

Effectiveness of Hasya Yoga in Reducing Examination Anxiety Among Second-Year B.Sc. Nursing Students

Blessin Anushiya R.¹, Chandrakala W.R.², Jeeva Nandhini L.³,
Jeevadarshika S.⁴, Kadalazhagan R.⁵, Kanimozhi J.⁶

^{1,2,3,4,5,6}Meenakshi College of Nursing, Madurai, Tamil Nadu, India

Abstract

Background: Examination anxiety is a common concern among nursing students who face intensive theoretical learning, clinical responsibilities, practical examinations, assignments, and continuous evaluation. Hasya Yoga, a non-pharmacological practice combining voluntary laughter, rhythmic clapping, breathing exercises, playful interaction, and relaxation, may provide a simple approach to managing examination-related anxiety. **Aim:** To assess the effectiveness of Hasya Yoga in reducing examination anxiety among second-year B.Sc. Nursing students. **Methods:** A quantitative, quasi-experimental pre-test–post-test control-group design was used. Seventy-eight second-year B.Sc. Nursing students at Meenakshi College of Nursing, Madurai, were selected using simple random sampling and equally allocated to an experimental group (n=39) and a control group (n=39). Examination anxiety was assessed using the Test Anxiety Inventory (TAI)-based scale described in the study. The experimental group received Hasya Yoga sessions for four consecutive days; each session lasted approximately 20–25 minutes. The control group continued routine activities. Pre-test and post-test scores were compared using paired and independent t-tests; associations with selected variables were examined using chi-square tests. **Results:** In the experimental group, the mean examination anxiety score decreased from 34.53 ± 8.20 at pre-test to 19.12 ± 6.72 at post-test, a mean reduction of 15.41 points (paired $t=9.08$, $p<0.05$). In the control group, the mean score changed from 37.73 ± 10.70 to 35.95 ± 11.38 (paired $t=0.71$, not significant). The post-test mean was 19.12 ± 6.72 in the experimental group and 33.35 ± 10.72 in the control group; the independent t-value was 7.02 ($p<0.05$). Family support, study habits, and previous-term examination scores were significantly associated with examination anxiety, whereas age, gender, type of family, place of residence, parental education, medium of study, and interest in joining nursing were not significant. These findings suggest that Hasya Yoga as a simple, economical, and potentially useful complementary intervention for reducing examination anxiety among second-year B.Sc. Nursing students. Larger, multi-centre studies with longer follow-up and comparisons with other interventions are recommended.

Keywords: Hasya Yoga; laughter yoga; examination anxiety; nursing students; Test Anxiety Inventory; non-pharmacological intervention; student wellness

1. Introduction

Nursing education requires students to integrate theoretical knowledge, clinical skills, professional attitudes, practical competence, and continuous assessment. These demands can create substantial academic pressure. Examination anxiety is characterized by worry, nervousness, fear, tension, difficulty concentrating, and other emotional or physical responses associated with examinations. When excessive, it may interfere with concentration, memory, confidence, academic performance, and psychological well-being.

Second-year B.Sc. Nursing students may experience additional pressure as they progress to more advanced theoretical subjects and clinical postings. Fear of failure, inadequate preparation, demanding workloads, practical examinations, clinical responsibilities, parental expectations, and perceived performance pressure may contribute to anxiety. The source thesis identifies examination anxiety as an important concern requiring accessible and non-pharmacological approaches.

Hasya Yoga, also known as laughter yoga, combines intentional or simulated laughter with yogic breathing and group activities. The intervention described in the source includes stretching, rhythmic clapping, deep breathing, different laughter exercises, playful interaction, and relaxation. The proposed benefits include relaxation, positive emotional experiences, improved confidence, and reduced stress. The review included previous nursing-student studies reporting reductions in anxiety or stress after laughter-yoga interventions.

Although the literature summarized in the thesis supports laughter yoga as a promising complementary approach, the thesis identifies limited research specifically examining examination anxiety among second-year B.Sc. Nursing students. This study examined the effectiveness of a structured four-day Hasya Yoga programme in this population.

