

Abstract

Our study focuses on the connection between existence of a punctum fixum (or point of support) and respiratory muscle strength. Respiratory muscles execute both respiratory and postural function. Therefore, their strength defines both of these functions. We summarize contemporary knowledge about respiratory and postural functions of the respiratory muscles, their interactions and the connection to postural stability. We used a spirometry assesment of maximal respiratory pressures (P_Imax and P_Emax). The values of P_Imax (P_Emax respectively) retrieved in stance and during water immersion without stable support were compared. We found statistically significant differences. P_Imax was lower in the water immersion situation ($p=0,0009$; $p\leq 0,05$) and so was P_Emax ($p=0,0076$; $p\leq 0,05$). Regarding the results, we suppose a significant influence of punctum fixum presence/absence on maximal respiratory muscle strength. Possible reasons are discussed.