Effect of Pursed Lips Breathing and Distract Auditory Stimuli Against Dyspnea

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Abstract: Dyspnea in patients with Chronic Obstructive Pulmonary Disease (COPD) is often interpreted as an uncomfortable condition due to breathing difficulties, not only the sensation of subjectivity, but also as a serious respiratory symptom. Pursed lips Breathing (PLB) is a widely used therapy in lung rehabilitation during daily activity in COPD patients, besides this therapy technique has benefits by reducing symptoms and improving quality of life. To reduce the uncomfortable condition due to difficulty breathing and sensation of subjectivity in COPD patients can be done with auditory stimuli using Distractive Auditory Stimuli (DAS). DAS is a non-pharmacological therapy that can be used, to reduce the sensation of dyspnea in patients with COPD. Methods: This research uses quasi experiment type research with pretest approach - posttest with control group design. Patients of COPD who become respondents are divided into 2 groups, group 1 is given PLB and DAS, group 2 is given PLB. Result: The result of this study shows the comparison of pre test for PLB and DAS group has mean and SD (3,19 and 0,75), whereas in PLB group have mean and SD (2,81 and 0,83) with significance level 0,01 (p> 0,05). Comparison of Post test for PLB and DAS group has mean and SD and PLB (2,31 and 0,94) with significance level 0,03 ( p> 0.05). Conclusion: It can be concluded that between PLB and DAS therapy compared to PLB alone have a significant difference.

1 BACKGROUND

Dyspnea is a condition that describes the sensation of shortness of breath, which is characterized by inhibition of airflow, or difficulty breathing and chest tightness that is often associated with heart or respiratory illness (Gold, 2017). Dyspnea in patients with Chronic Obstructive Pulmonary Disease (COPD) is often interpreted as an uncomfortable condition due to breathing difficulties, not only the sensation of subjectivity, but also as a serious respiratory symptom. This excessive perception of dyspnea during COPD exacerbations generally leads to a limitation of daily activity, whereas in dyspnea caused by holding the breath has an inhibitory effect on muscle strength, therefore the reduction of unpleasant respiratory sensations can play an important role in preventing physical inactivity patients with COPD (Shingai et al 2015). Pursed lips Breathing (PLB) is a widely used therapy in lung rehabilitation during daily activity in COPD patients, besides this therapy technique has benefits by reducing symptoms and improving quality of life. To reduce uncomfortable conditions due to difficult breathing and subjective sensation in COPD patients can be done with auditory stimuli using Distractive Auditory Stimuli (DAS). DAS is a non-pharmacological therapy that can be used, to reduce the sensation of dyspnea in COPD patients.

2 METHODS

This research is Quasi Experiment with pretest - posttest with control group design. This research attempts to express causal relationships by involving the control group in addition to the experimental group. But the selection of these two groups used a random technique. This design typically uses fairly established subject groups (clumping techniques), so that from the outset both groups of subjects may have different characteristics.
3 RESULTS

The result of this study shows the comparison of pre test for PLB and DAS group has mean and SD (3,19 and 0,75), whereas in PLB group have mean and SD (2,81 and 0,83) with significance level 0,01 (p> 0,05). Comparison of Post test for PLB and DAS group has mean and SD (2,44 and 0,89) meanwhile SD and PLB (2,31 and 0,94) with significance level 0,03 (p> 0,05).

4 DISCUSSION

Dyspnea in patients with Chronic Obstructive Pulmonary Disease (COPD) is often defined as an uncomfortable condition due to breathing difficulties, not just subjectivity sensation, but also as a serious respiratory symptom. This excessive perception of dyspnea during COPD exacerbations generally leads to a limitation of daily activity, whereas in dyspnea caused by holding the breath has an inhibitory effect on muscle strength, therefore the reduction of unpleasant respiratory sensations may play an important role in preventing physical inactivity patients with COPD (Shingai et al 2015).

Dyspnea is a common and often debilitating symptom that affects up to 50% of patients admitted to acute and tertiary hospitals and a quarter of patients seeking outpatient care. The presence of Dyspnea is a potent predictor of mortality, which surpasses general physiological estimates in predicting patient clinical pathways. Respiratory breathing arises from a variety of clinical conditions, but can also improve poor cardiovascular conditions in our increasingly irregular population. The underlying diagnosis and treatment of underlying Dyspnea is the most preferred and most direct approach to correcting this. Symptoms, but there are many patients whose cause is unclear or for whom Dyspnea persists despite optimal care (Parshall et al., 2012).

