

EFFECTIVENESS OF ALTERNATE NOSTRIL BREATHING EXERCISE ON STRESS AMONG STAFF NURSES WORKING AT SELECTED HOSPITAL

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ABSTRACT

Nursing is widely recognized as a high-stress profession. Work stress has a negative effect on nurses' health and the quality of patient care. The objective of this study was to assess stress levels in staff nurses and evaluate the effectiveness of alternative nostril breathing exercises. Fifty-eight staff nurses from Panimalar Medical College Hospital and Research Institute were selected to participate in the study using a non-probability purposive sampling technique. A pretest, single group, and posttest design was used. Using the TAWS-16 measurement tool to assess stress levels. The results of the pretest indicated moderate stress in 96.56% of nurses, slight stress in 1.72% and severe stress in 1.72% of nurses after using an alternative method of practicing nostril breathing. Post-test results revealed that 98.27% of nurses reported slight stress and 1.73% moderate stress. with no reports of severe stress. 05) However, no significant relationship was found between post-test stress levels and demographic variables. The findings highlight the potential of alternative nasal breathing exercises as a simple strategy. non-invasive to reduce stress among nurses.

INTRODUCTION

Nursing is a high-stress profession due to long work hours. Heavy patient care responsibilities and challenges in decision making This can lead to burnout, health problems, and job dissatisfaction. Chronic stress doesn't just affect nurses' well-being. But it also affects the quality of health care through increased absenteeism and turnover. Stress can be understood both physiologically and psychologically. Personal perception and coping strategies play an important role in management. Alternative Nostril Breathing (ANB) or Nadi Shodhana is a yoga technique that reduces stress by balancing the body's energy and calming the mind. It stimulates the parasympathetic nervous system and promotes relaxation. The objective of this study was to evaluate the effectiveness of

Objectives of the study:

1. To assess the level of stress among the staff nurses.
2. To determine the effectiveness of alternate nostril breathing exercise among staff nurses with stress.
3. To find out the association between posttest level of stress and with their selected demographic variables.

ANB in reducing stress among nurses at Panimalar Medical College Hospital and Research Institute (PMCHRI), effective stress management through Alternate Nostril Breathing and other techniques. It can improve the well-being of nurses. job satisfaction and finally, the quality of patient care provided by nurses.

Ethical approval

Ethical approval for this study was obtained from the Institutional Human Ethics Committee of Panimalar Medical College Hospital and Research Institute. (PMCHRI/IHEC/MS/2023/97) Participants will receive a detailed explanation of the research objectives, procedures, and potential risks involved before starting the study. In addition, written informed consent was obtained from each participant before participation in the study.

Hypotheses:

H1: There is no significant difference in the pre and posttest level of stress among staff nurses in PMCH at $p < 0.05$ level

H2: There is no significant association between the posttest level of stress and with their selected demographic variables among staff nurses in PMCH.

Materials and methods:

This study used a quantitative research method with a Pre experimental one group pretest posttest design. It serves as a structured basis for organizing data collection and implementing the intervention. The independent variable adjusted was an optional nostril breathing exercise, whereas the dependent variable stress is expected to fluctuate in response to the intervention. Conducted at the 720-bed Panimalar Medical College Hospital and Research Institute, Poonamallee, the sample consisted of 58 staff nurses recruited by non-purposive probability sampling as per criteria. The assessment tool has two parts: Demographic variables, and the TAWS 16 measuring tool, which

categorizes stress levels from mild to severe based on rating descriptions.

Results & discussion:

The purpose of this study was to evaluate the effectiveness of alternative nostril breathing exercises in relieving stress among staff nurses working in selected hospitals. The research used a structured approach to assess the effects of these exercises on the mental well-being of nurses. Results indicated that stress levels were significantly reduced after practicing alternative nostril breathing. This indicates its effectiveness as a stress management tool. Findings regarding the study objectives are discussed and presented below for further review.

Table 1: Frequency and percentage distribution of demographic variables among staff nurse.

