Ventilatory effects of Manual Breathing Assist Technique (MBAT) and Shaking in central nervous system disease sufferers

Abstract

Objective: Comparative evaluation of the effects of Manual Breathing Assist Technique (MBAT) and Shaking on the respiratory ventilation of central nervous system diseases sufferers and healthy individuals.

Design: Experimental Study.

Setting: Medical facilities.

Population: A group of thirteen healthy individuals (normal group) and a group of twenty-one central nervous system diseases sufferers without upper airway obstruction (subject group).

Intervention: Administration of MBAT and shaking by a single physiotherapist.

Outcome measures: Evaluation of Tidal Volume, Peak Expiratory Flow Rate and Expiratory Time under rest respiration, MBAT, and shaking conditions.

Results: As a result of a two-way factorial analysis of variance, TV and Te showed significant interaction effect between the subject group and the normal group, while PEFR showed no significant interaction. TV of the normal group was increased about 65% by MBAT and about 110% by shaking, compared to that under the rest respiration. While TV of the subject group was increased about 10% by MBAT, no increase was observed under the condition of shaking. As to Te the normal group was affected by the intervention. However, no difference was observed for the subject group under rest respiration, MBAT, and shaking conditions.

Conclusion: As far as TV and Te are concerned, significant differences were observed between the subject group and normal group in terms of the effects of MBAT as well as shaking. While MBAT increases TV of the subject group, shaking does not affect TV of the same subjects. Both MBAT and shaking are effective methods for increasing PEFR.