2. Objectives

1. To assess the level of examination anxiety among second-year B.Sc. Nursing students before the intervention.
2. To evaluate the effectiveness of Hasya Yoga in reducing examination anxiety.
3. To compare pre-test and post-test examination anxiety scores between the intervention and control groups.
4. To determine the association between examination anxiety and selected demographic and academic variables.

3. Conceptual Framework

The study was guided by Ludwig von Bertalanffy's General Systems Theory (1968). The student was viewed as an open system. Examination-related stressors, academic pressure, fear of failure, lack of preparation, and clinical workload represented inputs. Hasya Yoga—comprising laughter exercises, breathing, clapping, relaxation, and positive interaction—represented the throughput/process. Reduction in examination anxiety represented the output, and reassessment through post-test anxiety scores provided feedback.

4. Methods

4.1 Study design and setting

A quantitative quasi-experimental pre-test–post-test control-group design was used. The study was conducted among second-year B.Sc. Nursing students at Meenakshi College of Nursing, Madurai, Tamil Nadu.

4.2 Participants and sampling

The study included 78 second-year B.Sc. Nursing students who met the stated inclusion criteria. Probability sampling using a lottery method was described in the thesis: room numbers were placed on separate slips, shuffled, and selected to obtain the required sample. The final sample comprised 39 students in the intervention group and 39 in the control group.

4.3 Eligibility criteria

Students were eligible if they were studying in the second year of B.Sc. Nursing, willing to participate, available during data collection, and had mild-to-moderate examination anxiety according to the study's Test Anxiety Inventory criteria. Students who were seriously ill, practiced regular yoga or meditation, had previous exposure to relaxation techniques, were absent during intervention sessions, were unwilling to participate, or were taking anti-anxiety medication were excluded.

4.4 Measurement tool

Data collection included demographic variables, academic variables, and an examination anxiety scale described in the thesis as a Test Anxiety Inventory (TAI)-based standardized scale. Items addressed fear of examinations, nervousness, difficulty concentrating, worry about performance, and physical symptoms of anxiety. Responses were scored on a four-point Likert format: Never=1, Sometimes=2, Often=3, and Always=4. The reported interpretation was: low anxiety 15–26, moderate anxiety 27–38, high anxiety 39–49, and very high anxiety 50–60. Content validity was established through expert review from nursing, mental health nursing, and psychology.

4.5 Intervention

The intervention was delivered in a quiet, well-ventilated setting. The documented four-day schedule used sessions of approximately 20–25 minutes. Day 1 included orientation, stretching, rhythmic clapping, chanting, introductory laughter, and relaxation. Day 2 included breathing, clapping, greeting/handshake/smile laughter, and cool-down relaxation. Day 3 included warm-up, breathing, hearty laughter, silent laughter, lion laughter, meditation, and relaxation. Day 4 included revision and celebration, appreciation, and belly laughter, followed by summarization, clarification of doubts, and post-test assessment.

4.6 Data collection and ethics

Pre-test assessment was conducted for both groups on Day 1. Hasya Yoga was then administered to the intervention group for four consecutive days, while the control group continued routine activities. Post-test assessment using the same anxiety scale was conducted on Day 4 for both groups. The thesis states that formal permission was obtained from the concerned institutional authority; informed consent, confidentiality, privacy, and freedom to withdraw were ensured, and the intervention was intended to avoid physical or psychological harm.

5. Statistical Analysis

Frequency and percentage were used for demographic and academic variables. Mean and standard deviation summarized examination anxiety scores. Paired t-tests compared pre-test and post-test scores within each group. An independent t-test compared post-test anxiety scores between the intervention and control groups. Chi-square tests examined associations between examination anxiety and selected demographic and academic variables. Statistical significance was interpreted at the 0.05 level, consistent with the source thesis.

6. Results

6.1 Participant characteristics

Among the 78 participants, 47.4% were aged 19–20 years, 71.7% were female, 73.0% belonged to nuclear families, and 53.8% lived in urban areas. Good family support was reported by 76.9%. Regarding academic characteristics, 53.8% had studied in English medium, 83.4% reported sometimes-regular study habits, 84.6% had passed their previous-term examination, and 44.8% reported interest in joining the nursing course.

