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Abstract

Purpose

The purpose of this paper is to consider issues around obesity and overweight for people with Intellectual disabilities.

Design/methodology/approach

A review of the literature is provided looking at issues around overweight and obesity for adults with intellectual disabilities. Both prevalence studies and intervention studies were considered.

Findings

The prevalence of overweight and obesity is considerably higher for adults with intellectual disabilities when compared to the general population. Intervention studies focusing on multiple components seem to be the most effective. However, future research should focus on randomised control trials taking into consideration the views of people with intellectual disabilities.

Originality/value

This paper synthesises some of the available evidence on obesity and overweight for adults with intellectual disabilities providing clear recommendations for the future.

Keywords: Intellectual disabilities, obesity, overweight, underweight, intervention, weight management.

Obesity and overweight are two of the most significant health issues worldwide. The World Health Organisation (WHO) defines overweight and obesity as the ‘abnormal or excessive fat accumulation that presents a risk to health’ (2018). Body Mass Index (BMI) is used to calculate obesity. A value equal to 25 or more is considered overweight and a value of 30 or above is considered obese. WHO reported in 2016 a prevalence of 39% for

overweight in the general population and 13% for obesity (WHO, 2018). Past studies have shown that adults with intellectual disabilities (ID) are more likely to be obese compared to the general population (Emerson, 2005; Bhaumilk *et al.*, 2008; Moore *et al.*, 2004; Hove, 2004; Yamaki, 2005). Emerson (2005), reported high rates of overweight and obesity for both men and women with ID (28% overweight and 27% obese) residing in supported accommodation in Northern England. Bhaumilk *et al.*, (2008), also gave similar figures of 28% for overweight and 20.7% for obesity in adults with ID, looking at a population based sample in the East Midlands of England. Previous studies have also reported similar results, rating overweight and obesity much higher in the ID population when compared to the general population (Beange *et al.*, 1995; Wells *et al.*, 1997; Robertson *et al.*, 2000; Hove, 2004). Ranjan *et al.* (2017) in their narrative review of overweight and obesity in adults with ID reported prevalence rates 28% - 71% and 17% - 43% respectively.

It is well documented in the literature, that these two conditions can cause and progressively exacerbate, a number of secondary health problems such as: type 2 diabetes, hypertension, coronary heart disease, stroke, liver and gall bladder disease, osteoarthritis, respiratory effects and even increase the risk of cancer (Kopelman, 2007; WHO, 2018; Dixon, 2010; Koebnick *et al.*, 2012). People with ID are in a disadvantaged position as they already experience increased health problems compared to the general population (van Schrojenstein Latman-De Valk *et al.*, 2000). Therefore, as obesity rates are also high, it would be expected that obesity related health issues would be highly prevalent in this population. Rimmer *et al.*, (2010) confirmed this in their report. They found higher prevalence of obesity related health issues in overweight adolescents with Intellectual and Developmental Disabilities (IDD) when compared to their healthy weight peers. Yang *et al.*, (2002) also reported obesity as one of the causes of mortality for individuals with Down's Syndrome in

the USA. Even though these are important findings, they may also be criticised on the grounds of relatively small or unrepresentative sample.

The prevalence and risks of underweight have been less well researched in the ID population. There is conflicting evidence on this topic; some studies suggest that a BMI below 18.5, which is classed as underweight, may apply to certain groups of people with ID (Hove 2004; Robertson *et al.*, 2000), whereas other studies have found no difference between people with ID and the general population (Wells *et al.*, 1997). A more recent study, looking at Special Olympic adult athletes, including people with ID, found a difference between high and low income countries in terms underweight levels. Low income countries had significantly higher underweight levels (17%) compared to higher income countries (4.6%) (Temple *et al.*, 2015). Similar results were also demonstrated in McConkey *et al.*'s (2019) international survey where adults with ID in low income countries were 3.7 times more likely to be underweight.

