CORRESPONDENCE

Obesity in Disabled Children and Adolescents: An Overlooked Group of Patients

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Energy Consumption Diminished in Paraplegia

In children and adolescents with congenital paraplegia due to spina bifida, obesity is a common problem, albeit one that is difficult to treat, as the authors point out accurately in their article. I wish to highlight some particular aspects in such patients:

The body mass index (BMI) is the commonly used variable on which to base a diagnosis. However, one of the problems in spina bifida patients is their short body height owing to scoliosis/kyphosis, bending contractures, and hypotrophic legs, resulting in a BMI calculation that is falsely high. In such patients, arm span should be used as the variable instead of body height (1).

The level of lesion, and thus the ability to move, influences the prevalence of obesity: in the Seattle cohort, 26% of patients with a paralysis level of L1 were obese, and at the L2/3 level, 17% [David Shurtleff, personal communication].

Dysphagia as a result of Arnold-Chiari-II malformation can prompt overfeeding because each intake of food in early infancy had posed problems and, although symptoms may lessen subsequently, feeding is therefore continued at the same level of intensity.

Overweight is not only an esthetic problem but also a serious medical problem: personal hygiene and catheterization are substantially impeded as a result. Obesity severely affects the ability to walk especially in patients with high lumbar lesions (2).

It is often not known that energy consumption at rest in spina bifida patients is only 60–70% that of comparable healthy children, owing to the paralysis and the reduced muscle mass. Obese children with spina bifida thus can have a lower calorie intake than the recommended daily allowances (3), whereas spasticity increases the consumption of energy.

In the literature, data on the success of nutritional therapy and anaerobic training in patients with spina bifida are lacking.

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In Reply:

We thank Cremer for his valuable comments regarding children and adolescents with spina bifida. He rightly points out the difficulties inherent in using the BMI to capture the extent of overweight in children who are disabled by spina bifida. This is generally true for all children and adolescents with disabilities. As we said in our article, children and adolescents with disabilities have a different body composition, and, consequently, BMI and body composition do not fully correlate in such children (1). Instead of using arm reach to calculate the BMI, measuring skin folds or waist circumference, and possibly analyzing bioimpedance, may provide better parameters to determine body composition. However, standardized values for these groups of patients are lacking thus far, and future research should concentrate on how the extent of overweight in people with disabilities may be measured.

We agree with Cremer that the data situation regarding successful treatment—or otherwise—of overweight in spina bifida patients in the literature is sparse. In our study we mentioned a lifestyle intervention that increased physical fitness in the short term but did not reduce overweight (2). The missing proof that a lifestyle intervention is effective applies to all overweight children and adolescents. However, in spite of this, therapists should not deny the problem of overweight in children and adolescents with disabilities and—in the absence of evidence based insights—should take recourse to the obvious preventive and therapeutic recommendations (such as adapting the child's diet to the reduced scope of their exercise options; and in case of rapid weight gains to provide information about overweight and its individual consequences).

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Conflict of interest statement

The authors of both contributions declare that no conflict of interest exists according to the guidelines of the International Committee of Medical Journal Editors.