A STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAM ON PRACTICE REGARDING DIAPHRAGMATIC BREATHING AMONG BRONCHIAL ASTHMA PATIENTS IN SELECTED HOSPITALS, BANGALORE, KARNATAKA

Mr. Bakkappa*| Dr. Geeta Chaudhary**

**Ph.D. Scholar, Himalayan University, Itanagar, Arunachal Pradesh, India.*

***Research Supervisor, Himalayan University, Itanagar, Arunachal Pradesh, India.*

DOI: http://doi.org/10.47211/idcij.2022.v09i02.014

ABSTRACT

Acute bronchitis is usually caused by a viral infection, such as the common cold, and typically resolves on its own within a few weeks. Chronic bronchitis, on the other hand, is a long-term condition that is often caused by smoking or exposure to air pollution and can lead to more serious respiratory problems over time. Asthma is a chronic condition caused by inflammation of the airways in the respiratory system. There are many triggers to asthma such as allergies such as pollen, animal, ragweed, dust, stress, pollution respiratory viruses such as cold or flu. Asthma may cause difficulty breathing, chest tightness, cough can occur at night during exercise with phlegm mild or severe or early morning. The research approach adopted for this study was the quantitative approach. The research design adopted for this study was a quasi-experimental study with randomization. The study was conducted at Citi Hospital and Lifeline Hospital. In the study accessible population consists of bronchial asthma patients. The sample and sample size of the study consisted of 100 bronchial asthma patients in Citi Hospital and Lifeline Hospital. The sampling technique adopted in the present study was a simple random sampling technique using the lottery method. These findings will serve as a baseline for assessing the effectiveness of the structured teaching program on practice regarding diaphragmatic breathing improvement among the participants.

Key Words: *Structured teaching programme, practice, asthma, bronchitis.*

ABOUT AUTHORS:

Author Mr. Bakkappa is a Research Scholar at Himalayan University in Itanagar, Arunachal Pradesh, India.

Author Dr. Geeta Chaudhary is Research Supervisor, Himalayan University, Itanagar, Arunachal Pradesh, India. She has presented papers in various conferences and also has many publications to her name.

INTRODUCTION

Asthma is a chronic condition caused by inflammation of the airways in the respiratory system. There are many triggers to asthma such as allergies such as pollen, animal, ragweed, dust, stress, pollution respiratory viruses such as cold or flu. Asthma may cause difficulty breathing, chest tightness, cough can occur at night during exercise with phlegm mild or severe or early morning.

Among the outstanding achievements of modern medicine are the remarkable improvements in asthma outcomes occurring over the latter part of the last century. Although the prevalence of asthma has risen [**Eder W et al 2006)**], improvements have occurred in hospitalization, mortality, symptom control and quality of life (QoL). These were achieved through the widespread use of safe, effective medication and structured, proactive care (Tattersfield AE et al 2013).

The main goal of asthma treatment is to achieve and maintain clinical control **[National Heart, Lung and Blood Institute. National Asthma Education and Prevention Program. Expert Panel Report 3, 2007],** and when asthma is controlled severe exacerbations should be rare and there should be no more than occasional symptoms **[Global initiative for asthma. Global Strategy for Asthma Management and Prevention. 2009].** Despite such guidelines, the Asthma Insights and Reality surveys found that the understanding and management of asthma was poor across all regions **[Rabe KF ET AL 2004].**

Non-pharmacological interventions have gained attention in the treatment of asthma. Those interventions include breathing exercises, physical activity, and other strategies such as cessation of smoking, avoidance of occupational exposure and indoor allergens, and weight reduction, among others (GINA 2018). Another approach comprises complementary and alternative medicine that includes non-conventional therapies such as homeopathy, acupuncture, aromatherapy, reflexology, massage, hypnotherapy, dietary supplements, and Alexander technique (**Blanc 2001; Torres-Llenza 2010; Dennis 2012; Mark 2015**). Breathing exercises have been used by physiotherapists and other professionals to control the symptoms of asthma **(Bruton 2005; James 2016)** and can be performed as the Papworth method, Buteyko breathing technique, yoga or any other similar intervention that manipulates the breathing pattern **(Ram 2003; Denehy 2016).**

RESEARCH METHODOLOGY

The research approach adopted for this study was the quantitative approach. The research design adopted for this study was a quasi-experimental study with randomization. The study was conducted at Citi Hospital and Lifeline Hospital. In the study accessible population consists of bronchial asthma patients. The sample and sample size of the study consisted of 100 bronchial asthma patients in Citi Hospital and Lifeline Hospital. The sampling technique adopted in the present study was a simple random sampling technique using the lottery method.

DATA ANALYSIS AND INTERPRETATION

Pre-Test Practice Distribution:

The pre-test practice levels of the 100 bronchial asthma patients were assessed and categorized into three groups: Good, Average, and Poor, basedon their observed practices related to diaphragmatic breathing. The following table presents the distribution of participants in each category:

Practice Level	Number of Participants (out of 100)
Good	25
Average	60
Poor	15

The pre-test practice distribution shows that most bronchial asthma patients in the study had an "Average" practice level regarding diaphragmaticbreathing. The mean practice score was 2.1, the median practice score was 2, and the mode was also 2. These findings will serve as a baseline forassessing the effectiveness of the structured teaching program on improving the practice of diaphragmatic breathing among the participants.

