

Effectiveness of Video Assisted Teaching (VAT) on Jacobson Progressive Muscle Relaxation (JPMR) Exercises to Reduce the Stress Level among B.Sc. Nursing Students

Deepak Kumar Shandily¹, Tapti Bhattacharjee², Ramandeep Kaur Dhillon³

¹Ph.D. (Nursing) Scholar, Nims University Jaipur, Rajasthan, ²Professor, Department of Nursing, Nims University Jaipur, Rajasthan, ³Professor & Principal, Ajit Nursing Institute, Sunam, Punjab

Abstract

Stress is the mileage that life causes on the body. Every individual is facing one or another stressful events in life, in which students are also not an exception. Present study aimed to examine the effectiveness of Jacobson Progressive Muscle Relaxation (JPMR) Exercises to Reduce the Stress Level among B.Sc. Nursing Students at selected nursing institutes of Punjab and Haryana State. This was a pre-experimental one group pre-test and post-test study, in which 500 B.Sc. Nursing students were recruited by using non-probability convenient sampling technique. The study tools socio-demographic variables and Modified Perceived Stress Scale (MPSS) was used to gather the information's. After pre-test the JPMR were introduced to each participant through video-assisted teaching and after 7th day of JPMR the post-test conducted. Analysis of study noted that majority of participants 51.2% have shown that they don't have previous knowledge about JPMR, while highest number of participants 50% reported that they have once seen JPMR but not performed ever. The paired t test value of total academic score was 213.518 at calculated p value of <0.001 which concluded that the administered JPMR is effective to reduce the stress level among B.Sc. Nursing students.

Key words: Nursing students, Jacobson Progressive Muscle Relaxation, stress, video-assisted teaching

Introduction

The World Health Organization (WHO) has characterized youth as the movement from the presence of auxiliary sex attributes (pubescence) to sexual and regenerative development, the advancement of mental cycles and grown-up personality, and the changes from complete financial reliance to relative freedom. Stress is related with physical, mental and social encounters of life.¹

Stress is the mileage that life causes on the body. It happens when an individual experiences issues

managing life circumstances, issues, and objectives.² Stress is an ordinary unavoidable truth. We can't stay away from it. Stress results from any change we adjust to, running from the negative extraordinary of real physical risk to the thrill of becoming hopelessly enamoured or making some since quite a while ago wanted progress.³ Stress isn't new understanding to us all, it's viewed as present day society's sickness, as the vast majority, regardless of how composed, will endure at any rate transient trouble while they arrange times of change, injury, difficulties and misfortune. Stress is something that we all experience every once in a while yet experience issues characterizing it.⁴

Corresponding Author:

Deepak Kumar Shandily

Ph.D. (Nursing) Scholar, Nims University Jaipur, Rajasthan

WHO report described that college students are facing stress which further leads to many other mental health disorders. Researcher have personal experience that during his professional journey, he come across

with many of nursing professional students who are facing many of stressful situations which are not just pressure of academic grades but there are many of such issues which creates pressure and stressful situations to nursing students. Being a healthcare professional and in that when we talk about nurses then we are speaking about center workforce of any healthcare setup. Getting an important and center member of healthcare team, nurse workload begins from their study onward, which further make their study structure different with other professional. Their extensive engagement in patient care made them to acquire theoretical, clinical (practical) and updated (research) knowledge of each and every side of human health which can be at institutionalized or in public health.⁵

In one investigation on nursing students at Greece pointed with to decide the commonness of sorrow and tension and the relationship between melancholy, nervousness and mental manifestations among nursing students.⁶ Stress for longer time prompts extreme emotional wellness issues in which the downturn is one of driving issue. One surveyed the downturn prevalence among undergrad clinical students at clinical school of Nepal and conveyed that the commonness of discouragement is high from the outset year students, so endeavors ought to be taken from starting. Since scholarly stress end up being one of the central point, measures to make the scholastic educational program more understudy inviting is proposed.⁷

Inevitably, when individual feel stressed, the muscles straighten out. At the point when muscles straighten out an excess of then individual can't have open to feeling or to state get undesirable sentiments, for example.⁸ It alteration may be settle down by the help of some of muscle relaxation technique, hence among all the Jacobson Progressive Muscle Relaxation is widely used technique. Researcher gathered enough evidence that this technique is unique and helped to relax the muscle at comfortable level. As the use of such technique also promoted by WHO by stating utilizing of non-pharmacological therapies.⁹

