The Effect of Smartphone Application Home-Based Exercises on Sleep Quality, Fatigue, Functional Capacity, And Quality of Life in Obstructive Sleep Apnea

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Abstract:

Background: Obstructive sleep apnea (OSA) is a condition characterized by recurring bouts of upper airway blockage during sleep, leading to intermittent hypoxia, daytime drowsiness, and reduced cognitive function. Obesity is a significant risk factor for OSA, and the condition is twice as common in obese individuals.

Long-Term Goals / Hypothesis: The goal of this research is to explore the effects of a home-based exercise training smartphone application on sleep quality, fatigue, functional capacity, and quality of life among OSA patients in Jeddah city, Saudi Arabia. The hypothesis is that using a home-based exercise training smartphone application will improve OSA patients' outcomes.

Specific Aims: The research aims to investigate whether the smartphone application for home-based physical therapy improves sleep quality, reduces fatigue, enhances functional capacity, and positively impacts the quality of life in individuals with OSA.

Methods: The study will be a Randomized Controlled Trial (RCT) single-blind. Fifty one with mild or moderate OSA will participate in this study. The intervention group will undergo a specific 30-minute physical rehabilitation program in addition to using the CPAP device, implemented for 3 consecutive months/3 sessions per week. Significance: This research could provide a new, accessible method for managing OSA symptoms, potentially improving patient outcomes and quality of life. It could also provide insights into the relationship between physical activity and OSA severity.