

Effectiveness of a Structured Meditation Programme on Stress Management among Nursing College Students: A Quasi-Experimental Study

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ABSTRACT

Background: Nursing students experience academic pressure, clinical responsibilities, examinations and emotional challenges that may contribute to psychological stress. Meditation is a mind-body practice that may help improve emotional regulation and reduce perceived stress.

Methods: A quantitative research approach with a quasi-experimental pre-test and post-test control group design is proposed. A sample of 100 nursing students is considered, with 50 students in the experimental group and 50 in the control group. Stress is assessed using the Perceived Stress Scale (PSS-10), subject to confirmation of the appropriate validated version and permissions, where applicable. The experimental group receives a structured meditation programme for 20 minutes daily over four weeks, while the control group continues routine activities. Data are analysed using descriptive and inferential statistics.

Results: The proposed analysis compares pre-test and post-test stress scores in both groups and examines the difference between groups. Numerical findings must be calculated from actual participant data before the manuscript can be reported as completed original research.

Conclusion: A structured meditation programme may be a useful complementary strategy for stress management among nursing students. Its effectiveness should be established through analysis of actual study data.

Keywords: Meditation, Stress Management, Nursing Students, Perceived Stress, Mental Health, Quasi-Experimental Study.

INTRODUCTION

Stress is a common psychological experience among university and college students. Nursing students may face additional challenges because their education combines theoretical learning, practical examinations, clinical placements and responsibilities involving patient care. These demands may contribute to psychological distress, fatigue, sleep difficulties and reduced academic concentration.

Nursing education requires students to acquire theoretical knowledge, clinical competence, communication skills and professional responsibility. During clinical placements, students may

encounter unfamiliar clinical situations, demanding schedules, fear of making mistakes and emotionally challenging patient experiences. Academic competition, financial concerns and personal responsibilities may further contribute to stress.

Persistent stress can affect emotional well-being, concentration, motivation and the ability to cope with academic demands. Therefore, promoting healthy stress-management strategies is an important component of nursing education and student wellness.

Meditation is a mind-body practice involving focused attention, awareness of breathing, observation of thoughts and non-judgmental awareness of present experiences. Different meditation approaches include mindfulness meditation, focused-attention meditation, guided meditation and breathing-awareness practices.

A systematic review and meta-analysis by Goyal et al. found that meditation programmes, particularly mindfulness-based approaches, can produce small to moderate improvements in certain psychological stress-related outcomes. However, the strength of evidence differs across outcomes and study designs.¹

Meditation may help students develop awareness of their emotional responses, recognize stress-related thoughts and adopt more adaptive coping strategies. It can also be incorporated into educational institutions without requiring expensive equipment.

Nursing students represent an important population for stress-management interventions because their psychological well-being may influence learning, clinical confidence and professional development. A structured meditation programme could provide an accessible complementary approach to student health promotion.

Therefore, the present study is designed to assess the effectiveness of a structured meditation programme on stress management among nursing college students.

OBJECTIVES OF THE STUDY

1. To assess the pre-test level of perceived stress among nursing students in the experimental and control groups.
2. To administer a structured meditation programme to students in the experimental group.
3. To assess the post-test level of perceived stress in both groups.
4. To compare pre-test and post-test stress scores in the experimental and control groups.
5. To determine the association between baseline stress level and selected demographic variables.

HYPOTHESES

H₁: There will be a significant difference between pre-test and post-test perceived stress scores among nursing students receiving the structured meditation programme.

H₂: There will be a significant difference in post-test perceived stress scores between the experimental and control groups.

H₃: There will be a significant association between baseline stress category and selected demographic variables among nursing students.

RESEARCH METHODOLOGY

Research Approach

A quantitative research approach will be used.

Research Design

A quasi-experimental pre-test and post-test control group design will be adopted.

Research Setting

The study will be conducted in a selected nursing college. The final manuscript should specify the actual college, city, state and data-collection period.

Population

The target population will consist of undergraduate nursing students enrolled in the selected institution.

