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A pilot study to unveiling the link between physical fitness and cognitive health in early Vs. Late diagnosed diabetic patients

Abstract:

Background: Diabetes mellitus is a common chronic health condition that adversely affects various organ systems. However, its influence on physical fitness and cognitive health has yet to be thoroughly investigated, especially the timing of diagnosis.

Objectives: This pilot study seeks to explore the varying impacts of diabetes on physical fitness and cognitive functions, depending on the timing of diagnosis (early vs. late). It is suggested that by diagnosing and managing diabetes earlier, its detrimental effects on these health parameters can be reduced.

Method: For our analysis, we examined 40 diabetic patients and divided them into two groups based on how long they had been diagnosed: early (≤ 5 years) and late (≥ 6 years). Participants were subjected to a battery of physical fitness tests, including evaluations of upper and lower body strength, Coordination, and aerobic endurance. Additionally, cognitive assessments such as the Addenbrooke's Cognitive Examination, Mini-Mental State Examination, and Montreal Cognitive Assessment were administered. The data were analysed by conducting independent sample t-tests to compare the two groups.

Findings: The Study revealed notable disparities between the groups diagnosed early and those diagnosed late. Individuals who were diagnosed later experienced less favourable results in physical fitness evaluations, including handgrip strength, 6-minute walk distance, aerobic endurance and heart rate variability, as well as lower scores in all cognitive assessments. These findings suggest that a prolonged period of untreated diabetes can have detrimental effects on both physical and cognitive health outcomes.

In order to preserve both physical and cognitive functions, it is crucial to diagnose and manage diabetes early. This Study highlights the significance of prompt intervention and has the potential to shape future recommendations on the treatment and detection of diabetes to enhance health outcomes.

Biography

Arbind Kumar Choudhary is a distinguished medical professional and researcher at the All India Institute of Medical Sciences (AIIMS), India. Dr. Choudhary has contributed significantly to advancing medical science through his research, clinical practice, and publications. His dedication to improving patient outcomes and advancing healthcare innovations has made him a respected figure in his field.