Abstract:

The theoretical part of the thesis summarizes essential knowledge about COPD, inspiration function and its pathological changes in COPD patients. It also deals with appropriate ways to diagnose and measure the inspiratory activity. It further deals with the effect of the body position on the monitored respiratory functions, appropriate method of inspiratory muscle training as well as with utilization of an inspiratory device. It also deals with the relevance of patient adherence for COPD treatment. The aim of the practical part is to evaluate whether the functional activity of inspiratory muscles changes in different body positions (lying-sitting-standing). The measurements were performed using the Powerbreathe K5 device by assessing S-index, Pif and Volume levels in 21 COPD patients and 8 probands representing a control group. The obtained data were then statistically processed and analyzed. The initial hypothesis regarding a change in measured values in different body positions has not been proved to be statistically significant. The change in measured values relating to the change in the body position, however, did manifest in individual patients, testing of the appropriate body position should therefore not be omitted in assessing the appropriate IMT parameters.

Keywords: COPD, inspirational parameters evaluation, effect of the body position, IMT, Powerbreathe