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Effectiveness of Breath Hold Technique in Bronchial Asthma Patients to Improve Quality of Life – A Pilot Study

Priya Accal Thomas, Dr. P. Senthil Selvam

VELS University of Science Technology & Advanced Studies (VISTAS), Pallavaram, Chennai - 600117, Tamil Nadu, India

Abstract

Background/Introduction: Asthma is a major noncommunicable disease, causing inflammation and narrowing of the small airways in the lungs with symptoms, which can be any combination of cough, wheeze, shortness of breath and chest tightness. The recent Global Burden of Disease (GBD, 1990-2019) estimated the total burden of asthma in India as 34.3 million, accounting for 13.09% of the global burden. (2) Inhaled medication can control asthma symptoms and allow people with asthma to lead a normal, active life. Avoiding asthma triggers can also help to reduce asthma symptoms. The current evidence-based guidelines by Bateman ED, Khadadah M, Rabe KF et al., suggested that most patients with asthma can have complete control over the symptoms and can pursue regular activities without any restrictions. However, prospective studies from real-life scenarios have confirmed that a significant number of patients do not achieve this target. Haughney J, Nguyen K, Schatz M et al., also often noted that a significant number of patients suffer from poorly controlled asthma despite being on the appropriate medication, as recommended.

Inadequate access to healthcare, faulty inhaler use, a lack of specialist care and low literacy are a few of the factors associated with poor asthma control. Many patients with difficult asthma have improper inhaler techniques. Schatz M, Thoonen BP, Park J et al., evidences indicate that improving compliance and inhaler technique results in better asthma outcome, including improved control and quality of life.

Objective: To study the effectiveness of breath hold technique in bronchial asthma patients to improve quality of life.

Methodology: The study conducted was an experimental approach. A sample of 10 subjects satisfying the inclusion criteria were divided into control group and experimental group. The control group received conventional therapy of Breathing through the Nose (Nasal Breathing) Relaxation (Relaxed, controlled breathing) Decreasing Air Leaving (Decreased expiratory flow through pursed lip breathing). For experimental group in addition to conventional therapy, these subjects were separately educated, trained and exercised the breath hold technique for the usage of inhalers. Total treatment duration was 7 days. The subjects were assessed using spirometry for pulmonary function. The pre-test values were taken on the 0th day and post-test values were taken on the 7th day of treatment.

Result: Statistical analysis using both dependent and independent 't' test showed that breath hold technique along with conventional therapy improved FEV1 value and Quality of life scale. All the pulmonary function parameters above increased more in the experimental group than in the control group.

Conclusion: Breath hold technique, among the several steps in the checklist provided by manufacturers leaflets, in bronchial asthma should be strictly followed to ensure optimal drug delivery of inhaled medication and thereby improving quality of life and improving pulmonary function in subjects with bronchial asthma along with conventional therapy.

Keywords: Breath Hold Technique; Bronchial Asthma