



A Study To Assess The Knowledge Regarding Deep Breathing Exercises in Reducing Stress Among GNM 1st Year Students in International Institute of Nursing and Research, Kalyani, Nadia

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Abstract

Breathing exercises can improve pulmonary function, respiratory muscle strength, exercise capacity, dyspnea, and health-related quality of life in patients with COPD. Evidence suggests that diaphragmatic breathing may decrease stress as measured by physiologic biomarkers, as well psychological self-report tools. Lowered blood pressure and heart rate. Reduced levels of stress hormones in the blood. reduced lactic acid build-up in muscle tissue. Balanced levels of oxygen and carbon dioxide in the blood. The analysis and interpretation of data obtained from 60 students of GNM 1st year in International Institute of Nursing and Research Kalyani, Nadia. The data was processed and analyzed on the basis of the objective formulated for the present study. The result was computed by using descriptive and inferential statistic based on the following study to assess the

knowledge regarding deep breathing exercise to reduce stress among GNM 1st year students. Majority of the age of the students (50%) were from 23- 27 years of age group. Majority of the religion of students (83%) were from Hindu religion. Majority of the monthly family income of the students (58%) were from 15,000- 20,000/- monthly family income. Majority of the Types of family of the students (66%) were from the nuclear family. Majority of the interest of students (50%) were from mixed with friends. Majority of the Leisure Time of the students (50%) were from listening a Song. Majority of the Marital status of the students (96%) was from unmarried. The maximum participant's knowledge regarding Deep breathing exercise to reduce stress is average (50%). The findings of the study reveal that (50%) participants have average knowledge, (25%) good, (25%) Excellent.

Keywords: Assess, Knowledge, Deep Breathing Exercise, Stress

Introduction

From the early beginnings of mankind, stress has been an inherent aspect of life. Stress is essential for survival. In proper amounts, stress can encourage individuals to perform to the best of their abilities, yet oftentimes when stress exceeds the individual's threshold, it can have detrimental effects upon both physical and mental health. Stressors may be found in personal relationships, health issues, financial aspects, and with idealistic personal expectations. Stress in the nursing profession is an ongoing worldwide problem. Stress is a mental or physical phenomenon formed through one's cognitive appraisal and stimulation and is a result of one's interaction with the environment. Stress among nursing students comes from many sources and it is a global issue. Students cannot avoid stress but their ability to cope with these stressors is important in achieving success in the academic performance. This study aimed to assess the effectiveness of Deep Breathing Exercises on stress among First Year GNM Nursing students. Deep Breathing helps to relieve shortness of breath by preventing air from getting trapped in the lungs and helps inhalation of more fresh air to the base of the lungs. It may help the client to feel more relaxed and centered.

Materials and Methodology

In this study, a non-probability convenience sampling technique was employed. This method involves selecting participants based on their availability and ease of access to the researcher, rather than through random selection. Often referred to as accidental or opportunity sampling, it is commonly used when quick and cost-effective data collection is needed, especially in preliminary or exploratory research phases. While convenience sampling offers practical advantages such as simplicity

and speed, it also has limitations. Notably, it may introduce sampling bias and limit the generalizability of the findings to the broader population. In this study sample size was 60 GNM 1st year students in their classroom. A data collection tool is a formal written document used to collect and record information.

According to the objectives of the study the following data collection tools were developed in order to obtain necessary information

Tool I: Structured interview schedule to assess Demographic variables. It consists of demographic profile of student like age, religion, type of family, socio economic status, type of person, interest, education, marital status, duration of illness. It consists of 9 items.

Tool II: Structured questionnaire to assess the knowledge of deep breathing exercise among GNM 1st year students. The data collection tool consists of 20 items and each item has 2 responses. The tool along with the criteria checklist was given to five experts for validation, on the basis of their clinical expertise the experts were selected.

They gave their valuable opinion and validated the tool. Necessary modification was done according to their opinion. A pilot study was conducted, involving 10 students from the study area. Ethical clearance was obtained from the Institute. Participants were informed about the study, and their consent was secured. The pilot study confirmed the feasibility and practicality of the study design. Data was collected for final study from formal permission was obtained from the principal of International Institute of Nursing and Research, Kalyani Nadia.

The participants were explained about the purposes of the study and informed consents were taken from the participant.

