



Review article

Preterm birth and leisure participation: A synthesis of the literature

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ABSTRACT

Leisure participation has been associated with happiness and well-being in children.

Individuals born preterm are at greater risk for motor, cognitive and behavioral difficulties which may contribute to difficulties participating in leisure activities. This systematic review examined the current knowledge on participation in leisure activities in individuals born preterm throughout the lifespan as compared to term born controls. An electronic search of eight databases for articles published up to October 2011 was conducted. The quality of each study was assessed using a standardized checklist.

Thirteen studies met the selection criteria. In school-age children, no significant differences were found in activity levels between children born prematurely and term born controls. In adolescents, leisure scores in social activities, hobbies and sports were statistically significantly lower compared to controls. In young adults, differences in frequency and intensity of physical activity were reported compared to term controls. Promoting participation in leisure activities should be encouraged at a young age and continued to adulthood by minimizing the gaps between capabilities and the demands of the tasks and the environment.

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1. Introduction

In Canada, the incidence of low birthweight (500–2499 g at birth) is approximately 5.6% of live births (Statistics Canada, 2003), and North America has the second highest rate (10.6%) of preterm birth (<37 weeks gestation) worldwide after Africa (11.9%; Beck et al., 2010). Despite improving rates of survival for preterm infants over the past two decades, the rate of disabilities has remained relatively constant. Compared to full term controls, these children are at an increased risk for having cerebral palsy (Tin, Wariyar, & Hey, 1997; Vohr et al., 2005), and autism (Johnson et al., 2010; Limperopoulos et al., 2008) and are more likely to have signs of inattention and impulsivity, and a diagnosis of attention-deficit/hyperactivity disorder. About 40% of very low birthweight infants (<1500 g) who survive exhibit long-term developmental sequelae including motor, cognitive, behavioral, and/or other developmental impairments (Foulder-Hugues & Cooke, 2003). Delayed development has an impact on academic achievement, with educational resources and supports required for 30–65% in most cohorts. Academic challenges and activity limitations persist into adolescence and young adulthood (Hack, Taylor, Klein, & Mercuri-Minich, 2000; Hack et al., 2002; Hille et al., 2007). Outcome studies in later childhood and adolescence have focused primarily on school performance; however there is a paucity of evidence on other domains of activity and participation, particularly leisure activities.

Leisure is one of the “life situations” included in the International Classification of Functioning, Disability and Health-Child and Youth Version’s concept of participation and includes the following subcategories: play, sports, arts and culture, crafts, hobbies, and socializing (World Health Organization, 2007). Leisure involves voluntary non-work activities engaged in for enjoyment and may include active pursuits such as exercise or passive activities, or passive activities such as television viewing, reading alone and using the computer. Leisure activities may be formal, defined as structured activities that have rules and a leader, coach or instructor (e.g. extracurricular lessons and team sports), or informal activities that are initiated by the child and are more spontaneous in nature (e.g. watching television and playing with friends) (Law et al., 2006). Leisure has been associated with happiness and well-being (Dahan-Oliel, Shikako-Thomas, & Majnemer, 2012; Holder, Coleman, & Sehn, 2009). Other benefits of participating in leisure activities include skill development, cardiovascular fitness and lower obesity rates (Law, Petrenchik, King, & Hurley, 2007), social interactions and friendships, greater personal autonomy, and life satisfaction (King et al., 2003; Law et al., 2006). Children and youth are becoming more sedentary (Canadian Parks and Recreation Association, 2001) and physical inactivity is associated with a higher risk of obesity (McHugh, 2010), indicating the importance of participating in a wide range of leisure activities, including active-physical types of activities. Participating in a greater number of leisure activities may provide additional benefits such as increasing diversity of children’s experiences (Van Naarden Braun, Yeargin-Allsopp, & Lollar, 2006). Leisure participation may be influenced by the child’s personal factors, environmental factors, and health condition. The younger the child, the more likely it is that opportunities for leisure participation are initiated by parents. The social environment is therefore an important mediator of participation in leisure activities from early childhood to adolescence (WHO, 2001, 2007). Environmental factors, including the child’s social, physical, and political environment may pose significant obstacles to participation opportunities (Whiteneck et al., 2004). A child’s personal and environmental context cannot always be modified. Nonetheless, health care providers can enhance children’s participation in leisure activities by minimizing the gaps between successful engagement in preferred leisure activities and their capabilities, and the social and physical demands of the environment in which they live, learn, play, and develop (Law et al., 2007).

Ensuring that children and youth have adequate opportunities to participate in all aspects of their world is gaining momentum as a priority in pediatric rehabilitation (King et al., 2003; Law et al., 2006). Several studies have shown that participation in leisure activities among children with physical disabilities (King et al., 2006; King, Petrenchik, Law, & Hurley, 2009), high-functioning autism spectrum disorders (Hilton, Crouch, & Israel, 2008), and cerebral palsy (Engel-Yeger, Jarus, Anaby, & Law, 2009; Imms, Reilly, Carlin, & Dodd, 2008; Majnemer et al., 2008) is restricted compared to typically developing peers. Differences in participation in formal and informal activities were also found among youth with disabilities, with greater participation in informal activities (Klaas, Kelly, Gorzkowski, Homko, & Vogel, 2010; Law et al., 2006). However, participation in informal activities often corresponds to passive, sedentary activities, as opposed to formal activities that more often involve a more diverse group of people and occur further away from home (Klaas et al., 2010).

Impairments in motor coordination (de Kieviet, Piek, Aarnoudse-Moens, & Oosterlaan, 2009; Edwards et al., 2011), cognition (Johnson et al., 2009; Løhaugen et al., 2010) and behavior (Aarnoudse-Moens, Weisglas-Kuperus, van Goudoever, & Oosterlaan, 2009; Delobel-Ayoub et al., 2009) found in children born very to extremely preterm may negatively affect their leisure participation. Factors related to the child, family and environment may also mediate participation in leisure activities. Objective documentation of leisure participation in children born prematurely is required to ascertain whether engagement is restricted compared to peers. Although several studies have been conducted on this topic, evidence to suggest that children born prematurely are at risk for low leisure participation is lacking. Therefore, there is a need to synthesize findings across studies to consolidate the knowledge as to how leisure participation in children born prematurely compares to that of typically developing peers and understand the evidence regarding factors associated with leisure participation. Elucidation of the extent of participation in leisure activities would clarify the personal interests and preferences of these children, and would be helpful in the identification of child- and family-centered goals (Law et al., 2006). Determining key factors that positively or negatively influence leisure participation will guide the design of responsive and effective intervention strategies to promote leisure participation in individuals born prematurely across the lifespan. The aim of this systematic review was to appraise the current knowledge on participation in leisure activities in individuals born preterm throughout

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