"Effectiveness of video assisted guided meditation on perceived level of stress among B.Sc. Nursing students"

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Abstract:

Background: Perceived stress refers to an individual's subjective evaluation of the stressors in their environment. It is influenced by personal characteristics, contextual factors, and available coping resources. Symptoms of perceived stress can be physical, such as headache, fatigue, sleep disturbances, and muscle tension, or emotional, including anxiety, irritability, mood swings, and feelings of being overwhelmed. Stress among nursing students is particularly high due to academic demands, clinical rotations, and the requirements of healthcare training. Guided meditation, particularly deep breathing exercises, has been identified as an effective intervention to manage stress by reducing physiological arousal, alleviating physical tension, improving concentration, and promoting relaxation.

Aim: The present study aimed to evaluate the effectiveness of video-assisted guided meditation on perceived stress among B.Sc Nursing students.

Materials and methods: A pre-experimental one-group pre-test post-test design was employed. Three nursing colleges in Bagalkot were randomly selected, and 30 first-year B.Sc Nursing students from each college were recruited using convenience sampling, yielding a total sample of 90 participants. Data were collected using a structured questionnaire developed by the researcher.

Result: The mean pre-test perceived stress score was 24.14±4.70, which decreased to 11.92±2.22 in post-test. The calculated 't' value was 2.35, exceeding the critical value of 1.96 (P<0.000) indicating a statistically significant reduction in perceived stress following the intervention.

Conclusion: These findings demonstrate that video-assisted guided meditation is an effective strategy to reduce perceived stress among first-year B.Sc Nursing students and may be considered as a supportive intervention to enhance student well-being in nursing education.

Keywords : Perceived level of stress, B.Sc. Nursing students ,Video assisted, guided meditation, intervention and program

INTRODUCTION: Stress can be defined as a state of worry or mental tension caused by a difficult situation. Stress is a natural human response that prompts us to address challenges and threats in our lives. Everyone experiences stress to some degree. The way we respond to stress, however, makes a big difference to our overall well-being. An individual's subjective experience of stress, or how much they feel they are experiencing stress over a specific period. Common stressors for students include academic pressures like exams and deadlines, social challenges like peer pressure and relationship issues, and personal issues like financial concerns and mental health struggles. These stressors can lead to anxiety,

sleep problems, and decreased academic performance. Nursing students face a unique set of stressors due to the demanding nature of their academic and clinical training, leading to high levels of stress, anxiety, and even depression. Several factors contribute to this stress, including academic workload, clinical placements, and personal life challenges. These symptoms can manifest physically, emotionally, and mentally, impacting their well-being and academic performance. Common signs include headaches, fatigue, difficulty concentrating, anxiety, and sleep disturbance. To assess stress in nursing students, researcher can use a combination of methods including standardized questionnaires, observations and interviews. Popular questionnaires include the Perceived Stress Scale (PSS). Additionally, observing students' behaviors and physiological responses, and conducting interviews to understand their experiences and coping mechanisms can provide valuable insights. A significant number of Indian nursing students experience moderate to severe stress during their undergraduate education.

Studies indicate that a majority of nursing students report moderate levels of stress, while a substantial portion also experiences mild or severe stress. Moderate levels of stress often ranging from 56% to 88%, reported. A number of mild stress, reporting percentages around 27.6%, A smaller but still significant portion of students of severe stress, with indicating percentages around 12% to 28% and A small percentage of students experience extremely severe stress. Nursing students experience moderate to high levels of stress, with prevalence rates exceeding 60%,A systematic review found that the prevalence of low perceived stress ranged from 0.8-65%, moderate stress from 5.9-84.5%, and high stress from 6.7-99.2%Various techniques including prioritizing self-care, managing time effectively, practicing relaxation techniques, and seeking support when needed.

To prevent and manage stress among students, several strategies can be employed, including prioritizing sleep, maintaining a healthy diet, engaging in regular exercise, practicing mindfulness and relaxation techniques, managing time effectively, and building a strong support system. Practice mindfulness and relaxation technique the deep breathing guided meditation is utilize to calm the nervous system and reduce feelings of anxiety and stress.

MATERIALS AND METHODS:

Research approach and design: Quantitative experimental research approach was used with pre-experimental one group pre-test post-test without control group research design. The intervention was administered to the selected group,

Table 1: Diagrammatic representation of Research design

Group	Pre-test	Intervention	Post-test
I	O_1	X	O_2

O_1= pretest, O_2= posttest, X= Intervention

Variables:

Dependent Variable: The perceived level of stress among Basic BSc Nursing students.

