

THE EFFECTS OF METFORMIN THERAPY ON BMI AND BIOCHEMICAL MARKERS AMONG OVERWEIGHT CHILDREN AND ADOLESCENTS

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Introduction: In the United States, overweight adolescents are likely to continue to gain weight over time and are more likely to become overweight adults. High rates of child and adolescent obesity leave physicians searching for ways to stop this trend.

Methods: A retrospective study design was implemented to describe trends of obese adolescent patients who are prescribed metformin as part of treatment in the multidisciplinary adolescent obesity specialty clinic at the University of Missouri.

Results: Of the 156 participants in this study, 55 (35%) were prescribed a variable dose of metformin, a drug commonly used for elevated insulin levels, at least once during their clinic visits. The majority of patients in this study (61%) had insulin levels that above 20, which defines hyperinsulinemia. In a chi-square analysis of the data, patients who were in higher BMI categories were more likely to have higher serum insulin levels ($p=0.0285$). In the analysis of the patients in the study over time, it was found that of the 131 patients who were seen for more than one visit, 111 (85%) of these patients had no increase in BMI.

Discussion: The adolescent obesity clinic has shown to halt or reverse weight gain in most of the patients who came for more than one visit. While many factors, including counseling on lifestyle modification (diet and exercise), medication, and routine follow-up can be attributed to the patients' ability to stop weight gain, metformin appears to be a satisfactory adjuvant therapy in the clinical management of adolescent obesity, especially in patients with hyperinsulinemia.