Some of the risk factors suggested by the literature to increase the prevalence of obesity, are female gender (Bhaumik *et al.*, 2008; Patka & Murry, 2016), increasing age (Li *et al.*, 2015; Sohler *et al.*, 2009) the living situation of the individual (Bhaumik *et al.*, 2008), the severity of intellectual disability (Melville *et al.*, 2007; Stancliffe *et al.*, 2011), the level of their community involvement (Emerson, 2005) and staff support (Mikulovic *et al.*, 2014), the use of polypharmacy (Hamilton *et al.*, 2007), diet and physical activity (Koritsas & Iacono, 2016; Emerson, 2005) and the existence of any genetic conditions (Melville *et al.*, 2007; Bhaumilk *et al.*, 2008).

Compared to the general population, physical inactivity is much more prevalent in adults with ID (Mikulovic *et al.*, 2014). Studies have highlighted the barriers people with ID often face when it comes to their involvement in physical activity (Robertson *et al.*, 2000). Adults

living in residential houses were more likely to lead inactive lifestyles than adults residing in dispersed housing schemes or in village communities. But even then, when compared to the general population, adults with ID were more likely to lead inactive lifestyles (Robertson et al., 2000). Even though walking has been reported to be the most popular and common form of physical activity for people with ID (Mitchell et al., 2013), Hilgenkamp *et al.* (2012) found that only 16.7% of the 1050 older adults with ID (aged 50+) that participated in their study managed to comply with the recommended 10,000 steps a day, by WHO.

Healthy eating habits such as avoiding snacking between meals and less sweet beverage consumption are linked with healthier body weight and absence of overweight and obesity (Hsieh et al., 2014; Mikulovic et al., 2014). Registered dietitians (RD) are the most appropriate professionals to target the nutritional issues experienced by people with ID. However, research has shown that lack of training and non-individualised, group based approaches can lead to insufficient outcomes for this population (Humphries *et al.*, 2009).

The National Institute for Health and Care Excellence (NICE) guidance states that obesity interventions should comprise three components a) dietary changes, b) increase of physical activity and c) support to sustain the achieved changes (NICE, 2014). However, the weight management guidance for people with ID from Public Health England (2016) focused on one component interventions (diet only or exercise only).

Studies that have incorporated a multicomponent intervention have been found to be successful in weight loss outcomes for adults with ID (Doherty *et al.*, 2018). Melville *et al.*, (2011) reported a 5% weight loss for 36% of their participants. Their intervention incorporated a personalised energy deficient diet, physical activity and behavioural techniques. Similar results were also obtained by Spanos *et al.*, (2014), where 41% of the participants achieved a 5% weight loss. However, a meta-analysis of randomised controlled

trials, which is the golden standard approach for assessing the effectiveness of an intervention, didn't support the aforementioned results. The meta-analysis didn't show a clinically meaningful weight loss of 5-10% and also didn't show greater effectiveness when compared to a control group (Harris et al., 2018). Possible explanation on these results might be the lack of a diet programme as all studies included in the meta-analysis used a health education approach rather than a low calorie intake diet. Only one study achieved moderate intensity of physical activity (Fisher, 1986) and the behaviour change techniques implemented in the studies varied greatly (Harris et al., 2018).

The majority of research studies looking at the effectiveness of interventions have measured their outcomes by measurements of weight loss. Even though Spanos et al., (2014) and Sundblom et al., (2015) have reported on the experiences of carers and healthcare practitioners supporting individuals participating in weigh management interventions, no studies have ever looked at the views and experiences of people with ID. A better understanding of the needs of people with ID may lead to more effective interventions in the future.

Evidence based research is important to inform practitioners and clinicians of the most effective care for people with ID. Even though it is clear from the literature discussed above, that this population is in an already compromised position in terms of their health and the rates of overweight and obesity are continuing to increase compared to the general population, there is a clear gap in the literature looking at the effectiveness of weigh management interventions. Further randomised controlled trials are needed and the views of people with ID should be taken into consideration during the design process of interventions.

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