Independent Variable: The video assisted guided meditation programme.

Socio-demographic Variables: Age, gender, religion, educational status, place of residence.

Setting of study: The study was conducted in “Nandi Institute of Nursing sciences, Bagalkot”, “Dhanush Institute of Nursing Sciences, Bagalkot” and “Gouramma Institute of Nursing Sciences, Bagalkot”.

Population:

Target population:

The target population of the present study are the Basic B Sc Nursing students aged between 19 -24 years in Bagalkot.

Accessible population:

The accessible population of the present study are the Basic B Sc Nursing students aged between 19-24 years of age and studying in "Nandi Institute of Nursing sciences, Bagalkot", "Dhanush Institute of Nursing Sciences, Bagalkot" and "Gouramma Institute of Nursing Sciences, Bagalkot".

Sampling technique: In the present study the sample was selected by convenient sampling technique. The researcher conveniently selected the Nursing educational institutions in Bagalkot, permitting to conduct the study. Three institutions were selected and 30 students were selected from each institution. All the participants were studying first year Basic BSc Nursing.

Sample: Sample of present study were 90 Basic B Sc Nursing students studying in "Nandi Institute of Nursing sciences, Bagalkot", "Dhanush Institute of Nursing Sciences, Bagalkot" and "Gouramma Institute of Nursing Sciences, Bagalkot".

Sample estimation: The sample size for present study comprises is 90 B Sc nursing students.

The sample size was calculated by using Cochran's formula. data for calculating sample size was used from the findings of the pilot study outcomes.

Sample size = Z value^2 *SD^2/d^2.

Where, Z- is the critical value at 5% level of significant, SD-is the Standard deviation, d-is the margin of error.

Process of data collection: 90 participants were divided into 3 groups (1,2&3) each group had 30 participants, on 5/Jul/2024 pre-test was conducted. The intervention, video assisted guided meditation combined with demonstration of deep breathing was administrated from 06/Jul/2024 to 12/Jul/2024 for 6 days. The intervention was administered for 30 minutes/day for each group from 6:30AM to 7AM in Nandi Institute of Nursing sciences, Bagalkot, continued to next group from 7:30 AM to 8AM in Dhanush Institute of Nursing Sciences, Bagalkot, and 3rd group from 8:30AM to 9AM Gouramma Institute of Nursing Sciences, Bagalkot. Post test was conducted on 14/Jul/2024 for all three groups.

Sample selection criteria:

Inclusion Criteria:

The present study includes the Basic B Sc nursing students who are

- Available at the time of data collection.
- Willing to participate in the study.
- Presently not attending any stress reducing program.
- Whose stress score is more than 10.

Exclusion criteria:

The present study excludes the B Sc nursing students who are

- Sick at the time of data collection

Not able to attend the intervention, or expected to be on leave at time of intervention.

Description of Tool:

The instrument consisted of two Sections

- Section A consists of items to assess socio demographic data.
- Section B consists MCQs to assess the level of among B Sc nursing students.

Permission: Ethical clearance certificate was obtained from institutional ethical committee of BES Bagalkot College of Nursing , Bagalkot Dated 26-12-2024(BES-IEC-2024-25-13).

Statistical analysis: Univariate analysis was conducted with descriptive statistical measure; frequency and percentage distribution, mean, median and standard deviation. The effectiveness of intervention was determined by paired t test. The association between socio demographic factors and level of stress was determined by Chi square test.

Results: Results of the present study is categorized into 4 sections as follows

Table 2 Frequency and percentage distribution of students according to their socio-demographic Characteristics. N-90

S L No	Variable	Categories	F	%
1	Age in years	19 -20	52	57.80%
		21-22	26	28.90%
		23-24	12	13.30%
2	Gender	Male	39	43.30%
		Female	51	56.70%
3	Marital status	Unmarried	87	96.70%
		Married	3	3.30%
4	Type of family	Nuclear family	42	46.70%
		Joint family	32	35.60%
		Extended family	16	17.80%
5	Family monthly income	10000-20000	24	26.7%
		21000-30000	43	47.4%
		31000-40000	23	22.1%
		Above-40000	3	3.30%
6	Religion	Hindu	78	86.70%
		Muslim	11	12.20%
		Others	1	1.10%
7	Dietary habit	Vegetarian	20	22.22%
		Non Vegetarian	70	77.78%
8	Have you attended any programme on stress control?	Yes	0	0%
		No	90	100%

F=Frequency, %= Percentage

Section II: Table 3 Frequency and percentage of pre-test and post-test level of stress score on first year B.sc nursing students.

