Purpose: To examine the impact of race, socioeconomic status, and rurality on Type 2 diabetes education among adults in North Carolina.

Methods: Our study utilized data from the 2008 Behavioral Risk Factor Surveillance System (BRFSS) to conduct a retrospective study and secondary data analysis. To account for the multistage survey design of BRFSS, SAS/SUDAAN was used to calculate adjusted and unadjusted odds ratios and 95% confidence intervals (CIs). Univariate, bivariate, and multivariate analyses were performed to examine the association between race, socioeconomic status, and rurality and its effects on type 2 diabetes education among adults in North Carolina.

Main Findings: The majority of the participants (63%) did not have good diabetes education. Non-Whites had higher odds than Whites of good diabetes education (OR=1.56, 95%CI: 1.19, 2.03). Individuals who lived in rural North Carolina had lower odds of having good diabetes education than their urban counterparts, but the results remained insignificant (OR=.88, CI:.67, 1.15). Individuals who were of low socioeconomic status (SES) had poorer diabetes education than individuals who were identified as being high SES, but the results were insignificant (OR=.81, CI:.60, 1.09).

Principal Conclusions: Findings from the study indicate that non-White adults had higher odds than Whites of good type 2 diabetes education in North Carolina. The results of our study could be used for policies and recommendations for health organizations. Policy makers should make diabetes education mandatory for individuals who are diagnosed with this disease. Future studies should have a more accurate measurement of type 2 diabetes education. (Ethn Dis. 2015;25(1):46–51)

Key Words: Diabetes Mellitus, Disease Education, Healthcare Disparities, Self-Care

INTRODUCTION

In the United States, type 2 diabetes represents the majority of all diabetes cases. Based on US death certificates in 2007, diabetes was the seventh leading cause of death, accounting for a total of 231,404 certificates with diabetes as any-listed cause of death.1 In 2010, diabetes affected 8.3% (25.8 million) of the US population.1 Among minority groups, Blacks have the highest rates of diabetes and are twice as likely to develop the disease compared to Whites.2 Geographic disparities are also associated with the prevalence of diabetes; in the United State, rural residents have a 17% higher prevalence rate of diabetes compared to urban residents.3,4 Individuals living in rural areas also engage in less physical activity and have poorer diets than their urban counterparts, which increases their risk of developing diabetes.5

Type 2 diabetes is a chronic disease known to cause serious long term health complications if not managed properly. Medical treatments, such as the use of insulin medications, are an effective method for diabetes management for many individuals. According to the National Standards for Diabetes Self-Management Education, education is an intrinsic component to improving patient outcomes.6 Attending a diabetes education class has positive effects on self-testing.7 Diabetes management education has demonstrated positive effects on knowledge, frequency and accuracy of glucose self-monitoring, dietary habits, and glycemic control.8

Challenges due to the disparities associated with health care may prevent diabetic patients from adequately managing the disease, which in turn will increase diabetes related complications and co-morbidities. Studies show that Hispanics and Blacks with diabetes have more than 20% fewer visits to a physician than Whites.9,10 An individual’s residence may also influence diabetes education and hence management. Rural populations report the poorest health status and are less likely to access health care facilities that include outpatient services.11,12 Individuals that reside in rural areas may have limited access to medical care, health insurance, emergency services, and lack knowledge of the disease, known causes and its treatment.5,13 The seriousness of this disease is evident in the Rural Healthy People 2010 Survey that ranked diabetes number three in rural health concerns.14

The effects of type 2 diabetes in the United States are also consistent in North Carolinian adults, who are also impacted by the burden of the disease. In 2009, North Carolina ranked 13th in the prevalence of diabetes among adults with about 674,000 diagnosed with the disease.15 Similar to US statistics, North Carolina has disparities in diabetes prevalence, complications, and mortality among varying populations. Prevalence of diabetes, according to the 2009 BRFSS data in North Carolina, was highest among Blacks at 15.6% followed by Native Americans at 14.2% compared to Whites at 8.4%.15 From 2000 to 2006, diabetes was ranked the third and fourth leading cause of death.