Sample was selected by non-probability convenience sampling. Included 60 student of GNM 1st year IINR, Kalyani, Nadia during the final data collection period.

Data was collected by interviewing the participants it took almost 10-15 min for each participant.

Plan for data analysis

- Data was coded and organized.
- Organizing the data on a master sheet.
- The data was analysed according to the study objectives using frequency and percentage.
- The result was represented by tables.
- The frequency and percentage distribution of demographic variables.
- Mean and standard deviation were used to assess the level of stress.
- Paired ‘t’- test was used to compare the pre and post-test level of stress among the GNM 1st YEAR students.

Results

The data obtained was analyzed and presented in two following sections.

Section -I: Background characteristics of the study participants in respect to their socio demographic status.

- Majority of the age of the students were 23-27 years, frequency 30 & percentage were 50%.
- Majority of the religion of the students were Hindu, frequency 50 & percentage 83%.
- Majority of the monthly family income of the students were 15,000-20,000, frequency 35 and percentage 58%.
- Majority of the Type of family was Nuclear, frequency 40and percentage 66%.
- Majority of the interest of the students of mixed with friends’ frequency 30 and percentage 50%.
- Majority of spending leisure time is to listening a song, frequency 30 and percentage 50%.
- Majority of Marital status is unmarried, frequency 58 and percentage 96%.

Table 1:

Sn.	Variables	Category	Frequency	Percentage (%)
1.	Age	18 – 22 years	25	41%
		23 – 27 years	30	50%
		28 – 32 years	05	08%
2.	Religion	Hindu	50	83%
		Muslim	10	16%
		Others	-	-
3.	Monthly Family Income	₹5000 – ₹10000	10	16%
		₹10000 – ₹15000	15	25%
		₹15000 – ₹20000	35	58%
4	Type of Family	Nuclear	40	46%
		Joint	15	25%
		Extended	5	8%
5.	Interest	Being alone	15	25%

		Mixed with friends	30	50%
		Mixed with family	15	25%
6.	Leisure Time Activity	Reading book	20	33%
		Listening to story	30	50%
		Others	10	16%
7.	Marital Status	Married	2	3%
		Unmarried	58	96%
		Divorced	-	-
8.	Knowledge on Deep Breathing to Reduce Stress	Average	30	50%
		Good	15	25%
		Excellent	15	25%

Section - II: Descriptive findings related to knowledge regarding deep breathing exercise to reduce stress among the study participants.

- Average 50%, Good-25%, Excellent-25%
- Majority of knowledge regarding deep breathing exercises to reduce stress is average, frequency 30 and percentage 50%.

Table 2:

Knowledge Level	Frequency	Percentage (%)
Average	30	50%
Good	15	25%
Excellent	15	25%

Discussion

The objective of the study was to assess the knowledge of the students regarding the effect of deep breathing exercises to reduce stress is average. The study was conducted among 60 students of GNM 1st year in IINR Nursing Institute, Kalyani. Out of 60 students, majority of 15(25%) students were excellent knowledgeable, 15(25%) has good knowledge & 30(50%) have average knowledge.

Recommendations

The study can be conducted with a larger sample for better generalization.

Conclusion

The study aimed to assess the knowledge regarding the effectiveness of deep breathing exercises in reducing stress among 1st-year GNM nursing students at the International Institute of Nursing and Research, Kalyani, Nadia. Findings indicate that deep breathing exercises offer numerous physiological and psychological benefits, such as improved pulmonary function, enhanced respiratory muscle strength, reduced stress markers, lowered heart rate and blood pressure, and better overall health-related quality of life. The majority of participants (50%) demonstrated an average level of knowledge regarding these benefits, with 25% having good knowledge and 25% excellent knowledge.

Demographic data revealed that most participants were between 23–27 years old, belonged to Hindu religion, came from nuclear families with a monthly income ranging from ₹15,000–₹20,000, and were unmarried. These findings reflect a relatively homogenous sample in terms of socio-demographic background.

The study employed a non-probability convenience sampling method, using structured tools validated by experts, and confirmed feasibility through a pilot study. Data collection and analysis were conducted using

descriptive and inferential statistics, including frequency distribution and paired t-tests.

Overall, while the knowledge level was mostly average, the results underscore the potential value of integrating deep breathing exercises into stress management interventions for nursing students. Enhancing awareness and practical application of such techniques could lead to improved coping mechanisms and academic performance. Further research with a larger and more diverse sample is recommended to generalize the findings and reinforce the educational importance of stress reduction strategies in nursing curriculum.

