

THE EFFECT OF SELECTED RISK FACTORS ON DEVELOPMENT OF TYPE 2 DIABETES MELLITUS IN RURAL CHILDREN

Marsha Howell Adams, DSN, RN
Associate Professor; Director of the Undergraduate Program
The University of Alabama Capstone College of Nursing
Box 870358, Tuscaloosa, Alabama 35487-0358

Carol Ann Lammon, PhD, RN
Associate Professor; RN Mobility Coordinator
The University of Alabama at Birmingham School of Nursing
NB 448, 1530 3rd Avenue South, Birmingham, Alabama 35294-1210

Key Words: Diabetes, Rural, Children

According to the American Diabetes Association (2001), Type 2 Diabetes Mellitus (DM) is becoming an emerging epidemic. It is the most prevalent form of Diabetes and can go undiagnosed for many years due to the absence of symptoms in the early stages. It results from the reciprocal action of genetic factors and environmental exposures. In the past, Type 2 DM was recognized as having an onset at about the age of 30. Now, cases are surfacing in children as young as 4 years of age. The **purpose** of the study is to determine the effect of selected risk factors (high risk racial/ethnic group, obesity, elevated blood pressure, elevated casual blood glucose, elevated total cholesterol, and the presence of acanthosis nigricans) for development of Type 2 DM in rural children with or without a family history of diabetes.

The **methodology** involves a prospective correlational research design. The objectives include screening approximately 4000 Kindergarten through 12th grade children for a family history of DM, determine the incidence of selected risk factors (high risk racial/ethnic group, obesity, elevated blood pressure, elevated casual blood glucose, elevated total cholesterol, and the presence of acanthosis nigricans) in rural children with or without a family history of DM, examine the relationship between selected risk factors in rural children with or without a family history of DM, refer children who exhibit any two of the following risk factors: obesity (BMI > 27 kg/m²), elevated casual blood glucose of > 200 mg/dl, elevated blood pressure readings of \geq 95th percentile, elevated cholesterol of 200 mg/dl, presence of acanthosis nigricans and/or high risk racial/ethnic group membership to a primary health care provider to establish a definitive diagnosis and follow-up with the parents regarding results of the referral.

Statistical analyses will involve descriptive statistics using frequencies and measures of central tendencies to analyze the demographic data from the parent questionnaire. Data will be analyzed within the SPSS statistical package using descriptive and inferential statistics. A Pearson correlation will be used to examine the relationship between selected risk factors for Type 2 DM in rural children with or without a family history of DM. Multiple regression analysis will predict the risk for development of Type 2 DM. This research is presently being implemented and is in the data analysis phase.