Accurately Measuring Obesity in Spina Bifida

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BACKGROUND/OBJECTIVES:

The prevalence of obesity is reaching epidemic proportions and in the Spina Bifida (SB) population the occurrence of obesity is assuming increasing importance as the life span of these individuals continues to improve. In individuals with SB, routine clinical measures of obesity (BMI) are subject to significant interpretive difficulties and therefore determining the most appropriate anthropometric measure of obesity is problematic.

The purpose of this study is to determine if arm span and height are more likely to classify spina bifida patients as obese.

RESULTS:

Data from 74 participants was used (age range 18-58; 27 males and 47 females). Data from ten individuals under the age of 18 years old was not included because the data was analyzed using different reference values. Based on abdominal circumference 46 adults were considered obese, (46/73 =63.01%), abdominalcircumference was not obtained in one individual. 14 were considered overweight (14/73=19.18%) and 13 were considered healthy (13/73 = 17.81%). Overall, 52.19% of adults were considered obese or overweight based on abdominal circumference.

Analyzing individual BMIs calculated using their height; 29 adults were considered obese (29/70=41.43 %), BMI data was not obtained in four individuals. 20 were considered overweight (20/70=28.57%) and 16 were considered healthy (16/70=22.86%). Overall, 70.00% of adults were considered obese or overweight based on BMI calculated using height. BMIs calculated using arm span; 28 adults were considered obese (28/71=39.44%), Arm span was not obtained in three individuals. 19 were considered overweight (19/71=26.76%) and 20 were considered healthy (20/71=28.17%). Overall, 66.20% of adults were considered obese or overweight based on BMI calculated using arm span.

Average weight of adults in our sample was 69.14 kgs for females and 75.84 kgs for males. Average height; 163.35 cm for males and 150.76 cm for females. Average arm span was 159.89 cm for males and 148.22 cm for females.

CONCLUSION/SIGNIFICANCE:

This paper highlights the controversies between different modes of measuring obesity as well as the magnitude of difference in describing individuals as obese and overweight using these techniques. If the purpose of height and weight measurements is to identify people at risk for obesity related illness, then abdominal circumference may be more likely to identify the risk, which may be related to truncal obesity. Further study is needed to elucidate the risks in this population. Abdominal circumference is an easy to track clinical measure.

In an individual with spina bifida lean muscle and fat distribution is different, therefore the BMI assumptions we make based on a person without spina bifida may not be correct. The high prevalence of obesity in disabled adults makes it especially important for the youth and young adults in disabled populations to stay physically fit and maintain their weight so obesity will not negatively impact their quality of life.