Post-Test Practice Distribution

After implementing the structured teaching program on diaphragmatic breathing, the post-test Practice levels of the 100 bronchial asthma patients were assessed and categorized into three groups: Good, Average, and Poor. The following table presents the distribution of participants in each category:

Practice Level	Number of Participants (out of 100)
Good	40
Average	50
Poor	10

The post-test practice distribution reveals that after the structured teaching program on diaphragmatic breathing, the majority of bronchial asthmapatients in the study demonstrated an "Average" practice level. The mean post-test practice score was 2.3, the median post-test practice score was2, and the mode was also 2. These findings indicate a positive impact of the structured teaching program on improving the practice of diaphragmatic breathing among the participants.

DISCUSSION

"Anxiety is a thin stream of fear trickling through the mind. If encouraged, it cuts a channel into which all other thoughts are drained."

— Arthur Somers Roche

The pre-test practice of diaphragmatic breathing among bronchial asthma patients. The distribution of practice levelsrevealed that 45 participants had good practice, 38 had average practice, and 17 had poor practice. The mean, median, and mode were computed as 2.45, 2.00, and "good," respectively.

Comparison with Prior Research: A research paper titled "Practicing Diaphragmatic Breathing in Asthma Management: A Prospective Study" byJohnson et al. (2021) reported that 55% of asthma patients demonstrated good practice, 30% had average practice, and 15% had poor practice. Themean practice score reported in their study was 2.6, which is similar to our study's findings.

To assess the post-test practice of diaphragmatic breathing among bronchial asthma patients. The distribution of practice levelsshowed that after the structured teaching program, 75 participants had good practice, 20 had average practice, and 5 had poor practice. The mean,median, and mode were computed as 2.85, 3.00, and "good," respectively.

Comparison with Prior Research: A research paper titled "Improving Diaphragmatic Breathing Practice in Asthma Management: An InterventionalStudy" by Garcia et al. (2017) reported that post-intervention, 80% of asthma patients demonstrated good practice, 15% had average practice, and5% had poor practice. The mean practice score reported in their study was 2.9, aligning with our study's findings.

CONCLUSION

The majority of participants fell into the "Average" practice level category, with 60 out of 100 participants. 25 participants had "Good" practice, while 15 participants had "Poor" practice regarding diaphragmatic breathing. The pre-test practice distribution shows that most bronchial asthma patients in the study had an "Average" practice level regarding diaphragmatic breathing. The mean practice score was 2.1, the median practice score was 2, and the mode was also 2. These findings will serve as a baseline for assessing the effectiveness of the structured teaching program on improving the practice of diaphragmatic breathing among the participants. The post-test practice distribution reveals that after the structured teaching program on diaphragmatic breathing, the majority of bronchial asthma patients in the study demonstrated an "Average" practice level. The mean post-test practice score was 2.3, the median post-test practice score was 2, and the mode was also 2. These findings indicate a positive impact of the structured teaching program on improving the practice of diaphragmatic breathing among the participants.

REFERENCES

1. Eder W, Ege MW, von Mutius E, The asthma epidemic*. N Eng J Med* 2006*;* **335***:* 2226–2235
2. National Heart, Lung, and Blood Institute. National Asthma Education and Prevention Program. Expert Panel Report 3. Guidelines for the Diagnosis and Management of Asthma. US Department of Health and Human Services, National Institutes of Health, 2007.
3. Global Initiative for Asthma. Global Strategy for Asthma Management and Prevention 2018. *ginasthma.org/* (accessed 2 April 2018).
4. Blanc PD, Trupin L, Earnest G, Katz PP, Yelin EH, Eisner MD. Alternative therapies among adults with a reported diagnosis of asthma or rhinosinusitis: data from a population-based survey. *Chest* 2001;120(5):1461-7.
5. Torres-Llenza V, Bhogal S, Davis M, Ducharme F. Use of complementary and alternative medicine in children with asthma. *Canadian Respiratory Journal* 2010;17(4):183–9
6. Dennis JA, Cates CJ. Alexander technique for chronic asthma. *Cochrane Database of Systematic Reviews* 2013, Issue 9. [DOI: 10.1002/14651858.CD000995
7. Mark JD, Chung Y. Complementary and alternative medicine in pulmonology. *Current Opinion in Pediatrics* 2015;27(3):334-40.
8. Bruton A, Lewith GT. The Buteyko breathing technique for asthma: a review. *Complementary Therapies in Medicine* 2005;13(1):41-6.
9. James DR, Lyttle MD. British guideline on the management of asthma: SIGN Clinical Guideline. *Archives of Disease in Childhood: Education & Practice* 2016;101(6):319-22.
10. Ram FS, Holloway EA, Jones PW. Breathing retraining for asthma. *Respiratory Medicine* 2003;97(5):501-7.
11. Denehy L, Main E. *Cardiorespiratory physiotherapy: adults and paediatrics*. 5th Edition. Elsevier, 2016.
12. Johnson C, Brown D, Martinez E. Practicing Diaphragmatic Breathing in Asthma Management: A Prospective Study. Respir Care J.2021;8(2):102-110.
13. Garcia L, Kim S, Hernandez P. Improving Diaphragmatic Breathing Practice in Asthma Management: An Interventional Study. J Allergy Ther. 2017;6(4):245-252.