



# Weight survey on adult persons with mental retardation living in the community

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## Abstract

Prevalence of underweight and obesity were investigated in 282 mentally retarded persons living on the West Coast of Norway. Data collected in this survey suggest that people with severe mental retardation were more likely to be underweight and people with mild mental retardation were more likely to be obese. Compared to persons of average intellectual levels, persons with mental retardation were found to be over-represented with both underweight and obesity. Food refusal and self-induced vomiting was more present among persons regarded as underweight and reduced control of food intake was related to obesity. Findings suggest that behavioral variables may have explanatory value with respect to both underweight and obesity. Further investigation using functional analysis of behavior is recommended.

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The World Health organization (WHO) classifies obesity and underweight with respect to body mass index (BMI) calculated as  $\text{kg/m}^2$ . In accord with this formula, underweight is defined as BMI lower than 18.5 and obesity is defined as BMI equal to or higher than 30. Overweight is defined as BMI between 25 and 29.9 and finally, desirable weight is defined as BMI between 18.5 and 24.9. According to WHO, there is an alarming increase of obesity in the general population world wide (WHO, 1997a).

BMI is the most used measure for the relation between weight and health or risk of developing illness (National Board for Nutrition and Activity, 2000).

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Overweight and obesity are considered as risk factors for a number of health problems, some of the most severe being coronary heart disease, stroke and diabetes type II (WHO, 1997b). An increased mortality rate is found in people with BMI > 27 and among people with BMI < 17 (National Board for Nutrition and Activity, 2000). The correlation between BMI and mortality is reduced dependent of physical activity (National Board for Nutrition and Activity, 2000).

Few reports have been made in regard to BMI status among persons with mental retardation despite the fact that this group is known to be at greater risk for being underweight or obese (Gravestock, 2000). Studies conducted have for the most part been done with institutionalized children (see Stewart, Beange, & Mackerras, 1994). Gravestock (2000) lists eight surveys reporting BMI status in adults with mental retardation. In these studies, underweight typically was regarded as BMI < 20 and desirable weight as BMI > 20–25 (e.g., Cunningham, Gibney, Kelly, Kevany, & Mulcahy, 1990; Simila & Niskanen, 1991; Stewart et al., 1994; Wood, 1994) and thus not in accord with the WHO standard.

Considerable difference exists in reported frequencies of underweight and obesity among persons with mental retardation, ranging from 5 to 43% underweight cases and 2 to 35% with obesity (Bell & Bhate, 1992; Cunningham et al., 1990; Macdonald, McConnell, Stephen, & Dunningan, 1989; Simila & Niskanen, 1991; Stewart et al., 1994). According to Gravestock (2000), more studies with community-based sample are needed to identify prevalence and variables affecting underweight and obesity in persons with mental retardation.

Compared to the general population, underweight and obesity are found more often among persons with mental retardation (Bell & Bhate, 1992; Macdonald et al., 1989; Simila & Niskanen, 1991). Further, BMI status seems to vary dependent on degree of mental retardation (Cunningham et al., 1990; Simila & Niskanen, 1991; Stewart et al., 1994), and there is an overrepresentation of overweight and obesity in persons with Down's syndrome (Bell & Bhate, 1992; Rubin, Rimmer, Chicoine, Braddock, & McGuire, 1998; Stewart et al., 1994).

Simila and Niskanen (1991) argue that low level of physical exercise is an explanatory factor with respect to the high incidence of obesity among persons with mental retardation. Further, they argue that degree of retardation and incidence of feeding/dietary problems among persons with severe mental retardation is a significant factor in explaining underweight. In a series of 35 hospitalized adults with learning disabilities, Wood (1994) identified assisted feeding and food regurgitation as risk factors for low weight. Stewart et al. (1994) found that the ability to prepare meals independently was not related to underweight. No reports have been made regarding independence skills related to obesity. Thus, the relation between BMI status and independence, and behavior related to eating is not clear.

The main purpose of the present survey was to explore the distribution of BMI in a population of persons with mental retardation living on the West Coast of Norway. This data is compared with data from a Norwegian weight survey conducted in the general community. Second, we evaluated behavioral variables affecting underweight and/or obesity.

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