Sample Size

A proposed sample of 100 students may be considered:

- Experimental group: 50 students.
- Control group: 50 students.

The final sample size should be determined through an appropriate power calculation based on the expected between-group difference, variability, significance level, desired power and anticipated attrition.

Sampling Technique

A feasible and clearly documented sampling procedure will be used. If students are selected through convenience sampling, the limitation in representativeness should be acknowledged.

Where possible, eligible participants should be allocated to the study groups using a transparent procedure. If random allocation is used, the design and allocation procedure should be reported accurately.

Inclusion Criteria

Students who:

1. are enrolled in an eligible undergraduate nursing programme;
2. are willing to participate;
3. provide informed consent;
4. are available during the intervention period;
5. can understand the language of the assessment instrument.

Exclusion Criteria

Students who:

1. decline participation or withdraw consent;
2. are unable to participate in the scheduled intervention;
3. submit insufficient data for the predefined primary outcome analysis.

Any additional exclusions should be established before recruitment and ethically justified.

Study Variables

Independent variable: Structured meditation programme.

Dependent variable: Perceived stress score.

Selected demographic variables: Age, gender, nursing course, year of study, residence, sleep duration, previous meditation experience and perceived academic workload.

DESCRIPTION OF THE DATA COLLECTION TOOL

The study will use two sections.

Section A: Demographic Information

This section will collect information on age, gender, nursing programme, year of study, residence, sleep duration, previous meditation practice and perceived academic workload.

Section B: Perceived Stress Scale

The Perceived Stress Scale (PSS-10) may be used to measure perceived stress during the preceding month. The scale contains 10 items and uses a five-point response format. Positively worded items are reverse-scored according to the official scoring instructions, and item scores are summed to produce a total score ranging from 0 to 40. Higher scores indicate greater perceived stress.

The selected language version should be appropriate for the participants. The investigator should verify the instrument's validity, reliability, use permissions and suitability for the study population.

If stress categories are reported, the cut-offs must be justified by an appropriate source or a predefined study protocol rather than treated as universal clinical thresholds.

STRUCTURED MEDITATION PROGRAMME

The experimental group will receive a structured meditation programme lasting 20 minutes per day for four consecutive weeks.

Intervention Procedure

1. Students will be seated comfortably in a quiet environment.
2. The facilitator will introduce the purpose and basic principles of meditation.
3. Students will be guided to observe their natural breathing without forcing or controlling it.
4. Students will practise bringing attention back to the present moment when distracted.
5. Guided meditation will encourage awareness of thoughts and bodily sensations without judgment.
6. The session will end with a brief period of relaxation.

DATA COLLECTION PROCEDURE

After obtaining institutional permission and the required ethical approval, eligible nursing students will be approached for participation.

The investigator will explain the purpose, procedure, potential benefits and voluntary nature of the study. Informed consent will be obtained before baseline assessment.

The pre-test perceived stress assessment will be administered to both groups using the same instrument.

The experimental group will then participate in the structured meditation programme for four weeks. The control group will continue routine activities.

At the end of the intervention, the post-test assessment will be conducted in both groups using the same instrument and standardized instructions.

The collected responses will be checked for completeness, coded and analysed using suitable statistical software.

ETHICAL CONSIDERATIONS

- Ethical approval will be obtained from the appropriate Institutional Ethics Committee before data collection, where required.
- Permission will be obtained from the nursing college administration.
- Informed consent will be obtained from participants.
- Participation will be voluntary, and participants may withdraw without academic penalty.
- Confidentiality and secure data storage will be maintained.

RESULTS

Table 1. Distribution of Nursing Students According to Demographic Characteristics (N=100)

Demographic variable	Experimental (n=50)	Control (n=50)	Total n (%)
Age			
18–20 years	22	21	43 (43%)
21–23 years	24	23	47 (47%)
24 years and above	4	6	10 (10%)
Gender			
Male	16	18	34 (34%)
Female	34	32	66 (66%)
Year of study			
First year	18	17	35 (35%)
Second year	17	18	35 (35%)
Third year	15	15	30 (30%)
Previous meditation practice			
Yes	8	7	15 (15%)
No	42	43	85 (85%)
Total	50	50	100 (100%)

Interpretation: In this illustrative sample, 47% of students were aged 21–23 years, 66% were female, and 85% had no previous meditation experience.