Subhash M Khatri et al referenced in their randomized clinical trial with an intention to discover the viability of Jacobson's relaxation technique in hypertension. The dissected information expressed that the normal decrease in circulatory strain was fundamentally more prominent in subjects treated with Jacobson's relaxation technique alongside prescriptions when contrasted with just drugs. Investigators reasoned that Jacobson's relaxation technique can be utilized as an adjunctive intercession in the treatment of hypertension.¹⁰ In a research by Wen-Chun Chen et al referenced their investigation to look at the adequacy of progressive muscle relaxation training on anxiety in patients with intense schizophrenia. They have found its effective to reduce anxiety level of schizophrenic patients.¹¹

These evidences guided the researcher to assess the effectiveness of Jacobson Progressive Muscle Relaxation on stress of nursing students but reaching out to maximum students at different location was a questionable, which was taken care seriously by researcher and adopted a video-assisted technique, so through video-assisted technique investigator can able to reach all participants.

Study Objectives:

1. To assess the pre-test stress level score among B.Sc. Nursing students.
2. To assess the post-test stress level score among B.Sc. nursing students.
3. To evaluate the effectiveness of Jacobson Progressive Muscle Relaxation exercises on stress level among B.Sc. Nursing students.
4. To determine association of post-test stress level scores with selected demographic variables of B.Sc. Nursing students.

Materials and Methods

Researcher attempted a quantitative research approach with a pre-experimental research design to achieve the objectives and test the hypothesis of

this research. Study participants were included B.Sc. Nursing students of selected nursing institutes of Punjab and Haryana institute. The samples were recruited by non-probability convenient sampling technique and total 500 samples recruited based on eligibility criteria.

Inclusion criteria:

The B.Sc. nursing students who are:

- Providing informed consent to participate in study.
- Any genders
- Any age
- Having any device to see video such as mobile, laptop, PC

Exclusion Criteria:

The B.Sc. nursing students who are:

- Physical handicapped.
- Having physical illness in which physical exercise is prohibited.
- Having vision related injury.

- Diagnosed with any mental health illness in last one year.

The data collected by validated tools. Data were collected in between December 2019 to January 2020 from all 500 participants. The tools were grouped in two sections, Section-I were leading to collect socio-demographic information's whereas in section-II intended to measure stress level among B.Sc. Nursing students and it named as Modified Perceived Stress Scale (MPSS). Tool's reliability assessed by split half method and found reliable with $r=0.86$. These tools were introduced first in from of collect pre-test data, then after researcher administered Jacobson Progressive Muscle Relaxation (JPMR) as a video to each participant, followed to it after 7 days the post-test data were collected. The gathered data were arranged in excel format as a master sheet. Researcher used 21 version of SPSS to analyse the data.

Results and Discussion

Relevant data were arranged and analysis completed. Table 1 reflecting the frequency and percentage distribution of B.Sc. nursing students.

Table 1: Frequency and Percentage Distribution of Socio-Demographic Variables among B.Sc. Nursing Students:

N=500

Sr. No.	Socio-demographic Variable		Frequency (f)	Percentage (%)
1. 2. 3. 4.	Age	18 Years	67	13.4
		19 Years	127	25.4
		20 Years	259	51.8
		21 Years	47	9.4
5. 6.	Gender	Female	450	90.0
		Male	50	10.0

Cont... Table 1: Frequency and Percentage Distribution of Socio-Demographic Variables among B.Sc. Nursing Students: N=50

7.	Family type	Nuclear		342	68.4
8.		Joint		158	31.6
9.	Father's education	No Formal Education		25	5.0
10.		Primary		42	8.4
11.		Secondary		22	4.4
12.		12th		183	36.6
13.		Graduate		205	41.0
14.		>Graduate		23	4.6
15.	Mother's education	No Formal Education		107	21.4
16.		Primary		115	23.0
17.		Secondary		75	15.0
18.		12th		61	12.2
19.		Graduate		76	15.2
20.		>Graduate		60	12.0
21.	Father's occupation	Government Job		138	27.6
22.		Private Job		124	24.8
23.		Any Other	Own Business	68	13.6
24.			Farmer	170	34.0
25.	Mother's occupation	Government Job		31	6.2
26.		Private Job		105	21.0
27.		Housewife		364	72.8