The nonpharmacological approach may also be used to improve drug therapy, since a pharmacological approach alone may not be sufficient to relieve Dyspnea in some patients. The most prominent of these approaches is pulmonary rehabilitation, which has shown a role in reducing Dyspnea (including Dyspnea perception) by improving cardiovascular fitness and / or reducing the sensitivity of patients by reducing fear or anxiety. Increasing the duration of exercise as part of a pulmonary rehabilitation program has been shown to lead to decreased Dyspnea. Muscle exposure exercises have also proven to be a useful addition to the whole body workout for those who have weaknesses in their inspiratory muscles (GOLD, 2017). In addition to lung exercises, other types of nonpharmacologic interventions are proven effective for treating Dyspnea. breathing exercises to treat Dyspnea, such as tightening lips breathing, which has been shown to improve the rate of Dyspnea recovery in COPD patients, are an additional option to consider in removing dyspnea (Rossi et al., 2014).

Pursed Lips Breathing (PLB) is a ventilation strategy that is often spontaneously adopted by patients with chronic obstructive pulmonary disease (COPD) to relieve Dyspnea, and its practice is widely taught as a breathing strategy to improve exercise tolerance (Mayr et al., 2017).

PLB is used by the proportion of patients with chronic obstructive pulmonary disease (COPD) to relieve Dyspnea. It is also commonly used in pulmonary rehabilitation (Bhatt et al., 2013). Pursed Lip Breathing Exercise is an exercise aimed at improving the ability of respiratory muscles to improve ventilation of lung function and improve oxygenation. Pursed Lip Breathing exercise techniques include: Adjusting the patient's position by sitting in the bed or chair. Putting one patient's hands on the abdomen (just below the proc. Sipoideus) and the other hand in the middle of the chest to feel the movement of the chest and abdomen while breathing, Take a deep breath through the nose for 4 seconds until the chest and abdomen feel lifted up and keep the mouth closed during inspiration and hold the breath for 2 seconds, exhale through the lips are closed and slightly open while contracting the abdominal muscles for 4 seconds (Gauravmaind,).

Program implementing pursed lips breathing that can be done that is with a routine exercise for 4 weeks, where in 1 week can be exercised for 3 times the practice of pursed lips breathing. Duration that can be done in each pursed lips breathing is the first week done pursed lips breathing for 10 minutes for 3 times of practice, the second week of pursed lips breathing for 15 minutes for 3 times of practice, the third Sunday pursed lips breathing for 20 minutes for 3 four weeks of practice, pursed lips breathing for 25 minutes for 3 times.
PLB can improve ventilation efficiency, and reduce respiratory rate (RR). PLB can reduce intrinsic final expiratory pressure (PEEP) by generating positive pressure on the mouth and functioning as a physiological extrinsic PEEP. By slowing the expiration, this decreases the tendency of the airways to collapse by reducing the Bernoulli effect created by airflow. Dyspnea in activity is associated with levels and levels of respiratory muscle contrast. Exercise also causes dynamic hyperinflation in patients with COPD. It is said that PLB, by reducing RR and dynamic hyperinflation (Bhatt et al., 2013).

DAS is a distractive auditory stimulus (DAS) in the form of music can decrease the perception of dyspnea caused by exercise in subjects with COPD. In addition, watersheds have improved adherence to exercise in groups with COPD. Therefore, to maintain a suitable level of physical activity, the watershed during physical exercise seems to be a useful tool in stable COPD patients, the music used is a classical instrument, selected alone, classical non-lyrics, 60-80 beats per minute (slow music) (Shingai et al., 2015). The watershed appears to increase dyspnea tolerance and can improve the effect of better exercise. To evaluate the effectiveness of watershed incorporation with training program can be done after 4 weeks (Lee et al., 2015).

5 CONCLUSION

It can be concluded that between PLB and DAS therapy compared to PLB alone does not have a significant difference Pursed lip breathing and distractive auditory is a non-pharmacological therapy that can be used as a therapy in patients with chronic obstructive pulmonary disease in reducing the sensation of tightness. Therapy is an easy therapy performed by patients as well as cheap and affordable. This therapy can also be applied to patients with COPD criteria GOLD II and III.

REFERENCE