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Exploring The Impact of Prolonged Screen Time on Balance Abilities: A Scoping Review

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ABSTRACT

Balance is defined as the ability to maintain the body's position and stability, involving the coordinated functioning of the vestibular system, sensory input, and motor control. In today's world, the use of electronic devices such as televisions, computers, tablets, and mobile phones has become integral to daily life. Prolonged screen time, typically defined as four or more hours of screen use per day, has been associated with various physical and cognitive effects, including compromised balance, particularly in middle-aged and elderly individuals. This scoping review investigates the impact of prolonged screen time on balance abilities in individuals. To explore this connection, a comprehensive literature search was performed across multiple databases including PubMed, The Cochrane Library, Scopus, and OVID, covering studies published from December 2000 to December 2024. The initial search identified 4,841 articles, which were refined to 1,563 articles after removing duplicates. Following a screening process for relevance, five studies met the inclusion criteria and were included in the final review. This review adhered to the scoping methodology described by Arksey and O'Malley, Levac et al., and the Joanna Briggs Institute. The results of the reviewed studies suggest a significant correlation between prolonged screen time and impaired balance. Specifically, daily screen time exceeding four hours was found to have a detrimental effect on balance abilities. These negative effects were attributed to poor posture, musculoskeletal pain, and proprioceptive deficits. In addition to these factors, prolonged screen time is also linked to visual fatigue, poor posture, and mental fatigue, all of which can negatively influence balance. Though the findings demonstrate a clear relationship between prolonged screen time and balance impairment, the area remains an evolving field of study. Further research is required to fully understand the long-term effects of screen time on balance and overall physical health.

Keywords: Middle aged, Musculoskeletal deficits, Posture, Screen time.