	Level of stress	Score	Pre-test		Post-test	
			F	%	F	%
1	No stress	0	0	0%	0	0%
2	Very low stress	1-10	0	0%	29	32.22%
3	Moderate stress	11-20	23	25.56%	61	67.78%
4	Sever stress	21-30	56	62.22%	0	0%
5	High perceived stress	31-40	11	12.22%	0	0%

F=Frequency, %= Percentage

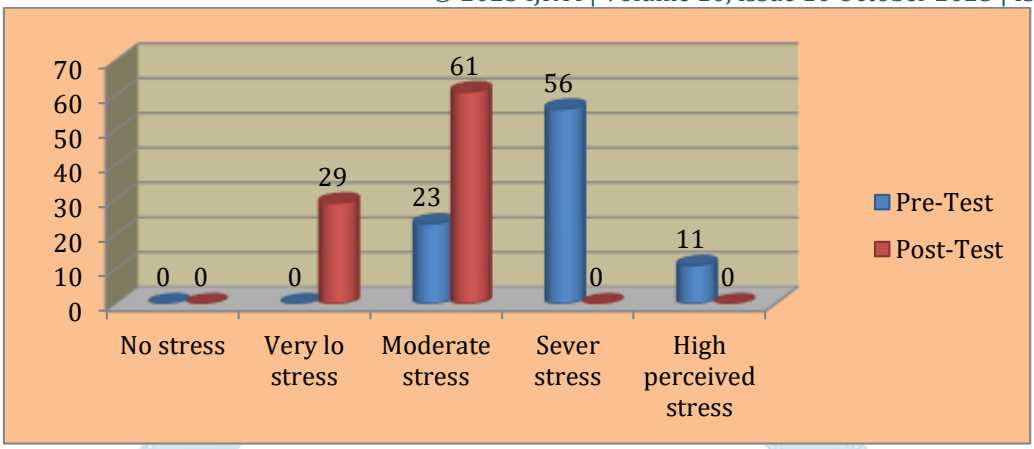

Table 4: Comparison of pre-test andpost test perceived stress scores. N=90

Test	Mean score	SD	t Value	P-value
Pre test	24.14	4.70	2.35	0.00*
Post test	11.92	**2.22**		

***Significant at α 0.05**

Section IV: Association between Guided meditation to reduce perceived level of stress related to B Sc nursing students with their selected socio-demographic variables

Sl. No.	Socio demographic variables	DF	Chi-square value	Table value
1	Age	**1**	6.923[a]	**2.35**
2	Gender	1	**4.224[a]**	**2.35**
3	Family type	1	6.775[a]	**2.35**
4	Family income	1	47.154[a]	**2.35**
5	Religion	1	3.447[a]	**2.35**
6	Dietary habit	**1**	8.413[a]	**2.35**

Results: The perceived stress level in 90 B Sc Nursing students of Frequency and percentage distribution of students according to their socio-demographic Characteristics results in mean, Age of 19 years students are had in 57.80%, and in Gender the Female students of 56.70%, further in Un-married individuals are was 96.70%, next in Nuclear family of 46.70%, for Family income of 21,000-30,000 Rs of 47.4%, Hindu with 78 of 86.70% ,and Non Vegetarian had 70 are with 77.78% these social demographic variables are higher level of perceived level of stress among B Sc nursing students.(**Section I)**

Frequency and percentage of pre-test and post-test level of stress score on first year B.sc nursing students. Perceived level of stress among first year B.sc nursing students; before intervention video assisted guided meditation program, severe stress was found among 62.22% of first year B.sc nursing students, 25.56% had moderate stress, 12.22% had high perceived stress. After intervention of the video assisted guided meditation program, moderate stress was found among 67.78% of first year B.sc nursing students, 32.22% had very low stress,0% had high perceived stress, or severe stress **(Section II)**

Significant difference between pre-test and post-test result showed that is pre-test assessment of Mean 24.14± 4.70 SD and after the intervention the result of post test assessment result mean11.92±2.22 SD. As the calculated "t" value 35.01 was much higher than table "t" value (1.96). The significant difference in the pre-test knowledge and post-test knowledge scores is accepted at 0.05 level of significance. p<0.05.(**Section III)**

