

Exercise-Based Interventions for Older Adults with Intellectual Disabilities

Intervenções Baseadas em Exercícios para Idosos com Deficiência Intelectual

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ABSTRACT

Despite the growing number of older adults with intellectual disabilities (ID) worldwide, this group often remains underserved in health promotion strategies, particularly regarding physical activity. This article discusses the benefits of physical exercise for older adults with ID, based on a theoretical, descriptive, and reflective literature review. The findings highlight that regular physical exercise, especially when adapted, significantly improves muscle strength, balance, flexibility, functional capacity, and overall quality of life. Beyond physical benefits, exercise has a positive impact on mental health by reducing symptoms of depression, anxiety, and social isolation. It also supports developing and preserving cognitive functions, such as memory, attention, and decision-making. However, the lack of specific public policies, limited availability of qualified professionals, and insufficient inclusive environments remain significant barriers to participation in exercise programs. The study concludes that physical exercise is essential for promoting healthy and active aging in older adults with ID. Therefore, developing strategies that expand access to safe, inclusive, and professionally guided physical activity programs for this population is crucial.

Descriptors: intellectual disability, physical exercise, quality of life

RESUMO

Apesar do crescente número de idosos com deficiência intelectual (DI) em todo o mundo, esse grupo frequentemente permanece pouco atendido em estratégias de promoção da saúde, especialmente no que diz respeito à atividade física. Este artigo discute os benefícios do exercício físico para idosos com DI, com base em uma revisão de literatura teórica, descritiva e reflexiva. Os achados destacam que a prática regular de exercícios físicos, especialmente quando adaptados, melhora significativamente a força muscular, o equilíbrio, a flexibilidade, a capacidade funcional e a qualidade de vida geral. Além dos benefícios físicos, o exercício tem impacto positivo na saúde mental ao reduzir sintomas de depressão, ansiedade e isolamento social. Também contribui para o desenvolvimento e a preservação de funções cognitivas, como memória, atenção e tomada de decisão. Contudo, a falta de políticas públicas específicas, a disponibilidade limitada de profissionais qualificados e a insuficiência de ambientes inclusivos permanecem como barreiras significativas à participação em programas de exercício. O estudo conclui que o exercício físico é essencial para promover um envelhecimento saudável e ativo em idosos com DI. Portanto, é crucial desenvolver estratégias que ampliem o acesso a

programas de atividade física seguros, inclusivos e conduzidos por profissionais qualificados para essa população.

Descritores: deficiência intelectual, exercício físico, qualidade de vida

INTRODUCTION

Individuals with intellectual disabilities (ID) face significant challenges across multiple domains, including communication, social participation, functional autonomy, and health management. ID is defined by marked limitations in intellectual functioning and adaptive behavior, emerging before the age of 18 and affecting conceptual, social, and practical skills¹. With the demographic increase of adults aging with ID, these challenges become more pronounced, as aging-related physiological decline interacts with pre-existing developmental limitations, intensifying risks such as frailty, reduced mobility, social exclusion, and early onset of chronic conditions^{2,3}.

Despite the well-established benefits of physical exercise for the general older population—including improved physical function, reduced chronic disease burden, and enhanced mental health⁶—older adults with ID remain markedly underserved in physical activity programs. Barriers such as limited accessibility, scarcity of professionals trained in adapted exercise, and insufficient inclusive environments hinder participation⁷. Moreover, the scientific literature remains fragmented, with relatively few studies focusing specifically on adapted exercise interventions for aging individuals with ID⁸, revealing a gap in evidence-based guidelines.

Given this scenario, a central problem emerges: to what extent do existing physical exercise interventions effectively promote physical, cognitive, and psychosocial outcomes in older adults with ID?

Thus, this study aims to review and synthesize the available evidence on adapted physical exercise for older adults with ID, examining its effectiveness and identifying the benefits, limitations, and gaps that inform future research and practice.

METHODS

This study is a narrative literature review, adopting a theoretical, descriptive, and reflective approach to discuss the available evidence on physical exercise interventions for older adults with ID. A narrative review was chosen because the existing literature on this topic is still scarce, heterogeneous, and fragmented, making it unsuitable for systematic methods that require strict and reproducible protocols. This type of review allows for a broader and more integrative synthesis, contextualizing findings and discussing conceptual, practical, and methodological gaps in the field.

Although narrative reviews do not follow rigid criteria regarding study identification, selection, or quantification, efforts were made to ensure transparency in the search process. The literature search was conducted between January and March 2024, using the databases PubMed, SciELO, and Google Scholar. The following keywords and their combinations were used: “intellectual disability”, “older adults”, “aging”, “physical exercise”, “physical activity”, “adapted exercise”, “functional capacity”, “health promotion”. No restrictions on publication year were applied, as the aim was to capture both classical references and recent contributions relevant to the topic.

