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journal homepage: www.elsevier.com/locate/redevdis



#### Review article

## Parental perceptions of facilitators and barriers to physical activity for children with intellectual disabilities: A mixed methods systematic review



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#### ARTICLE INFO

Number of reviews completed is 2.

Keywords:
Physical activity
Children
Intellectual disabilities
Facilitators
Barriers
Systematic review
Meta-ethnography

#### ABSTRACT

Background: There is a need increase our understanding of what factors affect physical activity participation in children with intellectual disabilities (ID) and develop effective methods to overcome barriers and increase activity levels.

Aim: This study aimed to systematically review parental perceptions of facilitators and barriers to physical activity for children with ID.

*Methods*: A systematic search of Embase, Medline, ERIC, Web of Science, and PsycINFO was conducted (up to and including August, 2017) to identify relevant papers. A meta-ethnography approach was used to synthesise qualitative and quantitative results through the generation of third-order themes and a theoretical model.

Results: Ten studies were included, which ranged from weak to strong quality. Seventy-one second-order themes and 12 quantitative results were extracted. Five third-order themes were developed: family, child factors, inclusive programmes and facilities, social motivation, and child's experiences of physical activity. It is theorised that these factors can be facilitators or barriers to physical activity, depending on the information and education of relevant others, e.g. parents and coaches.

Conclusions: Parents have an important role in supporting activity in children with ID. Increasing the information and education given to relevant others could be an important method of turning barriers into facilitators.

#### What this paper adds?

This study is the first to systematically review parental perceptions of facilitators and barriers to physical activity for children with ID. Through a structured search and synthesis of data, relevant factors which affect physical activity in children with ID have been identified. The development of a conceptual and theoretical understanding of the relationships between these factors highlights the complexity of supporting physical activity for children with ID. The importance of information and education was identified, which could provide an effective method of turning barriers to activity into facilitators. These findings highlight specific factors which need further investigation in future research and contributes valuable information to the limited knowledgebase on physical activity in children with ID.

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#### 1. Introduction

Physical activity has numerous physical and mental health benefits for children (Ahn & Fedewa, 2011; Biddle & Asare, 2011; Janssen & LeBlanc, 2010). To gain clinically meaningful health benefits from physical activity, it is recommended that children participate in at least 60 min of moderate to vigorous physical activity per day (Chief Medical Officers, 2011). However, recent studies have shown that children with ID do not participate in sufficient activity to gain meaningful health benefits (Boddy, Downs, Knowles, & Fairclough, 2015; Einarsson et al., 2015). This is concerning as children with ID experience various negative health outcomes and chronic health conditions, such as anxiety disorders, obesity, and reduced cardiorespiratory and muscular function (Maiano, 2010; Oeseburg, Dijkstra, Groothoff, Reijneveld, & Jansen, 2011). Increasing levels of physical activity could therefore be an effective method of improving relevant health outcomes for this population (Johnson, 2009). However, it is necessary to first increase our understanding of why children with ID are, in general, inactive.

These low activity levels could be due to factors associated with ID or could be attributed to various socio-ecological factors which limit opportunities for physical activity (Bronfenbrenner, 1979). Previous research has demonstrated that children with ID have different experiences relating to participation and inclusion compared to their typically developing peers, such as participating in less social and recreational activities, preferring solitary and passive activities, and having fewer friends (Buttimer & Tierney, 2005; Solish, Perry, & Minnes, 2010). Disability effects, societal attitudes to disability, accessible facilities, and staff information have also been reported to affect physical activity in children with disabilities (Shields, Synnot, & Barr, 2012). Furthermore, cognitive factors associated with developmental disabilities, such as a reduced ability to judge safety and understand rules and concepts within play, also limits participation (Sterman et al., 2016).

Another important factor affecting the participation of children with ID in physical activity is parents (Shields et al., 2012; Sterman et al., 2016). Parental beliefs and behaviours regarding activity are significant correlates of physical activity in children with ID (George, Shacter, & Johnson, 2011; Pitchford, Siebert, Hamm, & Yun, 2016). This is in line with research in typically developing children which has highlighted the "gatekeeper" role that parents play in the promotion of physical activity (Bois, Sarrazin, Brustad, Trouilloud, & Cury, 2005; Trost et al., 2003; Welk, Wood, & Morss, 2003). However, children with disabilities are more reliant on support from others, in particular parents, to be active, which highlights the key role that parents have in promoting activity for their children with ID (Downs, Boddy, Knowles, Fairclough, & Stratton, 2013; Martin & Choi, 2009). Therefore, understanding physical activity in children with ID from the perspective of parents, and investigating factors that parents view as facilitators and barriers to physical activity, will help inform the development of relevant interventions to increase the activity levels of children with ID.

Numerous studies have investigated parental perceptions of facilitators and barriers to physical activity for children with ID. However, due to the wide scope of research in this field, it is currently not possible to draw definitive conclusions. Therefore, the aim of this study is to conduct a mixed-methods systematic review to investigate parental perceptions of facilitators and barriers which affect the physical activity participation of their children with ID.

#### 2. Method

This study was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Moher, Liberati, Tetzlaff, & Altman, 2009).

#### 2.1. Search strategy

Relevant studies were identified through a systematic search to prevent the "berry-picking model" which is often a limitation of reviews including qualitative papers (Barroso et al., 2003). Five electronic databases relating to various fields, including psychology, education, and health (Embase, Medline, ERIC, Web of Science, and PsycINFO), were searched from database inception (range: 1946–1996) up to and including August, 2017 to enable the identification of studies which are relevant to the aims of this review, regardless of the scientific field or date of publication. This search was focussed on truncated physical activity, ID, and parental terms, and was broad to ensure all study designs were captured; the Embase search strategy, which was adapted for the other databases, is presented in Fig. 1. A reference list search of included studies was also conducted.

#### 2.2. Eligibility criteria

To be eligible for this review, studies had to include qualitative or quantitative data from parents relating to factors they perceive to be facilitators and/or barriers to physical activity in their child with ID. To ensure the data were representative of the intended population, studies were excluded if < 50% of the sample of parents had children with ID aged < 18 years. Parental data that was study-specific, e.g. parents' views relating to an intervention, were also excluded. If the data presented in the primary studies did not enable eligibility to be assessed, corresponding authors were contacted and asked to provide additional data/clarification; only one author who was contacted did not provide the required data, which resulted in exclusion of the study.

#### 2.3. Study selection

Title and abstract screening and full-text screening were independently conducted by two researchers (AMMcG & CAM), with any discrepancies discussed to reach a consensus. Reliability for the title and abstract screening and full-text screening was investigated

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