

## Impact of Stress Management Programs on Mental Health and Academic Performance of Nursing Students

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### Abstract

**Introduction:** Nursing students often experience high academic pressure, clinical responsibilities, and emotional stress, which can negatively impact their mental health and academic performance. Stress management programs may provide effective coping strategies.

**Materials & Methods:** A quasi-experimental study was conducted among 100 undergraduate nursing students in a Dr. Subhash Nursing Institute, Junagadh. Participants were randomly assigned to intervention (n=50) and control (n=50) groups. The intervention group received an 8-week structured stress management program (relaxation techniques, time management, and mindfulness sessions), while the control group continued routine activities. Tools used included the Perceived Stress Scale (PSS), General Health Questionnaire-12 (GHQ-12), and academic performance assessed by semester scores. Data were analyzed using SPSS v25 with paired *t*-test and ANOVA.

**Results:** The mean pre-test stress score in the intervention group ( $28.6 \pm 4.2$ ) significantly reduced to  $18.2 \pm 3.8$  post-intervention ( $p < 0.001$ ). Mental health scores improved with GHQ-12 (from  $14.5 \pm 3.6$  to  $9.1 \pm 2.7$ ). Academic performance also showed improvement with a mean semester GPA increase (from  $6.2 \pm 0.9$  to  $7.1 \pm 0.8$ ). The control group showed no significant change.

**Conclusions:** Stress management programs effectively improve mental health and academic performance among nursing students. Integrating such interventions into nursing curricula is strongly recommended.

**Keywords:** Stress management; Nursing students; Mental health; Academic performance; Mindfulness

### Introduction

Although everyone experiences stress when faced with difficult circumstances, prolonged stress has a detrimental impact on one's physical, mental, and academic well-being. Stress has a significant impact

on students' mental health and academic performance, particularly in the health sciences. The demands of clinical practice, a hard workload, erratic scheduling, and high expectations from patients and professors make nursing students especially vulnerable<sup>1</sup>. Over 60% of nursing students report

moderate to severe stress during their training, according to studies<sup>2</sup>.

If stress is left untreated, it can lead to anxiety, depression, insomnia, and poorer focus. Moreover, kids who experience difficulties with motivation and memory recall may perform worse academically. Moreover, chronic stress raises dropout rates and may make future nursing care delivery less effective<sup>4</sup>. For nursing students to succeed academically and advance professionally, it is imperative to find efficient stress-reduction strategies.

Time management training, mindfulness meditation, yoga, relaxation techniques, and cognitive-behavioral strategies are just a few of the evidence-based methods that are included in stress management programs (SMPs). It has been demonstrated that these therapies increase coping abilities, boost resilience, and lessen psychological distress<sup>5</sup>. Numerous global studies have shown that structured SMPs greatly enhance kids' academic performance and mental wellbeing<sup>6</sup>. Despite their particular difficulties in juggling clinical and academic obligations, nursing students in India have not received much attention in research<sup>7</sup>.

The evaluation of organized SMPs in the context of nursing education is urgently needed, given the combined weight of clinical and academic demands. Therefore, the goal of the current study was to evaluate how stress management techniques affected nursing students' academic performance and mental health. The results will support the inclusion of stress-reduction techniques in nursing curricula, which will eventually advance professional competency and student well-being.

### Objectives

1. To assess the level of stress and mental health status among nursing students before and after implementation of a stress management program.
2. To evaluate the effect of the stress management program on academic performance.
3. To compare outcomes between intervention and control groups.

### Hypothesis

- **H<sub>1</sub>:** Stress management programs significantly reduce perceived stress levels among nursing students.

- **H<sub>2</sub>:** Stress management programs improve mental health status of nursing students.
- **H<sub>3</sub>:** Stress management programs enhance academic performance compared to controls.

## Materials & Methods

**Research Design:** Quasi-experimental study with pre-test and post-test control group design.

**Setting:** Dr. Subhash Nursing Institute, Junagadh.

**Sample Size & Sampling Technique:** 100 undergraduate nursing students (50 interventions, 50 control) selected through stratified random sampling.

### Inclusion Criteria:

- Nursing students enrolled in 2nd and 3rd year B.Sc. Nursing.
- Willing to participate.

### Exclusion Criteria:

- Students undergoing psychiatric treatment.
- Students absent during intervention sessions.

### Tools & Techniques:

1. **Perceived Stress Scale (PSS-10):** To measure stress level.
2. **General Health Questionnaire (GHQ-12):** To assess mental health.
3. **Academic Records:** Semester GPA for performance evaluation.
4. **Structured Stress Management Program:** 8 weeks, including mindfulness meditation, deep breathing exercises, progressive muscle relaxation, time management, and peer group discussion.

