

Intellectual Disability and Physical Activity Participation Perceived Barriers

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Individuals with intellectual disability (ID) tend to have a sedentary lifestyle, with low physical fitness and an increased risk of chronic diseases. One reason for the prevalence of a sedentary lifestyle is the existence of barriers to participation in physical activity (PA).

barriers

intellectual disability

physical activity

sedentary lifestyle

1. Introduction

Intellectual disability (ID) is characterized by a deficit in intellectual and adaptive functioning in the conceptual, social and practical domain, being identified with deep, severe, moderate and mild degrees, developing before the age of 18 ^[1].

In this population, sedentary lifestyles prevail ^{[2][3]}, not meeting the World Health Organization PA guidelines ^[4].

Due to their sedentary lifestyles, individuals with ID have low levels of physical fitness ^{[5][6][7]}, with an increased risk of acquiring other comorbidities such as type II diabetes, hypertension, cholesterol and metabolic syndrome ^[8]. On the other hand, adopting a healthy active lifestyle and regular PA participation positively affect their physical ability (aerobic capacity, strength, balance and flexibility), cognition, health and quality of life ^{[9][10][11][12]}.

One of the reasons found in the literature that can justify the fact that these individuals adopt sedentary lifestyles is the existence of barriers/obstacles/constraints that make the practice of PA difficult ^{[13][14]}.

Previous research has already mentioned the existence of these barriers, such as Bossink's study, which reported that there are 14 personal barriers and 23 environmental barriers to PA participation ^[13]. Additionally, and according to McGarty and Melville's study ^[14], the barriers to PA participation are associated with three main factors: (i) family members, (ii) personal factors and (iii) social factors.

Over the years, the barriers identified by these authors may have already been overcome and new ones may have emerged, and some of these studies are limited in time and fail to analyze other perspectives and perceptions rather than those expressed by family members.

2. Perceived Barriers of Physical Activity Participation in Individuals with Intellectual Disability

Herein aims to increase knowledge for a better understanding of the perceived barriers of physical activity participation in individuals with ID, identify and discuss the reasons and factors associated with those participation barriers and to identify appropriate strategies to be used by professionals based on the perception of individuals with ID, their families and their technical caregivers.

The social barriers to PA participation are those that present a greater set of topics. In the studies included in the present systematic review, individuals with ID themselves and project leaders are the groups that perceive the least barriers, unlike family members and technical caregivers. In the same sense, a behavioral change in the direct support from professionals is suggested in order to promote PA among individuals with ID ^[15], increasing interpersonal interaction between both stakeholders as well as the commitment to encourage, adopt and maintain PA participation ^[16]. On the other end, family members recognize that they are the main barrier to PA participation, since they describe themselves as overprotective of their children, given their characteristics ^[17]. They must mitigate these attitudes and stimulate PA participation since PA patterns in childhood are seen as relevant predictors of PA participation in adulthood ^{[18][19]}. They are preponderant in the process of starting and adhering to PA participation in its quantity, duration and complexity ^{[20][21]}.

Herein also highlights those topics such as the characteristics of the disability itself, lack of spaces and adapted activities, which are referenced by the various studies included in the systematic review. The previous reported results are transversal to other types of disability. For motor disabilities, Jaarsma et al. ^[22] highlighted the following barriers to PA practice: (i) characteristics of the disability itself; (ii) health; (iii) lack of facilities for the practice of PA; (iv) transportation; (v) accessibility. Additionally, Marmeleira et al. ^[23] identified a set of barriers in the visually impaired population: (i) problems on sidewalks; (ii) lack of adapted facilities; (iii) lack of support from public entities; (iv) need for a guide; (v) lack of adapted PA supply; (vi) lack of security in existing facilities. Tsai and Fung ^[24] reported the following barriers to PA participation in the hearing-impaired population: (i) uncomfortable feelings with society's negative attitudes towards disability; (ii) lack of adapted information; (iii) physical discomfort; (iv) lack of physical fitness; (v) lack of direction; (vi) interpersonal restrictions; (vii) lack of adapted facilities. These barriers lead to the conclusion that there is an important need to create physical exercise programs that are as personalized and adapted as possible to individuals' needs.

Herein included articles from various age groups, including most perceived barriers to PA participation at different ages, with the exception of aspects inherent to aging, climate, sensory issues and limited human resources that are only identified by the elderly population ^[25].

The results confirm the existence of clear barriers to PA participation in individuals with ID at all levels. Some of them have been identified in the literature for quite a long time, as is the case for Messent et al. ^[26], where intrinsic and extrinsic barriers are mentioned, or in more recent studies, as is the case for Bossink et al. ^[13], where 14 personal barriers and 23 environmental barriers were identified, and McGarty and Melville's ^[14] study that, despite

asking only family members, suggested that barriers to PA participation were related to three factors: (i) family members; (ii) personal; and (iii) social. All barriers found through the present study have already been identified and mentioned by previous systematic reviews. However, based on Bossink et al.'s study [\[13\]](#), the barriers seem to have attenuated/decreased, since in this systematic review there were no topics such as: (i) individual fears; (ii) lack of motivation; (iii) anxiety on the part of the technicians (fear of doing something wrong). Aiming to increase the regular practice of PA, the results of this systematic review can be seen to indicate that recommendations/strategies are being put into practice, and this may be at the origin of the decrease in some barriers. Some studies analyzed in this systematic review provide a set of strategies/recommendations [\[17\]\[27\]\[28\]\[29\]](#) that can be seen as contributions to mitigate/decrease barriers to PA practice that must be taken into account. This fact may lead individuals to adopt more active lifestyles, which lead us back to the Ecological Model for Health Promotion [\[30\]](#), in a perspective that can support the process of behavioral change and promote health. The Ecological Model for Health Promotion [\[30\]](#) emphasizes the importance of social environments for health promotion and requires more active participation by various stakeholders, where the Personal, Interpersonal, Organizational, Community and Public Policy factors have a fundamental role in the structuring, promotion and implementation of PA programs, reducing and attenuating the barriers to the practice of PA and highlighting the very interventional role of the organization in this process.

3. Conclusions

The disabled person faces a set of barriers to the practice of PA. Specifically in ID, the main barriers to PA practice, perceived by individuals with ID themselves, their families, caregivers/technicians or even from the perspective of project leaders, can be systematized into personal factors (6 topics), family members (4 topics), social (13 topics), financial (1 topic) and environmental (1 topic).

Since the last published systematic review, the number of perceived barriers to the practice of PA by individuals with ID has decreased. This fact may presuppose basic work carried out, taking into account the strategies and recommendations that have been presented, aiming to promote the practice of PA and therefore influencing this change.

The present work reinforces the existence of a set of barriers to the practice of PA by several interested parties, being a useful tool for researchers and professionals in the process of structuring, promoting and implementing PA programs among individuals with ID, which should be as adapted as possible to the individual and their preferences in order to contribute to an increase in healthy lifestyles and to an improvement in physical fitness, health and quality of life.

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