

Effect of Forward Shoulder Posture on Maximum Breathing Capacity among Undergraduate Physical Therapy Students

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Abstract

Introduction: Normal posture ensures balance and protects body structures, while forward shoulder posture (FSP), often resulting from prolonged use of smartphones and computers, leads to muscle imbalance and respiratory issues. This study focuses on female students who commonly develop rounded shoulders during puberty, impacting their breathing. FSP limits thoracic expansion and reduces breathing efficiency.

Methods: A sample of 100 asymptomatic female physical therapy students aged 18 to 21 was selected through simple randomized sampling. Oral consent was obtained from all participants. Materials used included a flow-oriented incentive spirometer, tape measure, and stopwatch. Shoulder posture was assessed using a steel tape measure, with distances >2.5 cm indicating forward shoulder posture. Maximum breathing capacity (MBC) was evaluated using the "3 Minute Respiratory Exerciser Test" (3 MRET). Collected data were analyzed using SPSS version 16 software.

Results: The study found a statistically significant negative correlation between forward shoulder posture and maximum breathing capacity ($r = -0.93$, $p = 0.001 < 0.05$). Increased forward shoulder posture corresponded with a reduction in maximum breathing capacity.

Conclusion: Forward shoulder posture significantly affects maximum breathing capacity in female undergraduate physical therapy students.