



ISSN: 2230-9926

Available online at <http://www.journalijdr.com>

IJDR

International Journal of Development Research
Vol. 15, Issue, 12, pp.69617-69619, December, 2025
<https://doi.org/10.37118/ijdr.30449.12.2025>



REVIEW ARTICLE

OPEN ACCESS

A STUDY TO ASSESS THE EFFECTIVENESS OF DEEP BREATHING EXERCISE IN IMPROVING SLEEP QUALITY AMONG THE HOSPITALIZED PATIENTS AT APOLLO HOSPITALS, GANDHINAGAR

¹Mrs. Chingshubam Jibanlata Devi and ²Dr. Hari Mohan Singh

¹Associate professor, Apollo Institute of Nursing, Gandhinagar (A Unit of Apollo Hospitals); ²Principal, Apollo Institute of Nursing, Gandhinagar (A Unit of Apollo Hospitals)

ARTICLE INFO

Article History:

Received 29th September, 2025
Received in revised form
10th October, 2025
Accepted 24th November, 2025
Published online 30th December, 2025

KeyWords:

Deep breathing Exercise, Sleep Quality, PSQI Scale.

*Corresponding author:

Mrs. Chingshubam Jibanlata Devi

ABSTRACT

An experimental study was conducted to assess effectiveness of deep breathing exercise in improving sleep quality among hospitalized patients in Apollo Hospitals, Gandhinagar. The 'PSQI Scale' was used. A quantitative approach with one pre-test post- tests study design was used to achieve the objectives of the study. The sample consisted of 30 from selected hospitals. The Systematic sampling technique was used to collect the sample. Inthe experimental group the mean of pre-test was 12.57 withstandard deviation 2.78 and post-test mean was 9.07 with standard deviation 1.98. The calculated 't' value was 16.85 whereas table value is 1.69 in 0.05 level which shows highly significant. So, the deep breathing exercise in improving sleep quality among hospitalized patients.

Copyright©2025, Chingshubam Jibanlata Devi et al. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Citation: Mrs. Chingshubam Jibanlata Devi and Dr. Hari Mohan Singh 2025. "A study to assess the effectiveness of deep breathing exercise in improving sleep quality among the hospitalized patients at apollo hospitals, gandhinagar" *International Journal of Development Research*, 15, (12) 69617-69619.

INTRODUCTION

Hospitalization in health care settings often leads to disrupted, fragmented, and non-restorative sleep due to frequent clinical interventions, environmental noise, and patient anxiety or illness, yet sleep-promoting interventions remain inconsistently applied. Incorporating deep breathing exercise as a part of routine nursing care may serve as a practical and effective method to promote better sleep among hospitalised patients. Integrating deep breathing exercises into routine nursing care offers a simple, low-cost, and holistic approach that requires minimal training or equipment and can be performed independently or with staff guidance. This study aims to evaluate the effectiveness of deep breathing exercises in improving sleep quality among hospitalized patients, ultimately providing empirical evidence to support an accessible non-pharmacological strategy that may enhance patient well-being and inform clinical practice.

NEED OF THE STUDY

Globally, pain, noise, and night time interruptions are major sleep disruptors in hospitals, with notable influence from stress and

pre-existing sleep disorders. In India, these issues are significantly more pronounced—particularly noise and first-night sleepdeprivation—with high prevalence rates of specific sleep disorders such as obstructive sleep apnea and insomnia. Many of the previous research studies shows that Deep Breathing Exercises significantly improve sleep quality in hospitalized patients with sleep disturbances, 70-80% of patients reported better sleep, 54% reduction in time taken to fall asleep, 21% increase in total sleep time, 60-70% reduction in anxiety and stress, 85% of patients reported satisfaction with Deep Breathing Exercises for sleep improvement. Another study at Minia university hospital found 44.7% of medical ward patients and 50% of MICU patients had great sleep quality after applying breathing exercises. Breathing exercises reduced sleep disturbances and delirium occurrence. (2017). A study in Ahmad Yani Islamic Hospital (though conducted in Indonesia but cited by Indian journals) cited by Indian researchers found sleep hygiene and deep breathing exercise improved sleep quality and quality of life of hemodialysis patients with a significance rate of 72.7% and 66.4% respectively. (2019). The 4-7-8 breathing technique can improve sleep by activating the body & 39 relaxation response through the parasympathetic nervous system, which helps calm the mind and body.

Table 1. Findings related to mean, median, and standard deviation (N=50)

Sr. No		Mean	Mean Difference	SD	Calculated 't' value	Degree of Freedom	Table value
1	Pre test	12.57	3.5	2.78	16.85	29	1.69
2	Post test	9.07		1.98			

Table 2. Frequency and percentage distribution of sleep quality among hospitalized patients (n=30)

Sleep quality	Pre test		Post test	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
Good PSQI Score (5-10)	06	20%	24	80%
Average PSQI Score (11-16)	21	70%	06	20%
Poor PSQI Score (17-21)	03	10%	00	00%
Total	30	100 %	30	100%

This technique involves specific breathing patterns that can lower heart rate and blood pressure, creating a state conducive to sleep. With all the above mentioned data deep breathing exercise is an effective measure to improve quality of sleep among hospitalized patient.

