

Type-2 Diabetes Mellitus with Attention Deficit Disorder (ADD) and/or Attention Deficit Hyperactivity Disorder (ADHD) in Pediatric Population as it is Related to BMI

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Background:

A study conducted in Taiwan found a correlation between a previous diagnosis of type 2 diabetes mellitus and a subsequent diagnosis of ADHD diagnosis using random selections from a patient population (Chen, Lee, Yeh & Lin, 2013). A different study (D'admo & Caprio, 2011) has shown that type 2 diabetes diagnoses in pediatric population has significantly increased worldwide. This study also acknowledges that progression of insulin resistance (prediabetes) in obese children to a complete stage of type 2 diabetes is faster than in adults.

This study was conducted in order to discover if adolescents with ADD/ADHD are more prone to develop type 2 diabetes and also to observe the incline of adolescents diagnosed with type 2 diabetes and prediabetes. Dr. Charles McGowen provided data from five inner city outpatient clinics in northeastern Ohio.

Conclusion:

This particular study revealed that there is a weak correlation if any between ADD/ADHD and the development of diabetes as only one case showed that diabetes was developed after the diagnosis of the psychiatric disorder. Our null hypothesis that there is a correlation was rejected. It is more likely that the BMI of the adolescent led to the psychiatric disorder; however, there are many reasons for why this could be the case. One of the most important, is the fact that most of these children were not screened for diabetes. Every adolescent who had a BMI that placed them in the obese category and was diagnosed with the psychiatric disorder was not screened for diabetes. The same was true for those that were diagnosed with only ADD/ADHD or were only obese, with the exception of two.

For those who were obese, there was a small percentage who were diagnosed with pre-diabetes. This, in part, is due to the low number of obese patients screened for diabetes. In order to have a more accurate representation of obese patients with diabetes and prediabetes, physicians need to screen patients who are at risk including the screening of obese patients with ADD/ADHD for diabetes.

Methods:

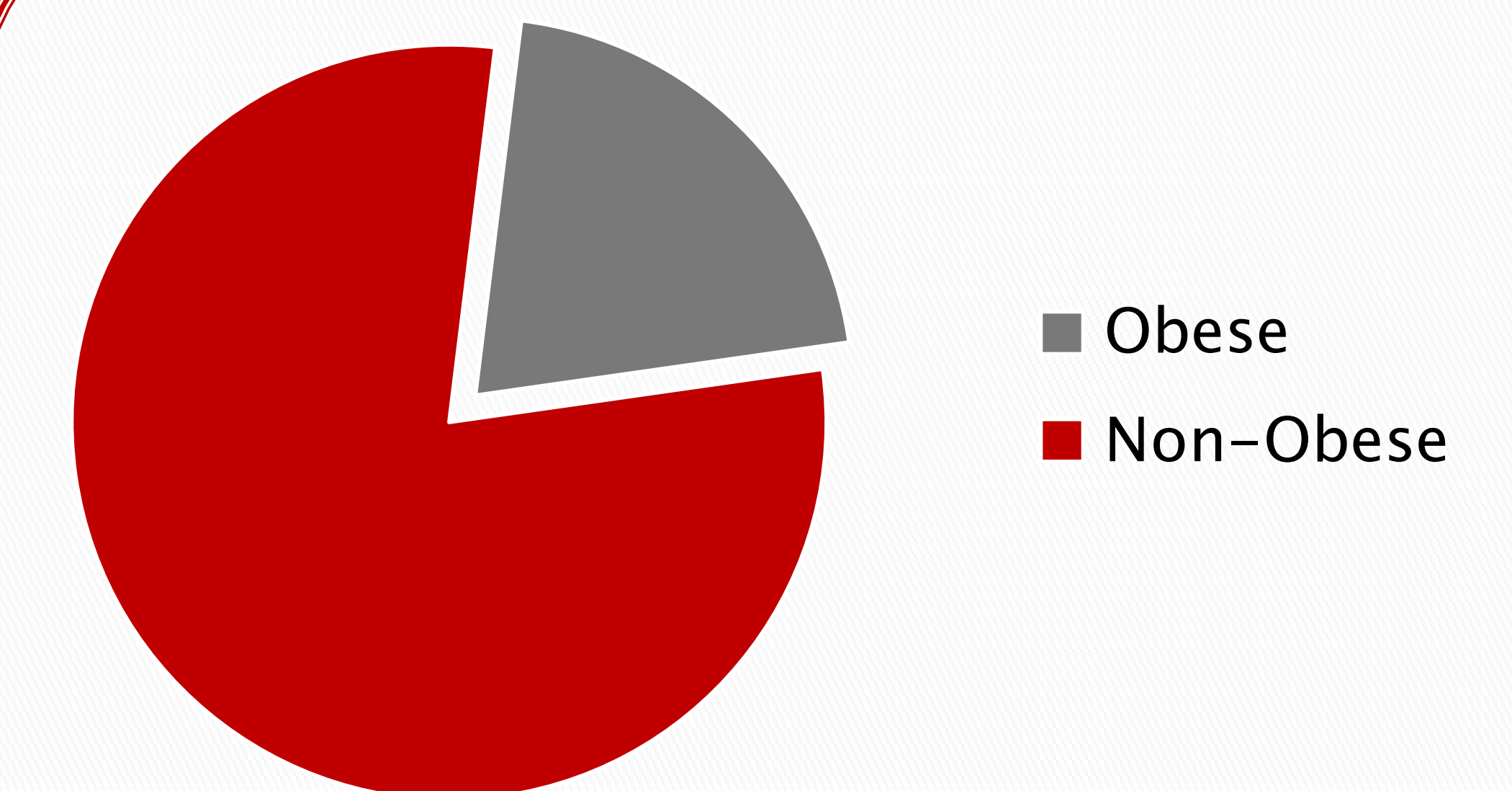
In the study, 2480 randomly selected adolescent patient charts were analyzed for different codes relating to ADD, ADHD, prediabetes, diabetes mellitus (type 2 diabetes), obese BMI codes, and billing codes for HbA1C testing (a screening test for Diabetes).