Because this is a narrative—not systematic—review, a formal count of all studies identified and excluded was not performed, which aligns with the methodological flexibility inherent to this review design. Publications in Portuguese and English available in full were considered. Inclusion criteria comprised materials that directly or indirectly addressed: (1) physical exercise or physical activity in older adults with ID; (2) aging-related changes in this population; or (3) barriers, facilitators, and health outcomes related to exercise participation. Dissertations, theses, conference abstracts, and materials not aligned with the study objectives were excluded.

Data analysis was descriptive and qualitative. Extracted information was grouped into thematic categories to support a critical discussion regarding the benefits, limitations, challenges, and recommendations surrounding physical exercise for older adults with ID.

RESULTS AND DISCUSSION

In narrative literature reviews, results and discussion are commonly presented together to allow an integrated, interpretative synthesis of findings. Consistent with this approach, the present section organizes the evidence into thematic dimensions—physical, cognitive, emotional, and social—highlighting their interconnections and implications for practice.

The literature consistently demonstrates that physical exercise promotes significant physiological benefits in older adults with ID, particularly regarding cardiorespiratory fitness, muscular strength, flexibility, and balance. These improvements are crucial for reducing the risk of falls, mitigating functional decline, and preventing complications such as sarcopenia, joint stiffness, orthopedic deformities, and metabolic disorders^{9–12}. Regular physical activity also supports independence in activities of daily living, an essential aspect of healthy aging in this population.

Structured resistance training, balance-focused programs, and moderate-intensity aerobic exercise have shown favorable outcomes. Low-impact modalities—such as aquatic exercise

and Tai Chi Chuan—offer additional advantages due to their accessibility and lower biomechanical stress¹⁶.

Evidence indicates that physical exercise contributes to maintaining and improving cognitive functions, including attention, memory, processing speed, and decision-making¹³. Programs integrating motor and cognitive demands, such as dual-task training and motor circuits that require reaction to stimuli, have demonstrated particularly strong effects on cognitive engagement and performance¹⁴. These findings highlight exercise as a potential strategy to slow cognitive decline and support adaptive behavior.

The mental health benefits of exercise are well established. Participation in regular physical activity is associated with improved mood, reduced symptoms of anxiety and depression, and enhanced emotional regulation. Blick et al.¹⁵ report that older adults with ID who engage in structured exercise programs show increased self-esteem, reduced self-injurious behaviors, and greater psychological stability. These effects are partly attributed to neurochemical responses, such as increased release of endorphins and dopamine.

Group-based exercise plays a central role in promoting social inclusion, improving communication skills, and strengthening interpersonal connections¹⁶. Social isolation—a common challenge for older adults with ID—is significantly reduced when they engage in consistent physical activity. Family and caregiver involvement emerges as a strong facilitator of adherence, enhancing motivation and supporting routine participation^{17, 18}.

Despite the benefits, persistent structural and societal barriers remain. Limited accessibility, scarcity of adapted programs, insufficient training among professionals, and lack of inclusive public policies restrict opportunities for engagement¹⁹. These barriers underscore the need for systemic interventions that ensure equitable access to exercise opportunities for this population.

Overall, physical exercise functions as a multidimensional health intervention that simultaneously influences physical, cognitive, emotional, and social domains. This integrative effect reinforces the role of physical activity as a cornerstone for promoting active and healthy aging in older adults with ID²⁰. Strengthening public policies, expanding professional development, and fostering community and family participation are essential strategies to improve adherence and program sustainability.

CONCLUSION

This study reinforces the essential role of regular, adapted physical exercise in promoting

physical, cognitive, emotional, and social well-being among older adults with intellectual disabilities (ID). The evidence indicates that exercise enhances strength, balance, flexibility, and functional capacity, while also reducing symptoms of anxiety and depression, preventing chronic diseases, and mitigating social isolation—key determinants of healthy and active aging.

Despite these benefits, important gaps persist in the scientific literature. The available studies are predominantly cross-sectional, small-scale, or heterogeneous in methodology, limiting the generalization of findings. There is a pressing need for randomized controlled trials, longitudinal cohort studies, and investigations assessing dose–response relationships to better understand the specific types, intensities, and frequencies of exercise that yield optimal outcomes for this population. Additionally, research examining implementation barriers, adherence predictors, and cost-effectiveness analyses could substantially contribute to informing public policies and guiding the allocation of resources toward inclusive physical activity programs.

Future studies should also explore the development and testing of standardized adapted exercise protocols, examine the role of family and caregiver involvement, and evaluate technology-assisted interventions, such as tele-exercise and digital monitoring tools, which may expand accessibility for older adults with ID.

In summary, while physical exercise is a central intervention for fostering independence, functionality, and quality of life in older adults with ID, advancing the field requires more rigorous and comprehensive research efforts. Strengthening the scientific evidence will support the development of effective, scalable, and sustainable exercise-based strategies that address the complex needs of this growing population.

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CONTATO

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