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The effect of motivational abdominal breathing device on breathing patterns and shortness of breath in patients with chronic obstructive pulmonary disease**Mehdi Golmohammadi Kavaki**

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Background: In the absence of a definitive therapy for the chronic obstructive pulmonary disease (COPD), the pulmonary rehabilitation is proposed as one of the treatments for this disease. The motivational abdominal breathing is a new rehabilitation technique with limited evidence of effect on the respiratory status in the COPD patients.

Aim: To determine the effects of the motivational abdominal breathing device on breathing patterns and shortness of breath in the COPD patients.

Method: This randomized controlled clinical trial was carried out on 70 patients with COPD at Samen Al-Aemmeh Hospital in Chenaran, Iran in 2015. The participants were assigned into the intervention and control groups who performed abdominal breathing with the newly developed device and the normal abdominal breathing, respectively, twice a day for two weeks. The shortness of breath as well as respiratory rate and depth were measured by numerical rating scale and spirometry. The data were analyzed using the independent t-test and Mann-Whitney test through SPSS software version 11.5.

Results: According to the results, the mean ages of the participants were 50.9 ± 9.4 and 49.5 ± 9.8 years in the intervention and control groups, respectively. The independent t-test showed no significant difference between the two groups regarding the changes in the respiratory rate before and after the intervention ($P=0.78$). However, the results of the independent t-test and Mann-Whitney test revealed significant difference between the two groups in terms of the changes in the respiratory depth ($P<0.001$) and shortness of breath ($P<0.001$) before and after the intervention.

Conclusion: As the findings of the present study indicated, the motivational abdominal breathing device can improve the shortness of breath and respiratory depth in the COPD patients because of creating appropriate visual feedback. As a result, this device can be used in the pulmonary rehabilitation. However, further studies are needed to assess the impact of this device on the respiratory status in the COPD patients.

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