PROBLEM STATEMENT

A study to assess the effectiveness of deep breathing exercise in improving sleep quality among the hospitalized patients in apollo hospitals, Gandhinagar.

OBJECTIVES

- To assess quality of sleep among hospitalized patients before implementation of deep breathing exercises.
- To implement deep breathing exercise among the selected hospitalized patients.
- To evaluate quality of sleep among hospitalized patients after implementation of deep breathing exercises.

OPERATIONAL DEFINITIONS

Deep Breathing Exercise: In this study, deep breathing exercise refers to 4-7-8 breathing exercise in which 4-seconds inhale, 7-seconds hold and 8-seconds exhale in 3 set each of 6 cycle between each set there will be 1 minute of normal breathing pattern.

Effectiveness: In this study, how deep breathing exercise improves sleep quality among hospitalized patients.

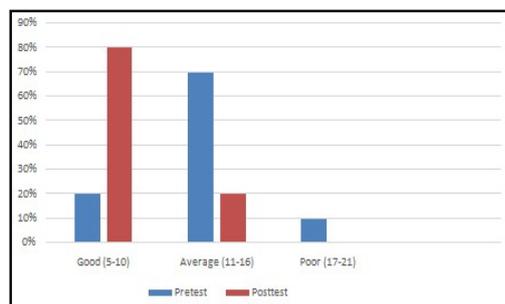
Sleep Quality: In this study, sleep quality refers to quality of sleep of the patient who are admitted in general ward.

Hospitalized Patients: In this study, hospitalized patients refer to those who've admitted in the General ward.

METHODOLOGY

A quantitative pre-experimental one-group pre-test post-test design was used, with 30 participants selected through non-probability purposive sampling from Apollo hospitals Gandhinagar, and sleep quality assessed using the Modified Pittsburgh Sleep Quality Index (PSQI).

Analysis And Interpretation Of Data Collection On Psqi Scale (N=30)



INTERPRETATION: In the above mentioned pie chart shows that the mean pre and post-test score was 12.57 and 9.07 respectively. Thus, the mean difference was 3.5. The Standard Deviation of pre-test was 2.78 and that of post-test was 1.99. The calculated "t" value was 16.85 and the tabulated "t" value was 1.69 at 0.05 level of significance for 29 df. The mean pre-test effectiveness score was significantly higher than the mean post-test effectiveness score. The calculated "t" value (t=16.85) was greater than the tabulated "t" value (t=1.69), therefore the null hypothesis H0 was rejected and research hypothesis H1 was accepted which means that the deep breathing exercise was effective in improving sleep quality amongst the hospitalized patients.

INTERPRETATION

In the above mentioned bar chart the score 5-10 rated as good in which 20% of samples were in pre-test and 80% samples in posttest, score 11-16 rated as average in which 70% sample in pre-test and 20% samples in post-test and 17-21 rated as poor in which 10% samples were in pre-test and 0% in posttest.

SUMMARY

Pre experimental study was conducted to assess the effectiveness of deep breathing exercise in improving sleep quality among the hospitalized patients in Apollo Hospital Gandhinagar, Gujarat. The samples consisted of 30 sleep disturbed patients. The purposive sampling technique was used to collect the sample. Data gathered was analyzed and interpreted using both experimental and inferential statistics. The mean and SD in pre-test was 12.57 and 2.78, where the post-test was 9.07 and 1.98. The calculated t-value was greater than tabulated t-value. Hence the null hypothesis was rejected and research hypothesis was accepted.

CONCLUSION

The study intends to assess the deep breathing exercise in improving sleep quality among the hospitalized patient in Apollo Hospital Gandhinagar, Gujarat. The study reveals that the post-test score is lesser than the pre-test score. Thus the deep breathing exercise was effective in improving sleep quality among the hospitalized patients.

REFERENCES

- Ranjan, A., & Goel, P. (2023). Effectiveness of breathing exercises on sleep quality among hospitalized patients with dyspnea Indian Journal of Nursing Studies, 14(2), 45-50
- Potter, P. A., Perry, A. G., Stockert, P., & Hall, A. (2021). Fundamentals of Nursing (10th ed.). Elsevier.
- National Sleep Foundation. (2020). Sleep in hospitalized patients: Challenges and solutions. National Sleep Foundation.
- Kaur G, Singh A. Effectiveness of deep breathing exercises on sleep quality among hospitalized patients. Int J Nurs Educ Res. 2018;6(3):293-6.
- Thimmapuram J, Grim R, Bell T, Weiss R. Breathing-based meditation decreases posttraumatic stress disorder symptoms in

U.S. military veterans: A randomized controlled longitudinal study. *J Trauma Stress*. 2017;30(5):512–20.

Potter PA, Perry AG, Stockert PA, Hall AM. *Fundamentals of Nursing*. 9th ed. St. Louis: Elsevier Mosby; 2017.
