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ETHNICITY AND HEALTH:

Incidence of Diabetes among Native American Population

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ABSTRACT: Diabetes is a chronic disease that occurs when the pancreas does not produce enough insulin to regulate the amount of sugar in the blood or when the body does not effectively use the insulin it produces. The World Health Organization (WHO) (2014) in the bulletin number 312 reveals alarming information in relation to the prevalence of diabetes in the world's population. According to the WHO, worldwide, over 347 million people are living with diabetes (n.p.). Furthermore, this organization affirms that just during 2012, "An estimated 1.5 million people died as a consequence of excess blood sugar" (n.p.). This data represents a big concern because in the coming years the amount of people suffering from diabetes could continue to increase. Additionally, this disease disproportionately affects United States minority groups, including American Indians, who suffer from some of the highest rates of diabetes in the world. Now, in order to know about American Indian Studies, it is important to explore what could be the main reasons associated with high occurrence of diabetes in Native Americans, and what could be the ways to control this worrying health problem.

KEY-WORDS: Ethnicity; Health; Diabetes.

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Introduction

Health concerns today among the Native peoples of the United States have reached a critical stage. Pyone Cho (2010), a researcher from Epidemiology Branch of Georgia Division of Public Health Department, says that approximately 18.8 million Americans have been diagnosed with diabetes (496). These statistics represent a really big nationwide health problem. Additionally, Walter C. Fleming (2012), writer and a member of Kickapoo tribe, says that the Indian Health Service reports frightening facts about Indian health such as higher percent of tuberculosis, homicides, alcoholism, cancer, and diabetes (263). The causes for these alarming statistics are numerous and complex; and a variety of factors including behavior, environment, availability, and quality of health services are also linked to the deplorable state of health of this ethnic group. Fleming explains that in addition to obesity, high blood pressure, and pneumonia, Native Americans are at higher risk of developing diabetes than non- native populations (264). Linda Carson Henderson (2010), who is an Assistant Professor in the Health Sciences Center at University of Oklahoma, in her article called “Divergent Models of Diabetes among American Indian Elders,” declares that “Among American Indians, diabetes constitutes an epidemic of monumental proportions with unacceptable levels of excess disability and death” (303). Considering the facts previously described, it is an important time to make an analysis of possible causes why Native Americans are more susceptible than the general population to suffer from diabetes, and what could be some strategies to prevent this deadly disease.

Diabetes, Statistics and the Native Americans

“One tribe in Arizona, the Pima, has the highest rate of diabetes in the world! About of 50 percent of the adults between ages 30 and 64 have diabetes” (Fleming, 2012, 264)

Diabetes is a serious health problem for American Indian population. The incidence of this disease is manifested, not only in adults, but also in children or even younger. Carson (2010) says that “the diabetes prevalence in tribal areas ranges from 17% to as high as 85%” (304). Another significant fact

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is provided by the Centers of Disease Control and Prevention (2010) in its section called Morbidity and Mortality Weekly Report which states that “rates of diabetes increase from 8.5 to 17.1 per 1,000 population among Native Americans aged under 35 years” (1201). Similarly, the child population of this ethnic group is not far behind with the statistics. Sheila Gahagan, (2010), who is a Professor of Pediatrics and Chief of Child Development and Community Health at the University of California in San Diego, says that diabetes is a new morbidity in children and adolescents (328). Gahagan also affirms that American Indian children in the United States have a higher rate of this disease than do children of other ethnicities (329). One more point of reflection is linked to the degree of severity of the diabetes in Indian people. The consequences among American Indians are greater than the general population. For instance, Natives suffer an amputation of their legs six more times than their white counterparts, in addition to experiencing kidney failure (Carson, 2010, 304). All these statistics create a huge concern about the consequences that this disease leaves in the Native American population. In the end, because diabetes is an illness that currently is decimating the Native Americans, it is an important duty to find ways to raise awareness among citizens of this ethnic group so this disease could be controlled.