Table 2. Comparison of Pre-Test Stress Scores Between Experimental and Control Groups

Group	N	Mean	SD	Mean difference	Independent t
Experimental	50	25.20	5.00	0.40	0.40

Control	50	24.80	4.90		
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* $p = 0.687$; not statistically significant.

Interpretation: The pre-test mean stress score was 25.20 in the experimental group and 24.80 in the control group. The difference was not statistically significant ($p=0.687$), suggesting similar baseline stress scores in this illustrative dataset.

Table 3. Comparison of Pre-Test and Post-Test Stress Scores in the Experimental Group

Assessment	N	Mean	SD	Mean reduction	Paired t
Pre-test	50	25.20	5.00	6.80	12.41
Post-test	50	18.40	4.80		

* $p < 0.001$.

Interpretation: The experimental group's mean stress score decreased from 25.20 (SD=5.00) in the pre-test to 18.40 (SD=4.80) in the post-test. The mean reduction was 6.80 points, and the difference was statistically significant ($t=12.41$, p

DISCUSSION

The present study is designed to evaluate whether a structured meditation programme can reduce perceived stress among nursing students over a four-week period.

The primary finding will be the difference in stress outcomes between students receiving meditation and those continuing routine activities. A greater reduction in the experimental group, supported by an appropriate between-group analysis and confidence interval, would provide evidence consistent with a beneficial intervention effect in the study population.

The proposed study is supported by broader literature on meditation and psychological well-being. Goyal et al. reported small to moderate improvements in certain stress-related psychological outcomes following meditation programmes, while also noting variation in the strength of evidence across outcomes.¹ Creswell discussed potential pathways through which mindfulness practices may influence attention, emotional regulation and responses to stress.²

A control group comparison is important because stress may change over time due to examinations, academic schedules or other external factors. The limitations of non-random allocation should also be considered when interpreting the results.

CONCLUSION

The proposed study provides a structured approach to evaluating meditation as a complementary stress-management strategy among nursing college students. By comparing pre-test and post-test outcomes in experimental and control groups, the study can estimate whether participation in a four-week meditation programme is associated with a reduction in perceived stress.

The final conclusion regarding effectiveness must be based on actual participant data, statistical analysis and the magnitude of the observed effect. Meditation may be considered as part of a broader student wellness programme, alongside appropriate academic support and access to mental health services.

LIMITATIONS OF THE STUDY

1. The study may be conducted in a single nursing college, limiting generalizability.
2. Perceived stress is measured through self-report.
3. A quasi-experimental design may be affected by baseline differences between groups.
4. The intervention period is limited to four weeks.
5. Long-term maintenance of any observed benefit may not be assessed.
6. Academic schedules and external stressors may influence outcomes during the study period.

RECOMMENDATIONS

1. Similar studies may be conducted across multiple nursing colleges.
2. Larger studies with adequate statistical power may be undertaken.
3. Randomized controlled trials may be used to strengthen causal inference.
4. Longer follow-up periods may be included to assess sustained effects.
5. Future studies may assess anxiety, sleep quality, academic performance and coping alongside perceived stress.
6. Researchers may compare guided meditation with other structured stress-management interventions.
7. Colleges may evaluate meditation as one component of a comprehensive student wellness programme.

IMPLICATIONS FOR NURSING

Nursing Education: The study may help nursing educators understand whether structured meditation can support students' psychological well-being.

Nursing Practice: Students may learn practical attention and relaxation strategies that can complement healthy coping practices.

Nursing Administration: College administrators may consider supervised wellness sessions if supported by evidence and student feedback.

Nursing Research: Further studies may establish the effectiveness, feasibility and sustainability of meditation interventions among nursing students.

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