RESEARCH PROTOCOL OUTLINE

Title of Project: Identifying differences in psychological adjustment among obese, overweight, and normal weight children in OU Children's Physicians Primary Care Clinics

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Abstract
The purpose of the current study is to examine the prevalence of psychological symptoms among children ages 6-16 years of age who are overweight (85th – 94th BMI percentile) or obese ≥ 95th BMI percentile) compared to those who fall in the normal weight range (BMI 5th to ≤ 85th percentile) within a primary care setting. This study will evaluate the prevalence of normal weight, overweight, and obese children by assessing each patient's body mass index (BMI) percentile using their weight, height, age, and gender to calculate BMI percentile. The study will also evaluate the presence of psychological symptoms by examining data from the Pediatric Behavioral Health Screen, a screener used as part of routine clinical care by primary care providers to assess psychological and behavioral health issues in children 6-16 years of age seen in the OU Children's Physicians Sooner Pediatric and Latino Clinics.

A. Specific Aims
The goal of the current study is to examine the prevalence of psychological symptoms among children between the ages of 6-16 years seen in the OU Children's Physicians primary care clinics and to determine if differences occur between normal weight and overweight/obese children. We hypothesize that the presence of psychological factors among children who are overweight and obese will be greater than those who are normal weight.

    Specific Aim 1: Determine the prevalence of psychological factors among children seen in the OU Physicians primary care and Latino clinics.

    Specific Aim 2: Determine the prevalence of normal, overweight, and obesity in children seen in the OU Physicians primary care and Latino clinics.

    Specific Aim 3: Examine the differences in psychological symptoms between normal weight children and overweight/obese children.

B. Background and significance
According to the Centers for Disease Control and Prevention[1], the prevalence of childhood obesity continues to be a major public health problem in the United States (US). Childhood obesity has more than doubled in children and tripled in adolescents in the past 30 years. [2,3] The percentage of children aged 6–11 years in the US who were classified as obese increased from 7% in 1980 to nearly 18% in 2010.[4] Similarly, the percentage of adolescents aged 12–19 years who were classified as obese increased from 5% to 18% over the same period. [2,3] It has been estimated that nearly one-third of children in the US

can be classified as overweight or obese.[4] This is particularly concerning given that overweight and obese children are at risk for significant physical (e.g., hypertension; type II diabetes) and mental (e.g., depression; anxiety) health problems.[3,6,7,8]

Childhood obesity is associated with health problems throughout the lifespan, resulting in both short- and long-term consequences of excess weight. Children and adolescents who are obese are likely to be obese as teenagers and adults, [5,6,7,8] and therefore, are at higher risk for multiple health problems, including heart disease, type II diabetes, stroke, and osteoarthritis.[3] One study showed that children who became obese as early as age two were more likely to be obese as adults.[6] Overweight and obesity are associated with increased risk for many types of cancer, including: cancer of the breast, colon, endometrium, esophagus, kidney, pancreas, gall bladder, thyroid, ovary, cervix, and prostate, as well as multiple myeloma and Hodgkin's lymphoma.[3] Furthermore, overweight and obese children are at increased risk for anxiety and depression.[9]

Most of the previous research studies examining childhood obesity and psychological adjustment have utilized samples of children presenting for obesity treatment. Although past studies have found high rates of depression and anxiety among those who are overweight or obese, the data were not compared to children who fall within the normal weight range. This study aims to bridge this gap in the literature by evaluating differences in psychological adjustment among children who fall within the normal weight, overweight, and obese weight ranges.

C. Preliminary Studies / Progress Reports
Principle Investigator, Dr. Gillaspy, has conducted similar clinic-based studies examining a variety of parental factors in relation to pediatric illnesses, ranging from pediatric obesity to rheumatic disease. A select number of Dr. Gillaspy's studies are listed below.

IRB No. 13345: The Relationship of Parenting Characteristics to Pediatric and Parental Weight Status

IRB No. 12824: Development and Testing of an Interactive Web-based Program to Facilitate Readiness and Motivation for Smoking Cessation

IRB No. 13416: The Contribution of Post-partum Depression to Infant Length of Stay in the Neonatal Intensive Care Unit

IRB No. 13184: Psychological Co-morbidity among Children Diagnosed with Juvenile Rheumatic Disease and their Parents

IRB No. 15941: Sensitivity and Specificity of the Pediatric Behavioral Health Screener

D. Research Design and Methods
Data will be obtained from the OU Children's Physicians Sooner Pediatric and Latino Clinics by systematic chart review utilizing the Electronic Medical Record (EMR) for patients

between the ages of 6 and 16 years who were seen between July 1, 2012 and June 30, 2013. Data collected from the EMR will include patient medical record number (needed for merging and identification of duplicate patients), date of birth and date of visit (both to calculate age in months), gender, race, ethnicity, height, weight, insurance status use, diagnosis, and the behavioral health screen. All data fields from the behavioral health screen will be collected. Both the date of birth and the medical record numbers will be deleted from final dataset after BMI has been calculated and all duplicate patients have been identified. BMI percentile will be calculated based on the patient's age in months, gender, height, and weight to determine prevalence of normal weight (5th – 84th %ile), overweight (85th-94th %ile), and obese (> 95th %ile) children.

E. Statistical Methods
Descriptive analyses will be used to determine the prevalence of overweight and obesity among children 6-16 years of age in the OUCP primary care clinics, as well as prevalence of psychological symptoms among all children. Chi-square analyses will examine differences in psychological symptoms between normal weight and overweight/obese children. Multivariate analyses will be performed using logistic regression to examine both overweight/obesity and psychological symptoms, controlling for covariates.

F. Gender / Minority / Pediatric Inclusion for Research
De-identified data on male and female children and adolescents ages 6 to 16 from all racial and socioeconomic backgrounds will be included in our study.

G. Human Participants
N/A

H. Data and Safety Monitoring Plan
N/A

I. Literature Cited
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