Cont... Table 1: Frequency and Percentage Distribution of Socio-Demographic Variables among B.Sc. Nursing Students: N=50

28.	Family income per month	<10000	3	.6
29.		10000-30000	87	17.4
30.		30000-50000	305	61.0
31.		>50000	105	21.0
32.	Previous knowledge about JPMR	Mass Media	177	35.4
33.		Telephone	19	3.8
34.		Newspaper	48	9.6
35.		No Knowledge	256	51.2
36.	Have you ever performed JPMR	Once	10	2.0
37.		Once seen not performed	250	50.0
38.		Never seen not performed	240	48.0

Table mentioned that maximum number of participants 51.8% belongs to age of 20 years, majority of participants 90% are males, maximum number of participants 68.4% are staying in nuclear family, maximum number of participant's father 41% are under-graduated, the majority of participant's mother 23% acquired primary education, majority of participant's father 34% are farmer by their occupation, the highest

number of mothers 72.8% are housewife by occupation, majority of participants 61% have their family monthly income in between 30000 to 50000/- Rs., majority of participants 51.2% have shown that they don't have previous knowledge about JPMR, while highest number of participants 50% reported that they have once seen JPMR but not performed ever.

Table 2: Effectiveness of Jacobson Progressive Muscle Relaxation N=500

		Mean	SD	t	p	Significant/ Non-significant
Academic Area of Stress	Pre-Test	30.37	1.32	112.83	<0.001	S
	Post Test	20.82	1.32			
Personal Area of Stress	Pre-Test	45.15	1.89	113.789	<0.001	S
	Post Test	32.20	2.19			
Social Area of Stress	Pre-Test	30.19	1.26	98.843	<0.001	S
	Post Test	21.01	1.79			
Total stress score	Pre-Test	106.08	2.88	213.518	<0.001	S
	Post Test	74.04	2.53			

P<0.05 level of significance

S- Significant

Table-2 presented the paired t test value and it divulged that not only total stress level but also each category of stress found strongly significant, as mentioned the calculated p value in each category is <0.001 which is much lesser than then the pre-determined level of significance $p < 0.05$. These findings suggested that the provided JPMR is very effective method to reduce or manage the stress among B.Sc. Nursing students.

Discussion

Sneha Pitre et al has supported present research findings of frequency and distribution of socio-demographic variables. They have revealed that maximum number of their study participants 80% are belongs to age of 18 to 20 years and same percentage 80% of female gender were participated.¹² A similar finding was suggested by a study by Wafaa Yousif Abdel Wahed and Safaa Khamis Hassan has stated their findings that majority of participants 66.1% were in age group of 20 to 22 years, highest number of participants 61.1% were female. Majority 92.3% were unmarried, more than half of participants 56.6% were residents of villages, majority of participants 27.1% were studied at first year followed by 26.7% in third year, 24% in second year and 22.2% were in final year of their study. But this differs in present study finding in case of socio-economic standards, which is in this study is high among maximum participants 40.3%.⁽⁵⁾ One study by Timothy Baghurst and Betty C. Kelley also stated that majority of participants were belongs to female 58.56% gender than male, the mean age of participants were 21.4 years.¹³

Prameelarani Bommareddi et al has mentioned significant effectiveness of Jacobson progressive muscle relaxation exercise on anxiety and depression which was found effective at the p level of <0.001 .¹⁴ G S Tak et al has mentioned in their study in which they attempted to see effectiveness of Jacobson progressive muscle relaxation exercise on anxiety and the findings suggested that the intervention is highly effective to reduce the anxiety level of participants at the level of <0.05 . These findings are supporting our study findings.¹⁵ Archana Khanna et al has divulged in their study that out of three group

intervention among stressed females, in which second group received Jacobson progressive muscle relaxation exercise has shown mean and standard deviation as 65.9 ± 6.33 , in compare with the pre-test which was 73.60 ± 4.19 .¹⁶

Conclusion

B.Sc. nursing students found stressed at each level such as academic, personal or social which cumulatively stressed upon the fact that nursing students found stressed. Here, investigators would like to conclude the study based on study findings that administered Jacobson progressive muscle relaxation through video-assisted technique found effective to reduce the stress level of B.Sc. nursing students. Investigators recommended to institutes to offer such relaxation technique to nursing students with objective to keep them relax and focused.