N = 58

| S. No | Demographic variables | Frequency | Percentage |
|-------|---------------------------|-----------|------------|
| 1 | Age in years | | |
| | a. 20 - 25 | 41 | 72.41% |
| | b. 26 - 30 | 3 | 5.1% |
| | c. 31 - 35 | 13 | 22.4% |
| 2 | d. 36 - 40 | 01 | 1.72% |
| | Gender | | |
| 3 | a. Male | 03 | 5.17% |
| | b. Female | 55 | 94.82% |
| 4 | Educational status | | |
| | a. M. Sc | 01 | 1.72% |
| | b. B. Sc | 36 | 62.06% |
| 5 | c. GNM | 21 | 36.20% |
| | Experience | | |
| | a. 0 - 2 | 34 | 58.62% |
| 6 | b. 2 - 4 | 16 | 27.58% |
| | c. 4 - 6 | 08 | 13.79% |
| 7 | Area | | |
| | a. Ward and OPD | 40 | 68.96% |
| | c. ER | 05 | 8.62% |
| | d. ICU | 13 | 22.41% |

Table 1 illustrates the frequency and percentage distribution of the demographic variables of nurses at Panimalar Medical College Hospital and Research Institute. In terms of age, the majority of nurses, 41 (72.41%), were in the age group of 20-25 years, followed by 3 nurses (5.17%) in the age group 26-30 years and 13 nurses (22.41%) in the age group 31 years-35 years, 36-4 years and 1 nurse in the age group 40 years (1.72%) in terms of gender. 3 nurses (5.17%) were male and 55 nurses (94.82%) were female. In terms of educational qualifications, 36 nurses (62.06%) had a Bachelor of Science degree, 21 nurses (36.20%) had a GNM, and 1

nurse (1.72%) has a Master of Science degree in terms of work experience, 34 nurses (58.62%) had 0-2 years of experience, 16 nurses (27.58%) had 2-4 years of experience, and 8 nurses (13.79%) had 4-6 years of experience. 40 nurses were assigned (68.98%) work in the outpatient department (OPD) in the ward. 13 nurses (22.41%) work in the intensive care unit (ICU). 5 nurses (8.62%) work in the emergency room.

1. To assess the level of stress among the staff nurses working in selected hospital.

Table 2: Frequency and percentage distribution of pretest and posttest level of stress among group.

n= 58

| Level of Stress | Pretest | | Posttest | |
|-----------------|---------|-------|----------|-------|
| | No | % | No | % |
| Mild stress | 1 | 1.72% | 57 | 98.27 |
| Moderate Stress | 56 | 96.56 | 1 | 1.73 |
| Severe Stress | 1 | 1.72 | 0 | 0 |

Table 2 indicates that a significant majority (96.56%) of the staff nurses reported moderate stress levels during the test. Additionally, 1.72% were slightly stressed, while another 1.72% were classified as severely stressed. In comparison Post-test results showed remarkable improvements. 98.27% of staff nurses reported slight stress and only 1.73% remained at a moderate level of stress.

The findings of this study are reliable with the findings of several previous studies. For example, Dewanto, A, et al. reported that 95% of nurses were moderately stressed in the pre-test period. On the contrary Post-test results indicated that 97% of nurses experienced only mild

stress, leaving only 3% with moderate stress. This revealed significant improvements. (5) Kumar, S, et al. found that 94% of nurses had moderate to high stress levels before intervention. After the intervention, 95% of participants reported low stress levels, with only 5% still classified as moderately stressed. (15) Zahra, N, et al similarly noted that 96% of nurses reported moderate stress levels before the intervention. Treatment However, 98% reported minimal stress after the intervention, and only 2% remained classified as moderately stressed. (30)

2. To determine the effectiveness of alternate nostril

breathing exercise among staff nurses with stress.

Table 3: Mean and standard deviation of pretest, posttest level of stress among staff nurses in Panimalar Medical College hospital and research institute.

| Level of Stress | Pre test | | Posttest | | 't' test Value |
|-----------------|----------|-------|----------|-------|----------------|
| | Mean | S. D | Mean | S. D | |
| Staff Nurses | 17.79 | 1.420 | 11.75 | 0.065 | 18.31 |

Statistically Significant at the level of ($p < 0.05$)

Table 3 analysis indicates that the mean stress score before the intervention was 17.79 with a standard deviation of 1.420. After intervention the mean score decreased to 11.75 with a standard deviation of 0.065. A statistically significant difference between these scores indicates a significant reduction in stress levels after performing the alternative nasal breathing exercise.

