	1	1	2			

Table 4.2: depicts the association of socio-demographic characteristics of the Control group with post-test perception score on physiological aspects. The analysis revealed that there is no significant association established with the selected socio-demographic variables.

Discussion:

The findings of the research study have been discussed in terms of the objectives, theoretical base and hypothesis formulated. The findings of the research study demonstrated that the nursing students had a high level of psychological and physiological stress before the administration of the Mind relaxation techniques. The simplest method of testing the effectiveness of the Mind relaxation techniques is to administer the same set of perception scale, and checklist before & after the session and to analyze the difference.

In the present research study post-test stress scores of students of nursing were significantly higher than pre-test stress scores after the Mind relaxation techniques. The mind relaxation technique was found to be an effective strategy in reducing the stress of nursing students. Thus it was suggested that the mind relaxation techniques were beneficial to the students of nursing in reducing their stress. A similar experimental study conducted by **Gayatri Maharjan and Leeba Baby (2019)**⁷ to Evaluate the impact of progressive muscle relaxation on levels of stress among nursing students at a certain nursing school in Bangalore.. The study findings highlighted that the mean stress score of posttest was lower than mean pretest score of the subjects. The computed t value is greater than the table value ($t_{49} = 1.678$). The results of the research demonstrated that progressive muscle relaxation was successful in decreasing the stress levels of nursing students.

A similar study was conducted by **Ward KR (2017)**⁸ on reducing test anxiety through mind relaxation in undergraduate nursing students. Results demonstrated a significant difference in students' stress scores before & after the Tai Chi treatment & with a post Tai Chi intervention anxiety scores reduction to a mid-level ($M=4.73$). This study supported Tai Chi as an effective treatment before examinations in reducing students of nursing stress levels.

The findings of the research study in congruence with the present study and hence both the studies suggest that Mind relaxation techniques was an

effective strategy to decrease the stress of nursing students.

Recommendations

The present research study has contributed to the education of the hospitals with specific reference to staff nurses. The mind relaxation technique developed on stress reduction was an effective strategy to decrease the psychological and physiological aspect of stress. On the topic, a further research study can be conducted to discover more effective strategies in order to promote health and reduce the stress of the students of nursing.

This in view, the following recommendations are made for future research:

- Replication of the study at different settings could be carried out with a larger size of sample.
- A true experimental study can be conducted regarding mind relaxation technique for reducing the stress among students of nursing
- A similar study can be conducted by using various instructional media that is SIM (Self Instruction Module), VATM (Video Assisted Teaching Module) etc.

Summary

The data gathered were analyzed through descriptive & inferential statistical methods and interpretation was done on the basis of the objectives of the study. SPSS version 22 was utilized for data analysis. Data revealed that in experimental group on psychological aspects of mean pretest stress score (64.29 ± 12.86) which was high in pretest was reduced (37.7 ± 19.20) mean posttest stress score, hence it shows the effectiveness of mind relaxation techniques on psychological aspects among the students of nursing. The calculated t value was ($t=11.74$) more than the tabled value ($t_{.2.33}$). Hence there is significance difference in the mean posttest stress scores hence there is significance difference in the mean pretest and posttest perception score. Data revealed that in experimental group on physiological aspects of mean pretest stress score (64.29 ± 12.86) which was high in pre-test was reduced (41.03 ± 17.64) mean posttest stress score,

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Conclusions

In the present research study post-test stress scores of Students of Nursing were significantly higher than pre-test stress scores after the Mind relaxation techniques. It was concluded that the mind relaxation technique was an effective strategy in reducing the stress of the students of nursing. Thus it was suggested that the mind relaxation techniques were beneficial to the students of nursing in reducing their stress.

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