6.2 Distribution of examination anxiety

Before the intervention, most students in both groups had moderate to high examination anxiety. In the intervention group, 69.2% had moderate anxiety, 12.8% high anxiety, and 7.6% very high anxiety at pre-test. After Hasya Yoga, 20.5% had no anxiety, 71.7% had low anxiety, and 7.6% had moderate anxiety; no students remained in the high or very-high categories. In the control group, changes were comparatively small.

Group assessment /	No anxiety	Low	Moderate	High	Very high
Intervention – Pre-test	0 (0%)	4 (10.2%)	27 (69.2%)	5 (12.8%)	3 (7.6%)
Intervention – Post-test	8 (20.5%)	28 (71.7%)	3 (7.6%)	0 (0%)	0 (0%)
Control – Pre-test	0 (0%)	6 (15.3%)	15 (38.4%)	12 (30.7%)	6 (15.3%)
Control – Post-test	0 (0%)	8 (20.5%)	18 (46.1%)	6 (15.3%)	7 (17.9%)

6.3 Pre-test and post-test comparison

Group	Pre-test Mean ± SD	Post-test Mean ± SD	Mean reduction	Paired t
Intervention (n=39)	34.53 ± 8.20	19.12 ± 6.72	15.41	9.08*
Control (n=39)	37.73 ± 10.70	35.95 ± 11.38	1.78	0.71 (NS)

* $p < 0.05$; NS = not significant.

Students in the intervention group showed a marked reduction in mean anxiety score from 34.53 to 19.12, corresponding to a mean reduction of 15.41 points. The paired t-value of 9.08 was statistically

significant at the 0.05 level. The control group showed only a 1.78-point reduction, with a non-significant paired t-value of 0.71.

6.4 Between-group comparison

Group	Post-test Mean	SD	Independent t
Intervention	19.12	6.72	7.02*
Control	33.35	10.72	

* $p < 0.05$.

The post-test anxiety score was substantially lower in the intervention group than in the control group. The independent t-value of 7.02 indicated a statistically significant difference at the 0.05 level.

6.5 Association with demographic and academic variables

Variable	χ^2	df	Critical value reported	Interpretation
Age	4.02	8	16.92	Not significant
Gender	3.04	4	9.49	Not significant
Type of family	19.31	12	21.03	Not significant
Place of residence	0.60	4	9.49	Not significant
Family support	23.01	8	16.92	Significant
Parental education	7.94	12	21.03	Not significant

Family support was significantly associated with examination anxiety. The thesis further reports significant associations for study habits and previous-term examination scores. Age, gender, type of family, place of residence, parental education, medium of study, and interest in joining the nursing course were not significantly associated.

7. Discussion

In this study, examination anxiety was common among second-year B.Sc. Nursing students before intervention, with most participants in the intervention group falling within the moderate category and additional participants in the high and very-high categories. This pattern is consistent with the source literature review, which describes examinations, academic workload, clinical responsibilities, fear of failure, and inadequate preparation as important contributors to anxiety among nursing students.

A key finding was the marked reduction in anxiety following four consecutive days of Hasya Yoga. The intervention group's mean score decreased by 15.41 points, while the control group changed by only 1.78 points. The statistically significant within-group and between-group comparisons support the study's conclusion that the intervention was associated with a substantial reduction in examination anxiety.

The change was also reflected in the anxiety categories: after intervention, 20.5% of students in the intervention group reported no anxiety and 71.7% reported low anxiety, while none remained in the high or very-high categories. In contrast, the control group continued to include students with moderate, high, and very-high anxiety. This difference is unlikely to be explained only by routine academic activity of routine academic activity during the study period.

