Anthropometric indicators for assessing health risk of obesity in native American adolescents and exploratory data analysis

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Recent reports demonstrate the need to improve methods for identifying obesity among adolescent minority populations, especially among Native American adolescents. Our study examined several anthropometric measures to see which one was the best indicator of obesity for Native American adolescents. We compared our data with that provided by the Centers for Disease Control and Prevention (CDC), and the National Health and Nutrition Examination Surveys (NHANESIII). We examined which measures differed significantly from the NHANESIII, and which were most effective for measuring obesity in Native American adolescents. Our study population represented a cross-sectional, epidemiological population (N=183) of Native American students (ages 14-18) from diverse tribal backgrounds at an urban residential high school. We obtained baseline anthropometric measurements of height, weight, waist, triceps skin-fold, and calf skin-fold measures from the Native American students and compared this information with reference data to assess weight classification by body mass indices for our population. Under the conditions of our study, we found the calf skin-fold measure to be the best indicator of normal weight in male Native American adolescents, and the triceps skin-fold measure to be the best indicator of obesity in male Native American adolescents. The assessment of health risk by anthropometric measures we obtained appears appropriate for predicting obesity and developing effective interventions for Native American adolescents in general. Correlations between anthropometric measures and obesity in our study population may prove of significant interest for monitoring obesity prevention initiatives for Native American adolescents.

Biography

Shasha Zheng has completed her PhD from University of Illinois at Urbana-Champaign and postdoctoral studies from Yale University School of Medicine. She is an Assistant Professor of nutrition at California Baptist University. She has published 9 first-author papers in top-reputed journals in the areas of nutrition and diseases.

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