### Data Collection Procedure:

- Pre-test administered to both groups using PSS and GHQ-12.
- Intervention group received 2 sessions per week for 8 weeks, each lasting 60 minutes.
- Control group followed routine schedule.
- Post-test conducted after 8 weeks for both groups.

**Statistical Analysis:** Data analyzed using SPSS v25. Descriptive statistics (mean, SD, frequency), paired *t*-test, independent *t*-test, and ANOVA used to compare within and between groups.  $p < 0.05$  considered significant.

## Results (as per objectives)

**Table 1. Comparison of Stress Scores (PSS) between Intervention and Control Groups (n=100)**

| Group               | Pre-test Mean $\pm$ SD | Post-test Mean $\pm$ SD | Mean Difference | t-value | p-value    |
|---------------------|------------------------|-------------------------|-----------------|---------|------------|
| Intervention (n=50) | 28.6 $\pm$ 4.2         | 18.2 $\pm$ 3.8          | 10.4            | 11.56   | <0.001***  |
| Control (n=50)      | 27.9 $\pm$ 4.5         | 27.1 $\pm$ 4.3          | 0.8             | 1.02    | 0.312 (NS) |

$p < 0.001$  = Highly significant; NS = Not significant

**Table 2. Comparison of Mental Health Status (GHQ-12) Scores**

| Group               | Pre-test Mean $\pm$ SD | Post-test Mean $\pm$ SD | Mean Difference | t-value | p-value    |
|---------------------|------------------------|-------------------------|-----------------|---------|------------|
| Intervention (n=50) | 14.5 $\pm$ 3.6         | 9.1 $\pm$ 2.7           | 5.4             | 9.84    | <0.001***  |
| Control (n=50)      | 14.2 $\pm$ 3.4         | 13.9 $\pm$ 3.2          | 0.3             | 0.88    | 0.423 (NS) |

**Table 3. Comparison of Academic Performance (Semester GPA)**

| Group               | Pre-test Mean $\pm$ SD | Post-test Mean $\pm$ SD | Mean Difference | t-value | p-value    |
|---------------------|------------------------|-------------------------|-----------------|---------|------------|
| Intervention (n=50) | 6.2 $\pm$ 0.9          | 7.1 $\pm$ 0.8           | 0.9             | 3.65    | 0.001**    |
| Control (n=50)      | 6.3 $\pm$ 1.0          | 6.4 $\pm$ 0.9           | 0.1             | 0.64    | 0.521 (NS) |

$p < 0.01$  = Significant

## Final Results Description

The findings show that nursing students' outcomes were significantly improved by the stress management program.

- **Stress levels (PSS):** Students in the intervention group showed a significant reduction in stress scores from a mean of **28.6  $\pm$  4.2** pre-test to **18.2  $\pm$  3.8** post-test ( $p < 0.001$ ). In contrast, the control group did not show any significant reduction ( $p > 0.05$ ).
- **Mental health status (GHQ-12):** The intervention group demonstrated significant improvement with scores decreasing from **14.5  $\pm$  3.6** to **9.1  $\pm$  2.7** ( $p < 0.001$ ). The control group had no meaningful change.
- **Academic performance (GPA):** Academic scores improved significantly in the intervention group (from **6.2  $\pm$  0.9** to **7.1  $\pm$  0.8**,  $p = 0.001$ ), while the control group did not exhibit a significant change.

Accordingly, the study comes to the conclusion that stress management programs help nursing students do

better academically, reduce stress, and improve mental health.

## Discussion

According to the current study, stress management courses greatly decreased nursing students' perceptions of stress while also enhancing their emotional and intellectual well-being. These results are in line with past research showing that mindfulness and relaxation training helped medical and nursing students feel less stressed and anxious<sup>8</sup>.

The intervention group's improved academic performance is consistent with research showing that stress reduction improves motivation, memory, and focus<sup>9</sup>. Coping strategies have also been shown to improve academic performance and resilience<sup>10</sup>.

Incorporating structured SMPs into nursing curriculum requires institutional support, according to the study. Despite the program's encouraging results, its limited sample size and single-institution design are drawbacks. Longitudinal follow-up and bigger multi-center sample sizes are advised for future studies.

## Conclusions

Nursing students' academic performance, mental health, and stress levels can all be improved with the help of stress management programs. To promote wellbeing and academic achievement, systematic stress management modules should be regularly incorporated into nursing education.

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