

TITLE: Comparison of Nutritional Status Among Young Children with a History of Maltreatment.

AUTHORS: Bethany Grace Bridgman*; Kelley L.Martin[‡], MPH, RD; Eve Spratt, MD[#]; Medical University of South Carolina, *Dietetic Internship, [‡]General Clinical Research Center, [#]Department of Pediatrics

The purpose of this study is to compare the nutritional status in children ages 2-6 years old with a history of maltreatment. It is estimated that three million children worldwide suffer from maltreatment, resulting malnutrition and chronic diseases. As part of a larger study comparing neurodevelopmental biology among young children either with a history of maltreatment (cases) versus children of healthy upbringing (controls), we conducted a sub-study to evaluate nutrition status among the two cohorts. Sixteen cases were compared to 11 age, gender, and socioeconomically-matched controls. Tricep, subscapular, supraliac, and mid-thigh skinfold measurements and growth parameters including height, weight, and BMI were obtained. We predicted the cases would exhibit higher rates of malnutrition (either as over- or underweight) than the controls. All nutritional parameters were compared using a student two-tailed t-test with a 95% confidence interval. While results revealed no statistical significant differences, cases demonstrated noticeably higher growth chart percentiles compared to controls in mean±standard deviation for weight/age (48.2±35.4 vs 27.5±23.3), BMI/age (59.8±27.3 vs 45.1±32.3), and wt/stature (48.9±25.3 versus 43.9±22.8) respectively. Using the Pediatric NHANES Anthropometric Reference Data, the cases were also higher than controls in percentiles of all skinfold measures, particularly the suprailiac (88.9±13.1 vs 72.2±33.9) and subscapular (38.1±32 vs 31.7±27.4) sites. In conclusion, cases appear to be higher in overall body fat percentage and weight for height and age. However, our small sample size posed a challenge in demonstrating true difference. Further studies are needed to accurately assess the impact of maltreatment on the nutritional status in children.