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Research Paper

Effectiveness of Pursed Lip Breathing and Huffing Technique to Improve Breathlessness in Patient with Chronic Bronchitis

Physiotherapy

KEYWORDS : Lip Breathing, Chronic Bronchitis, Cardio

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ABSTRACT

- Chronic cough or mucus production for at least three months in two successive years defined as chronic bronchitis. There is inflammation and Swelling of the lining of the airways is found. The inflammation stimulates production of mucous (sputum), which can cause further obstruction of the airways. It occurs often in cold and flu season, usually coupled with an upper respiratory infection. 62 years old male farmer, diagnosed as Chronic Bronchitis. His Appetite was lost. Bowel and bladder were also disturbed. After the examination, different intervention were carried out and the results signify that the pursed lip breathing is an effective therapeutic intervention for a patient with chronic bronchitis for reduction in shortness of breath as well as in improvement of the endurance capacities.

INTRODUCTION

Chronic bronchitis usually is defined as chronic cough or mucus production for at least three months in two successive years. In chronic bronchitis, there is inflammation and Swelling of the lining of the airways that lead to narrowing and obstruction of the airways. The inflammation stimulates production of mucous (sputum), which can cause further obstruction of the airways. Obstruction of the airways, especially with mucus, increases the likelihood of bacterial lung infections (Brian, 2007).

Bronchitis occurs most often during the cold and flu season, usually coupled with an upper respiratory infection.

Bronchitis Symptoms-

- Fever with chills, muscle aches, nasal congestion, and sore throat.
- Cough is a common symptom of bronchitis.
- The cough may be dry or may produce phlegm.
- Continued forceful coughing may make the chest and abdominal muscles sore
- Wheezing may occur because of the inflammation of the airways.
- Shortness of breath.

CASE DESCRIPTION

A 62 years old male farmer, diagnosed as Chronic Bronchitis, was referred to Cardio-Respiratory Rehabilitation Unit, Dept. of Physiotherapy, Navodaya Medical College Hospital and Research Center, Raichur. Patient was complaining of severe cough with sputum, breathlessness and limitation in his functional activities. He was having same problem from last 1 year. His Appetite was lost. Bowel and bladder were also disturbed. He was a chronic smoker (01 packet of Bidi/day) and an alcoholic since last 30 years.

EXAMINATION

On Percussion	Right	Left
Upper lobe	Resonance	Resonance
Middle lobe	Hyper Resonance	-
Lower lobe	Hyper resonance	Resonance

Table 1 Examination on percussion

SYMPTOMS ASSESSMENT

Cough-intermittent and productive Sputum-

- Color -yellowish
- Quality-thick
- Quantity-less
- Odor- odorless

DYSPNOEA

For Dyspnoea examination, New York heart association grading was used. Examination was conducted which put him in grade 3. (Grade 3- Marked limitation in activity due to symptoms, even during less-than-ordinary activity)

CHEST EXAMINATION

Level	Expiration	Inspiration	Differences
Axillary level	34cm	35cm	1cm
Nipple level	33cm	34cm	1cm
Xiphoid level	30cm	32cm	2cm

Table 2 Chest Level Expansion

PROBLEM LIST

- Breathlessness
- Cough
- Cough with expectoration
- Chest pain
- Difficulty in ADL activities
- Unable to do his job(farming)

INTERVENTION

1. BREATHING EXERCISE-

-Pursed lip breathing (Thomas et. al., 1966; Spahija and Grassino, 1996)

Dosage-10 minutes, 3 times/day for 1 week

2. HUFFING-

Dosage-5 minutes, 3 times/day for 1 week

OUTCOME MEASURE

Six Minute Walk Test (6 MWT):

The detail explanation was given to the patient by the walk test. He was asked to walk as far as possible for six minute.

RESULTS

Result was taken after 1 week of rehabilitation.

Parameters	Before Treatment	After Treatment
Dyspnoea Grade (NHA)	Grade-3	Reduced
Six minute walk test (Distance covered)	90m	150m

Table 3 Results after rehabilitation

DISCUSSION

Many scientist examined the mechanism underlying the dyspnea relief associated with PLB, proposed that the relief of

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breathlessness provided by PLB was related to its ability to promote a slower and deeper breathing pattern. PLB may act to unload the diaphragm and consequently may help to protect it against the development of fatigue (Gail and Christine, 2004; Jadranka and Michel, 2005).

CONCLUSIONS

The result itself indicating that the pursed lip breathing is an effective therapeutic intervention for a patient with chronic bronchitis for reduction in shortness of breath as well as in improvement of the endurance capacities. Additionally huffing is an effective chest clearance technique for removal retained secretion.

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