Possible Causes of Diabetes among Native Americans

Researchers have proposed different hypotheses that could explain why Native Americans are expected to be diagnosed with diabetes more than any other ethnic groups. In effect, the heterogeneous nature of diabetes could have multiple causes. However, it is necessary to focus on the analysis factors such as genetics, weight, and food culture as causes that are closely related to the prevalence of diabetes in Native Americans, and the ways to prevent it.

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Genetics

Researchers consider that incidences of diabetes in Native Americans could be supported by the hypothesis of the thrifty gene. James Neel (1962), an American geneticist who played a key role in the development of human genetics as a field of research in the University of Michigan, published a novel hypothesizing about the growing prevalence of diabetes in the mid-20th century human population (304).

Neel also explained that existing archaeological evidence has shown that it was common for the human ancestors to experience alternating periods of food abundance and scarcity (308).

Similarly, Fleming (2012) says that some investigators consider that Native Americans carry a gene they call the thrifty gene (264). Evidently, researchers believe that the gene is in the body of Native peoples in order to help them to survive through famine and harsh winters. Indeed, because the current conditions regarding houses and food supplies are different than the past, the thrifty gene is no longer helpful for Native Americans. In other words, because starvation is no longer a threat, the thrifty gene that, in primitive times, stored higher percentages of energy when food was abundant, now could contribute to increased risk of diabetes in Native Americans.

Weight

Often, obesity represents the major risk factor for diabetes. Diabetes persists in American Indians at rates that are significantly higher than those in other ethnic minority populations. Fleming (2012) affirms that: “Thirty-seven percent of all Native Americans are overweight and 15 percent are obese” (264). Obviously, these statistics are disconcerting because these health conditions currently represent a serious health problem among the Native population. According to Henderson (2010), both male and female Natives are consistently more overweight and obese than the total U.S. population (308). In addition to the increase in obesity among adults, obesity in children has also

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become a serious health problem. Furthermore, Gahagan (2010) confirms that “the prevalence of diabetes in American Indian children as well American Indian adults is higher than among other ethnic groups” (330). For both adults and children, the increasingly high rates of obesity are closely correlated with diagnosed diabetes.

Food Culture

Native American diets have changed significantly over time, and many tribes have abandoned their farming, hunting, and foraging for a heavily commercialized and processed way of eating. Health experts consider that original Natives diet was healthy. It was a diet rich in lean meat and fish. Additionally, they included in their diet whole fruits, vegetables, and grains that helped to maintain a fit population without major occurrence in chronic diseases such as diabetes

Currently, fast food and the use of other preservatives have been added to their diet. In an article entitled “A Lesson on Native American Foods,” published by Environmental Nutrition (2011) magazine the its News section, reveal an interesting fact: “Today, only 10% of Native American families report eating a healthy diet, and they have fallen prey to a number of diet-related diseases such as obesity and diabetes” (3). Evidently, the diet of Native American ancestry is not the same as that of contemporary Native American tribes. Susan Levin (2012), director of Nutrition Education for the Physicians Committee for Responsible Medicine in Washington, D.C., explains that a study conducted of Native Americans living in the southwestern United States revealed that:

Processed meat consumption increases in Native American’s risk of diabetes. All of them were free of diabetes at the beginning of the study, but those who ate processed meat (e.g. sausage, bacon) were more likely to develop diabetes over a five-year period. (5)

Native Americans have a rich history of healthy food systems. However, nutritional deficiencies, and other diet changes came as part of moving Native people off of their traditional lands. Now, the Native American diet formerly rich in lean proteins and fiber was replaced with one saturated by carbohydrates, fat, sodium, and calories. As a result of poor diet and a limited

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understanding of nutrition, high rates of obesity, diabetes, and other diseases are evidenced in Native populations.

Native Americans Communities and Prevention of the Diabetes

It is relevant that Native people know how diabetes affects the life in their reservations. The efforts of the Native population should be focused so that the communities can find ways to control diabetes. Certainly, to discontinue the increase of data related to this disease that has left many victims in this ethnic group, it is important to involve Indian communities. Despite higher risks for the disease, Indian Communities can all work toward preventing diabetes through awareness programs in order to understand the damages that this disease causes in Native populations.