The study describes several mechanisms through which Hasya Yoga may help: laughter and breathing may promote relaxation, reduce tension, encourage positive emotions, improve social interaction, and support confidence. The discussion in the thesis also aligns the findings with previous studies. Dönmez et al. (2023) reported reduced anxiety and perceived stress and improved self-confidence among undergraduate nursing students following laughter yoga. Öztürk and Tezel (2021) reported reductions in mental symptoms and salivary cortisol. Bal et al. (2025) reported lower stress and greater happiness among nursing students participating in laughter yoga. These studies provide supportive context, although the present study specifically examined examination anxiety in second-year B.Sc. Nursing students.

The significant association of examination anxiety with family support, study habits, and previous-term examination scores indicates that anxiety is influenced not only by an intervention but also by social and academic factors. This suggests that student wellness programmes should combine relaxation-based interventions with academic preparation, supportive relationships, and early identification of students experiencing high anxiety.

8. Implications for Nursing Education

Hasya Yoga can be considered as a complementary student-wellness activity because the documented sessions were brief, group-based, inexpensive, and did not require special equipment. Nursing educators may incorporate structured laughter and breathing activities into examination-preparation or student-support programmes, while ensuring appropriate screening and safety precautions. The intervention should complement—not replace—counselling, academic support, or clinical assessment when students require additional care.

9. Limitations

- The study included only 78 second-year B.Sc. Nursing students and therefore has limited generalizability.
- The study was conducted at one nursing college in Madurai.
- The intervention period was limited to four consecutive days, so long-term effectiveness was not assessed.
- The sample comprised second-year B.Sc. Nursing students only.
- Anxiety was assessed using self-reported responses, which may be influenced by participants' perceptions and response patterns.
- Personal life stressors, family problems, prior psychological experiences, and environmental influences were not fully controlled.
- The study did not compare Hasya Yoga with other interventions such as mindfulness, meditation, relaxation therapy, or music therapy.

10. Conclusion

Based on the findings of this study, Hasya Yoga was associated with a significant reduction in examination anxiety among second-year B.Sc. Nursing students. The intervention group showed a much

larger reduction in mean anxiety score than the control group, and the post-test difference between groups was statistically significant. Family support, study habits, and previous-term examination performance were also associated with anxiety. These findings support the use of Hasya Yoga as a complementary, simple, and economical strategy within nursing student wellness programmes. Further research with larger samples, multiple institutions, longer interventions, long-term follow-up, and active comparator groups is needed.

11. Recommendations

5. Conduct larger multi-centre studies to improve generalizability.
6. Replicate the study among students from different academic years and other health-science disciplines.
7. Compare Hasya Yoga with mindfulness, meditation, relaxation therapy, pranayama, music therapy, or other evidence-based approaches.
8. Use longer intervention periods and follow-up assessments to determine sustainability of effects.
9. Examine additional outcomes such as stress, self-esteem, coping, quality of life, clinical performance, and academic achievement.
10. Integrate structured Hasya Yoga sessions into student wellness and examination-preparation programmes where appropriate.

12. Declarations

Ethics approval and consent

According to the study report, formal institutional permission was obtained and that informed consent, confidentiality, privacy, and the right to withdraw were ensured. The exact name/number of an institutional ethics committee approval is not specified in the extracted study material; therefore, it should be added before submission, if available.

Conflict of interest

No conflict of interest was reported in the source thesis.

Funding

No specific funding information was reported in the source thesis.

Author contributions

The study was undertaken as a group undergraduate nursing research project. All listed student authors participated in the research process as described in the thesis. The research guide and co-guide provided academic supervision. The authors should finalize and approve the contribution statement before submission.

Data availability

Participant-level data were not provided in the source document. Data availability should be stated according to the institution's policy and the authors' approved data-sharing arrangements.

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Author verification before submission

This manuscript was prepared from from the supplied undergraduate thesis. Numerical results, intervention details, limitations, and references are based on the source document. The source contains a terminology inconsistency between 'true experimental' and 'quasi-experimental' design; this manuscript uses 'quasi-experimental pre-test–post-test control-group design' because that wording appears in the detailed methodology section. Before submission, the authors should verify the final study design, ethics approval details, author order, corresponding-author information, instrument provenance/licensing, and reference accuracy against the original records and the target journal's author guidelines.