Reference

1. Hopper SI, Murray SL, Ferrara LR, Singleton JK. Effectiveness of diaphragmatic breathing for reducing physiological and psychological stress in adults: a quantitative systematic review. *JBISIR*. 2017; DOI:10.11124/JBISIR-2017-003848.
2. Joshi A, Kiran R, Raj R, Agarwal R. Stress management of engineering students through deep breathing yoga. *Int J Work Organ Emot*. 2020;11(2).
3. Provenzano S. Effects of slow-deep breathing on stress and anxiety in Doctor of Physical Therapy students [dissertation]. Chicago (IL): Concordia University Chicago; 2023. ProQuest Dissertations Publishing; 30494156.
4. Bentley TGK, Seeber C, Hightower E, Mackenzie B, Wilson R, Velazquez A, et al. Slow-breathing curriculum for stress reduction in high school students: lessons learned from a feasibility pilot.
5. Khng KH. A better state-of-mind: deep breathing reduces state anxiety and enhances test performance through regulating test cognitions in children. *Cogn Emot*. 2016;DOI:10.1080/02699931.2016.1233095.
6. Alzahem AM, Van der Molen HT, Alaujan AH, De Boer BJ. Stress management in dental students: a systematic review. *Adv Med Educ Pract*. DOI: 10.2147/AMEP.S46211.
7. Hobson CJ, Delunas L. Efficacy of different techniques for reducing stress: a study among business students in the United States. *Int J Manag*.
8. Kushariyadi K, Viofananda K, Agung K, Grysha G, Mazuin F. Nursing modality therapy (spiritual deep breathing) resolve student distress. Available from: <http://localhost:8080/xmlui/handle/123456789/410>.
9. Khng KH. Deep breathing and mindfulness: simple techniques to promote students' self-regulation and well-being from the inside out.
10. Sudhir GK, Smitha N, Narasimha Swamy KN, Vinay HR. Biofeedback as an assessment tool in measuring effectiveness of alternate nostril breathing (Nadi Shodhana Pranayama) amongst medical students.
11. McKay J. The effects of diaphragmatic breathing on college student stress. Available from: <https://scholars.carroll.edu/handle/20.500.12647/3524>.
12. Hariyati A, Sugiharto DYP, Awalya A. The effectiveness of group counseling on visual imagery and deep breathing techniques to improve achievement motivation of junior high school students. *J Humanit Soc Sci Stud*. 2022;4 (2): DOI: 10.32996/jhsss.2022.4.2.5.
13. Priyanka K. A study to assess the effectiveness of deep breathing exercise on reduction of anger expression among adolescent girls in selected school at Vallioor [Master's thesis]. Vallioor (IN): Nehru Nursing College; 2016. Available from: <http://repository-tnmgrmu.ac.in/id/eprint/10031>.

14. Gordon JS. Mind-body skills groups for medical students: reducing stress, enhancing commitment, and promoting patient-centered care.
15. Vitasari P, Wahab MNA, Herawan T, Sinnadurai SK. Psychophysiological treatment in reduced anxiety with biofeedback training for university students. *Procedia Soc Behav Sci.* 2011;30: [pages unknown]. DOI: 10.1016/j.sbspro.2011.10.122.
16. Bauer JS. The use of stress reduction techniques in nursing education. Valparaiso University.
17. Sidharth G. Impact of yoga and breathing techniques on intimidating situational stress amongst high school students in India.
18. Phang CK, Shian-Ling K, Chong KC. Mindful-S.T.O.P.: mindfulness made easy for stress reduction in medical students. *Education Innovation Med J.* [Year unknown];6(2): DOI:10.5959/eimj. v6i2.230.
19. Amarnath RG, Marimuthu SR, Jenitha S, Rajan C, Karumari S, Patel S. Impact of Heartfulness meditation on reducing stress in nursing students: a prospective observational study. [Internet]. Available from: <https://www.researchgate.net/publication/333930627>.
20. Williams KT. An exploratory study: reducing nursing students' stress levels facilitate perceived quality of patient care [Internet]. Ogden (USA): Weber State University; Available from: <http://www.scirp.org/journal/PaperInformation.aspx?PaperID=47027>.