Through these codes, the charts were analyzed for obese patients with ADD and/or ADHD, obese patients without ADD and/or ADHD, obese patients with prediabetes, and those patients with ADHD/ADD that have prediabetes. The adolescents reviewed were analyzed to see whether a prediabetes diagnosis was observed prior or post ADHD/ADD diagnosis.

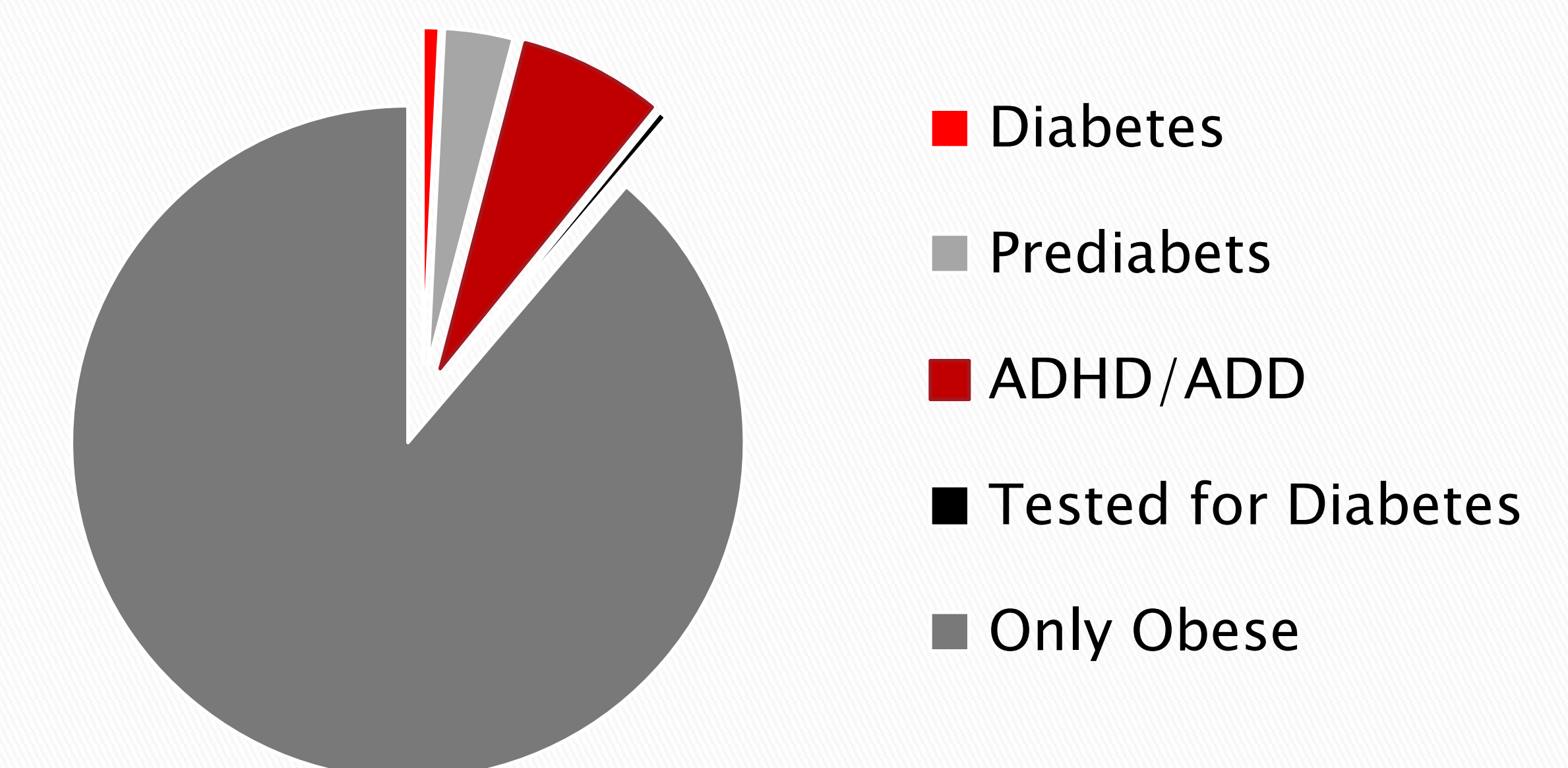
Results:

There was a total of 2480 patients, 516 of which were obese (20.8%), and 1964 that were not obese (79.2%). Of the 1964 non-obese patients, 135 were diagnosed with ADD/ADHD (6.78%). Of the 516 obese patients, 35 obese people had ADD/ADHD. One person diagnosed with prediabetes and was obese after being diagnosed with ADHD. Another obese patient was diagnosed with Type II DM and later was diagnosed as having ADHD. Lastly, one of the adolescents had Type I DM and was obese before the discovery of being ADHD. Of those 516 patients with obesity, we found 35 with ADHD/ADD (6.78%), 17 with Pre-Diabetes (3.29%), 4 with Type II DM (0.775%), and the three mentioned above that had both the psychiatric disorder and the disease. Only 2 of the adolescents with obesity and no records of diabetes were screened for the disease, 0.39%.

All Patients



Obese Patients



Non-Obese Patients