Association between Guided meditation to reduce perceived level of stress related to B Sc nursing students with their selected socio-demographic variables Chi-square test value according each socio demographical area we had for Age 6.923, Gender 4.224, Family type 6.775, Family income 47.154, Religion 3.447 and Dietary habit 8.413 in **(Section IV)**

Discussion: The study aimed to assess the effectiveness of video guided meditation on stress among nursing students. It was an experimental study with one group pre test and post test design, The intervention, meditation and breathing exercise was administered 6 days for 30minuets each day. The data regarding stress was assessed by modified perceived stress scale. Baseline data was assessed by the structured questionnaire. A similar study was Conducted to determine the effectiveness of guided medication on stress among 229 nursing students using the modified perceived stress scale in which in the Vida Health MBSR program. 83.2% (109/131) of participants showed a reduction in level of stress by week 12, with 40.5% (53/131) of participants showing reliable improvement in individuals[23].

Similar results were found in a study, conducted in Kanchipuram District among 40 BSc nursing students.Majority of students in both study and control groups were under 20 years of age, with no significant age difference ($\chi^2 = 1.129$, $p = 0.569$). Post-intervention, the experimental group showed a significant reduction in stress. Pre-intervention, 20% had severe and 80% very severe stress; after intervention, stress levels shifted to mild (5%), moderate (50%), and severe (45%) ($\chi^2 = 40.00$, $p < 0.001$)[16].

Similar results were found in a study conducted in Tiruvannamalai district. The mean scores were 1.65 ± 0.076 in the study group and 1.71 ± 0.106 in the control group (p = 0.012, ns). In the relaxation domain, the study group had a mean of 1.72 ± 0.08 compared to 1.65 ± 0.06 in the control group (p = 0.014, ns). The ventilation domain showed mean scores of 1.74 ± 0.036 in the study group and 1.64 ± 0.036 in the control group (p = 0.018, ns). The overall coping mean score was 1.70 ± 0.036 for the study group and 1.72 ± 0.073 for the control group (p = 0.6989, ns). These findings indicate that there was no significant difference in coping domains between the study and control groups prior to the intervention[17].

Similar results were found in a study conducted in seven public Krakow universities in Poland. A total of 264 students aged 22.22±1.5 years are involved in the study. High stress levels occurred in 10% of the respondents. A statistically higher level of stress was revealed in people suffering from chronic diseases (p=0.006) and in cigarette smokers (p=0.004). The most common stress-coping strategies were active coping and planning. Insomnia was present in 19.7% of the students. Insomnia level was correlated with the intensity of perceived stress (p=0.00; r=0.44)[18].

Similar results were found in a study conducted to assess the impact of stress management program among health science students at Kuwait University.56 participants in the intervention group and 42 in the control group. There was a significant improvement in stress and depression in the intervention group compared with the control group (p values < 0.05). With respect to the value of the stress management program, [19].

Similar results were found in a study conducted in Banc. The mean age (SD) was 20.41 (2.31) years for the intervention group and 21.85 (6.3) years for the control group. There was significant differences in all outcomes (stress, mindfulness, and self-compassion) between the intervention and control groups after adjustment for covariates postintervention (all P<.04). Bonferroni post tests showed significant within-group mean differences for perceived stress in the intervention group (P<.001), while there is no significant

within-group mean differences in the control group (all P>.19). Similar results were found for mindfulness and self-compassion. Effect sizes ranged from moderate (0.59) to large (1.24) across all outcomes[20].

Conclusion: The video assisted guided meditation program was significantly effective for reducing the stress among first year B.sc nursingstudents. Stress is inevitable to B.sc nursing students or other students, hence colleges should regularly conduct the such program that reduce the stress among students. Relaxed mind is important for learning for students. Stressful mind cause disturbance in achieving good academic performance. So that every student adapts the meditation in their life to achieve excellence in their academic performance.

Recommendation: Our study sample size was 90 students. video -assisted guided meditation program was significantly effective for reducing the stress among students.

1. This study can contribute to ongoing research in reduction of stress, to helping some other guidedtherapy are use to large number of people in various area.
2. The study can serve as baseline for longitudinal research on stress its trends its interventions are made to modify the large number of individuals.
3. The study will highlight the need for public education on stress risk factors, preventive measures, and the importance of early intervention

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