The findings of this study align reliably with those of several prior investigations. As an illustration, Ramasamy et al. reported a pre-intervention mean stress score of 18.12 (SD = 1.58), which significantly decreased to 11.28 (SD = 0.98) following pranayama exercises ($p < 0.001$), indicating a marked reduction in stress levels.⁽²¹⁾

3. To find out the association between posttest level of

Similarly, Sharma et al. found that the mean stress score before the intervention was 17.50 (SD = 1.55), which subsequently declined to 11.60 (SD = 0.70) post-intervention, with a paired t-test revealing a statistically significant difference ($p < 0.01$).⁽²⁵⁾ Gupta. S et al. reported a mean pre-intervention stress score of 18.30 (SD = 2.10), which diminished to 12.40 (SD = 1.10) after the intervention; a paired t-test confirmed this substantial reduction ($p < 0.001$).⁽⁹⁾ Finally, Singh et al. documented a pretest mean stress score of 17.95 (SD = 1.33), which fell to 12.10 (SD = 0.74) post-intervention, with a statistically significant difference between the pretest and posttest scores ($p < 0.001$).⁽²⁷⁾

stress and with their selected demographic variables.

Table 4: Association of stress level with demographic variables among staffnurses.

n = 58

| S. No | Demographicvariables | Mild | Moderate | Severe | Chi Square |
|-------|--------------------------------|------|----------|--------|------------------------|
| 1 | Age in years a. 20 - 25 | 41 | 0 | 0 | 20.44 Df = 6 (S) |
| | b. 26 - 30 | 2 | 1 | 0 | |
| | c. 31 - 35 | 13 | 0 | 0 | |
| | d. 36 - 40 | 1 | 0 | 0 | |
| 2 | Gender a. Male | 03 | 0 | 0 | 0.063 Df=2 (NS) |
| | b. Female | 54 | 1 | 0 | |
| 3 | Educational status a. M. Sc | 1 | 0 | 0 | 1.78 Df=4 (NS) |
| | b. B. Sc | 36 | 0 | 0 | |
| | c. GNM | 20 | 1 | | |
| 4 | Experience a. 0 - 2 | 34 | 0 | | 18.01 Df=4 (S) |
| | b. 2 - 4 | 15 | 1 | 0 | |
| | c. 4 - 6 | | | | |
| 5 | Area a. Ward and OPD | 39 | 1 | 0 | 0.456 Df=4 (NS) |
| | c. ER | 5 | 0 | 0 | |
| | d. ICU | 13 | 0 | 0 | |

Table 4 demonstrates that the post-test stress level of staff nurses was significantly related to age and experience. While other demographic variables the results were not significant at the $p < 0.05$ threshold.

The findings of the study aligned reliably with several other studies, such as those conducted by Dehghani M., et al. Various studies The analysis found a statistically significant relationship between stress level and age ($p < 0.05$) and experience ($p < 0.01$), which did not show a significant relationship with other demographic factors.⁽³⁾In the same way Mok, E., & Wong, F. K. Y. revealed that age and years of experience were significantly related to stress levels ($p < 0.05$), while factors such as marital status and educational background did not show a significant relationship.⁽¹⁸⁾ Moreover, Gonzalez et al reported a significant association between age ($p < 0.01$) and experience ($p < 0.05$) and high stress levels among nurses. While demographic variables such as gender and education did not reveal a significant relationship.⁽⁷⁾Khan, Y.H, et, al. (2020) indicated that age ($p < 0.01$) and work experience ($p < 0.05$) were significantly related to stress levels. While variables such as education and marital status Unable to show significant results.⁽¹²⁾

CONCLUSION

This study rigorously evaluated the effectiveness of Alternate Nostril Breathing (ANB) as a technique for reducing stress among nurses at Panimalar Medical College Hospital and Research Institute. The findings indicated a substantial decline in stress levels, with pre-intervention assessments revealing that a significant majority of nurses reported moderate stress. Following the implementation of ANB, post-intervention data showed that nearly all participants experienced a shift to mild stress levels, underscoring the potential of this practice in enhancing mental well-being.

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