



Review article

Lifestyle interventions targeting changes in body weight and composition among youth with an intellectual disability: A systematic review



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ARTICLE INFO

Article history:

Received 20 January 2014

Received in revised form 7 April 2014

Accepted 8 April 2014

Available online 13 May 2014

Keywords:

Weight

Fat mass

Waist circumference

Intervention

Physical activity

Dieting

Behavioral modification

Health promotion-education

ABSTRACT

Over the past three decades, the potential effects of lifestyle interventions targeting changes in body weight and composition (weight, body mass index, fat mass, waist circumference) among adults with an intellectual disability (ID) have been examined in various systematic reviews. Nevertheless, since the middle of the 1980s, the potential effects of these interventions for youth with an ID remain an open question. The purpose of this article is to review the effects of lifestyle interventions targeting changes in body weight and composition among youth with an ID. This review will focus on changes in body weight and composition, healthy lifestyle, and secondary health conditions. A systematic review of English- and French-language studies, published between 1981 and 2013, was performed on Academic Search Complete, PsycARTICLES, Medline and Scopus. The nine studies included in this review focused mainly on: a sample with a wide age range (e.g., 7–22 years); males; overweight-obese youth having a mild-to-moderate ID with Down or Prader-Willi syndrome; physical activity interventions; cohort pre- and post-test designs with/without a control group; and changes in body weight and composition. Taken together, results from these studies suggest successful changes in weight, body mass index and fat mass. However, intervention effects on healthy lifestyle and secondary health conditions are scarce and inconclusive. Given the weaknesses of the reviewed studies, the present findings should be considered preliminary and indicative of the need for future research.

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1. Introduction

It is well recognized that overweight and obesity represent a major worldwide health threat for adults (Melville, Hamilton, Hankey, Miller, & Boyle, 2007; Rimmer & Yamaki, 2006) and youth (Grondhuis & Aman, 2013; Maiano, 2011; Must et al., 2014) with an intellectual disability (ID). Available studies highlight extremely high prevalence rates of overweight and obesity in individuals with an ID, compared with those observed in individuals without an ID (Grondhuis & Aman, 2013; Maiano, 2011; Melville et al., 2007; Must et al., 2014; Rimmer & Yamaki, 2006). This higher prevalence in individuals with an ID highlights the need for interventions targeting changes in body weight and composition.

Many interventions are used to treat overweight or obesity among youth and adults (e.g., Avenell et al., 2004; Ho et al., 2012; McGovern et al., 2008; Oude Luttikhuis et al., 2009). They can be classified in three categories: (a) surgical (e.g., gastric bypass and gastric banding), (b) pharmaceutical (e.g., use of drugs such as orlistat or sibutramine), and (c) lifestyle (i.e., dieting, physical activity, health promotion–education and behavioral modification). These interventions are either used separately or combined, with the main objective being to promote changes in body weight (i.e., weight loss) and/or composition (e.g., reduction of fat mass or waist circumference). For lifestyle interventions, such an objective is reached by decreasing energy intake, increasing energy expenditure and/or developing healthy lifestyle knowledge, skills and/or behaviors (Fox, Switzky, Rotatori, & Vitkus, 1982; Staugaitis, 1978).

Over the past three decades, studies examining the effects of interventions targeting changes in body weight and composition among adults with an ID have been reviewed by various groups of authors (Casey & Rasmussen, 2013; Hamilton, Hankey, Miller, Boyle, & Meville, 2007; Heller, McCubbin, Drim, & Peterson, 2011; Jinks, Cotton, & Rylance, 2011; Rotatori, Switzky, & Fox, 1981; Spanos, Melville, & Hankey, 2013). These systematic reviews have focused essentially on studies relying on lifestyle interventions, such as diet, physical activity (including exercise and sport), health promotion–education (i.e., centering on nutrition and physical activity), and cognitive–behavioral strategies (i.e., cognitive restructuring, control of eating behaviors, reinforcement, self-monitoring, stimulus control techniques, etc.). These reviews show that a number of single or multi-component lifestyle interventions were successful in reducing body weight or fat (Casey & Rasmussen, 2013; Hamilton et al., 2007; Heller et al., 2011; Jinks et al., 2011; Rotatori et al., 1981; Spanos et al., 2013). Additionally, they indicate that the most significant changes were more likely to occur in multi-component lifestyle interventions (e.g., physical activity intervention combined with dieting and/or with health education). Interestingly, two of these reviews (Heller et al., 2011; Jinks et al., 2011) also suggest significant additional changes in lifestyle habits, such as consumption of healthy food and regular practice of a physical activity, as well as changes with regards to secondary health conditions (e.g., physical fitness, maladaptive and stereotypical behaviors, and mental health).

In contrast, since the middle of the 1980s (for previous reviews, see Fox et al., 1982; Rotatori et al., 1981), no systematic review on the effects of lifestyle interventions targeting changes in body weight and composition was dedicated exclusively to children and adolescents with an ID. Recently, a review conducted by Casey and Rasmussen (2013) included youth with an ID. However, it did not focus specifically on young participants, but covered a wide age range, comprising studies with samples of adolescents, adults or both. Moreover, this review centered exclusively on the effects of exercise training interventions on body fat percentage changes. Consequently, with respect to children and adolescents with an ID, it is still unknown: (a) whether or not dieting, physical activity, health promotion–education, and cognitive–behavioral techniques represent effective means for changing body weight and composition; (b) which one of these techniques (i.e., dieting, physical activity, health promotion–education, and/or cognitive–behavioral) is the most effective in promoting changes in body weight and composition; and (c) whether the most significant changes in body weight and composition are found when these techniques are used separately or in combination.

Moreover, in contrast to adults with an ID and youth without an ID, it is still unknown whether the long-term effects of lifestyle interventions are sustainable for youth with an ID. Since there is no certainty that the resulting changes in body weight and composition are maintained several months or years after the intervention, the long-term follow-up effects need

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