Acknowledgement: Researcher would like to acknowledge untried support and guidance of NIMS university along with My PhD Supervisor and co-supervisor.

Ethical Clearance: Taken from Institutional Ethical Committee, National Institute of Medical Science and Research, NIMS University, Jaipur, Rajasthan with Ref. No.: NIMSUNI/IEC/2018/PHD/122 dated on 28th August, 2018.

Source of Funding: Self-funded project

Conflict of Interest: Nil

References

1. Bhatia B, Jeet S, Divya K. Effect of Academic Stress on Dietary Pattern among Adolescents (16-17 Years). *Int J Sci Res Dev.* 2017;5(04):1781-4.
2. SHEILA L. VIDEBECK. *Psychiatric-Mental Health Nursing.* 5th ed. Rodenberger J, Burland K, Scott L, editors. Philadelphia: Wolters Kluwer Health | Lippincott Williams & Wilkins.; 2011. 546 p.
3. Davis M, Eshelman ER, McKay M. *The Reduction & Stress WORKBOOK.* 6th ed. Vol. 1, New Harbinger Publications Inc. Oakland: New Harbinger Publications, Inc.; 2008. 393 p.

4. Saleh Baqutayan SM. Stress and coping mechanisms: A historical overview. *Mediterr J Soc Sci.* 2015;6(2S1):479–88.
5. Abdel Wahed WY, Hassan SK. Prevalence and associated factors of stress, anxiety and depression among medical Fayoum University students. *Alexandria J Med.* 2017;53(1):77–84.
6. Papazisis G, Vlasidis I, Papanikolaou N, Tsiga E, Sapountzi-Krepia D. Depression and anxiety among nursing students in Greece. *Ann Gen Psychiatry.* 2008;7(S1):6.
7. Basnet B, Jaiswal M, Adhikari B, Shyangwa PM. Depression among undergraduate medical students. *Kathmandu Univ Med J.* 2012;10(39):56–9.
8. Kumar S, Bhukar J. Stress level and coping strategies of college students. *J Phys Educ Sport Manag.* 2013;4(1):5–11.
9. McCloughan L, Hanrahan S, Anderson R, Halson S. Progressive muscle relaxation (PMR), sleep, and recovery in elite performers. *J Sci Med Sport.* 2014;18(December):e113.
10. Khatri SM, Singaravelan Rm RM, Romi HN. Effectiveness of Jacobson's Relaxation Technique in Hypertension. *Int J Heal Sci Res.* 2012;1(2):16–21.
11. Chen WC, Chu H, Lu RB, Chou YH, Chen CH, Chang YC, et al. Efficacy of progressive muscle relaxation training in reducing anxiety in patients with acute schizophrenia. *J Clin Nurs.* 2009;18(15):2187–96.
12. Pitre S, Tryambake R, Nair D. Effectiveness of Selected Interventions on Stress Level among Nursing Students. *Int J Sci Res ISSN (Online Impact Factor [Internet].* 2012;3(12):2319–7064. Available from: www.ijsr.net
13. Baghurst T, Kelley BC. An Examination of Stress in College Students Over the Course of a Semester. *Health Promot Pract.* 2014;15(3):438–47.
14. Bommareddi P, Valsaraj BP. JACOBSON ' S PROGRESSIVE MUSCLE RELAXATION (JPMR) TRAINING TO REDUCE ANXIETY AND DEPRESSION AMONG. *Nitte Univ J Heal Sci.* 2014;4(1):72–8.
15. Tak GS, Maheshwari SK, Kaur M. EFFECTIVENESS OF PROGRESSIVE MUSCLE RELAXATION TECHNIQUE ON ANXIETY AMONG ELDERLY. *Int J Ther Appl.* 2016;32:48–54.
16. Khanna A, Paul M, Sandhu JS. Efficacy of two relaxation techniques in reducing pulse rate among highly stressed females. *Calicut Med J.* 2007;5(5):3.