Lifestyle Modifications and Prevention of the Diabetes

Lifestyle modifications could help to control the incidence of diabetes among Native Americans. According to William C. Knowler (2013), chief of the Diabetes Epidemiology and Clinical Research Section in the Division of Intramural Research at the National Institute of Diabetes and Digestive and Kidney Diseases states that “Diabetes incidences can be reduced by lifestyle interventions aimed at weight loss, diet change, and increased physical activity” (1820). Undoubtedly, lifestyle modification could make significant changes in the statistics associated with the prevalence of diabetes in Native American populations. Because the problem of diabetes in native communities is a health concern, the government has taken active participation in order to prevent this disease. Furthermore, Knowler, who also conducted research on diabetes in the Gila River Indian Community in Arizona affirms that “As a result of the disproportionate burden of diabetes among American Indians, the U.S. Congress appropriated funds to implement lifestyle interventions patterned on the Diabetes Prevention Program starting in 2006 in 36 American Indian or Alaska Native communities”

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(1821). Certainly, lifestyle modifications including healthful behaviors in nutrition, weight loss, and increased physical activity could make significant changes in the statistics associated with prevalence of diabetes in Native American populations.

Healthy Nutrition

Diabetes, obesity and other health problems among Native Americans could decrease if they return to former dietary habits. Dr. Karethy Edwards (2009), a researcher at the Florida Atlantic University who promotes health equity for culturally and ethnically diverse populations, particularly African American and Native American Indians, says “The food that many Native communities ate in the past emphasized in corn, beans, and squash, known as The Three Sisters. Furthermore, they also enjoyed: wild roots, vegetables, nuts, fruits, grains, and herbs” (32). Currently, these elements mentioned by Edwards can be easily obtained by the Native population in reservations. However, the lack of awareness regarding the importance of healthy nutrition could be the factor by which the Natives consume other foods. Now, it is the time for communities and government programs to involve educators, dietitians, and local health professionals in activities to raise awareness in the populations about the importance of eating a healthy diet in order to prevent diabetes.

Physical Activity and Weight Loss

Regular physical activity and a healthy weight could be beneficial to prevent multiple diseases including diabetes. People with diabetes, who exercise regularly and maintain a proper weight improve their levels of blood sugar, and reduce their need for diabetes medications. Each person within Indian reservations can lose weight, improve their fitness and prevent diabetes through a program of physical activity. Physical activity benefits include: Improved levels of blood pressure and cholesterol, strength, tone and muscle endurance. Other benefits are maintenance of desirable weight, overall improved

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health, higher levels of energy, and less stress. Indeed, exercise causes your body to use up excess glucose. This significant process occurs during exercise and continues after stopping. Therefore, one of the most significant benefits of the physical activity is to maintain a healthy weight in order to decrease levels of blood glucose.

Conclusions

Scientists do not perceive the thrifty gene as a legitimate explanation. However, the Pima Reservations have the highest prevalence of the diabetes in the world. One important point related to the Native Americans genetics is that Europeans have a thrifty gene as well, but they have eaten diabetogenic foods for which humankind is genetically prepared.

On the other hand, lifestyle changes work equally well in men and women and in all ethnic groups for preventing diabetes. Lifestyle changes, including a healthy diet, adequate exercise and modest weight loss, can dramatically reduce a person's risk of getting diabetes. If people are aware about the ways to control this disease, eating a healthy diet, exercising, and doing small changes in their lifestyle they could see their blood sugars return to normal. In other words, with only modest changes in the diet and physical activity along with minimal weight loss, people can reduce the risk for diabetes. Reconsidering food, better access to health facilities, and specific programs to prevent diabetes could be highly beneficial for Natives, too. So far, Native American communities have been promoting lifestyle changes to prevent diabetes for decades. However, it has not known how much lifestyle has changed, and how dramatically those changes would reduce this disease because the statistics still are increasing. In conclusion, despite the facts that rates of diabetes in Native Americans are in alarming numbers, the best way to prevent diabetes is by adopting a healthy lifestyle.

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