

Screening initiative for the prevention of diabetes



Diabetic Initiative

A significant diabetic disparity exist for racial and ethnic minorities in the United States. Since minorites bear a disproportionate burden of the diabetes epidemic, they have higher prevalence rates, worse diabetes control, and higher rates of complications (Spanakis & Golden, 2013).

Diabetes is also a public health burden globally. The estimated mortality from diabetes between ages 20-79 is 4. 6 million globally. Proper nutrition is a central component in preventing and managing diabetes. Obesity represents the strongest contributor for the development of Type 2 Diabetes. According to the World Health Organization (WHO), it was estimated 500 million individuals worldwide were obese (Spanakis & Golden, 2013).

Theoretical Model

Ecological model recognizes the influence of social and environmental factors on risk of disease. In minority neighborhoods, good nutrition are often limited. For example African-American in urban neighborhoods are reported to have only 41% of the chain supermarkets found in comparable with white neighborhoods (Leonard, Nkenge, & Sandra, 2012). Ecological model assumes each individual health status is determined by multiple levels of factors such as environment and social support. Therefore the role of the

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environment as a social determinant include the physical such as restaurants serving healthy foods, walking trails, and safe neighborhoods as well as the social which includes families, workplaces, and social support. All these factors contribute to cultural norms and the views and perspectives of individuals.

Screening

North Carolina has one of the highest diabetic burdens in the country. There is a disproportionate impact on African Americans and American Indians for whom the disease is the fourth and third leading cause of death. Diabetes is a growing threat to North Carolina's economy and it will cost the state's public and private sectors more than \$17 billion per year in medical expenses and lost productivity by 2025 (NC report, 2014). Minorities are severely limited in their access to quality fruits, vegetables, and other healthy food options because of cost, lack of transportation, and lack of availability. Residents of urban neighborhoods are likely to pay 3–37% more than those in suburban areas for the same food purchases (Leonard et al., 2012). Regardless of income or housing cost, living in a predominately minority neighborhood increases the likelihood of having poor access to healthy food choices. As a result, minority communities are left primarily with smaller grocery and convenience stores.

An increase in the rate of type 2 diabetes has been closely related to obesity. According to the 2015–2016 NC Behavioral Risk Factor Surveillance System (BRFSS) surveys, 83% of people with diabetes are overweight or obese (AHR, 2018). In North Carolina, for the past five years, obesity increased 8% from

29. 6% to 32. 1% of adults (AHR, 2018). According to the 2018 report on diabetes in North Carolina, compared to all ethnic groups, african americans had the highest rate of diabetes. According to the 2015–2016 NC Behavioral Risk Factor Surveillance System (BRFSS) surveys, 83% of people with diabetes are overweight or obese (AHR, 2018).

The purpose of screening is to identify asymptomatic african american population for diabetes in North Carolina. The reason screening is important for diabetes is because it represents an important health problem that imposes a significant burden on the population, the natural history of the disease is understood, there is a recognizable preclinical (asymptomatic) stage during which the disease can be diagnosed and the tests which are acceptable and reliable can detect the preclinical stage of the disease, and the tests are acceptable and reliable (AHR, 2018).

Population

High risk populations include a family history of type 2 diabetes in first and second degree relatives and ethnic group, African-Americans (ADA, 2018). The report, *Confronting Racial and Ethnic Disparities in Health Care*, indicate African Americans, Hispanics, and Native Americans experience a 50–100% higher burden of illness and mortality from diabetes than white Americans (Chow, Foster, Gonzalez, McIver, 2012). In North Carolina, the prevalence of diabetes is higher in african americans at 23. 8% than whites at 10. 4%. The highest prevalence of diabetes in North Carolina was between the age range of 45-65 years old.

Screening Activity

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The United States Preventive Task Force Services recommend screening adults aged 40 to 70 years who are overweight or obese and are seen in primary care (USPTF, 2015). The focus population will be African Americans beginning at age 40 in low-income communities. A risk assessment questionnaire will be used to identify those at risk for diabetes. The questionnaire, Alert Day Type 2 Diabetes awareness was obtained from the American Diabetic Association website. Patients who score five or higher at an increased risk for having type 2 diabetes. Dietary counseling will be provided along with educating on physical activity. Since research shows higher level of physical activity reduced risk of cardiovascular and diabetes, patient education will begin with encouraging exercise using walking apps. Mobile health care applications have been a great advantage when applied to patients (Jo, Yoo, Lee, Park, & Kim, 2018). Using this app will promote self-preventing disease. The Food and Drug Administration (FDA) has approved the use of some diabetes management apps such as diabetes Manager by welldoc and mobile MIM (Yo et al., 2018). Patients who scored high on the questionnaire will need further evaluation by primary care provider. As recommended by USPTF (2018), patients should be screened for abnormal blood glucose as part of cardiovascular risk assessment in adults aged 40 to 70 years who are overweight or obese. Recommendation also suggest clinicians should offer or refer patients with abnormal blood glucose to intensive behavioral counseling interventions to promote a healthful diet and physical activity (USPTF, 2018). Assess to healthy food is important particularly in areas where fast food restaurants are close to minority neighborhoods. Ecological perspectives view the importance of access to key resources in self-management. Healthy eating patterns and

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physical activity levels will only occur when there are convenient sources of healthy foods and safe settings for exercise. While most supermarket stores avoid low-income areas, Wal-mart offers online grocery stores which will deliver to homes. Providing training and demonstration on ordering grocery online may encourage better food choices.

Outcome Goals

- Support behavioral change through healthy lifestyle choice and promoting self management
- Achieve and maintain a weight reduction of at least 7% of initial body weight through healthy eating and physical activity
- Ecological perspectives: Grocery stores to advertise healthier food choices
- Population become familiar with their risk of disease and proactively participate in reducing risk

Location

Community Library (Cumberland County) Headquarters Location: reserve a conference room for up to 300 people. This library is located downtown Fayetteville, which is surrounded by neighborhoods where low-income minorities reside.

Cost

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