

## Brief Communication

# ‘Sho-Goh-Wah-Pee-Nay’ - The sugar disease: Not so sweet!

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### ABSTRACT

“Sho-goh-wah-pee-nay” or “sugar disease,” an Oji-Cree word (Native American Indian terminology), is more commonly known as “diabetes.” Over the last 70 years, diabetes has become an epidemic within Native American Indian tribes. At about 16%, American Indians and Alaska Natives have the highest occurrence of diabetes in the United States. There are 566 federally recognized tribes. Drifting genes, obesity, and lower educational levels are among the well-known causes of disease management in this group. However, often forgotten are the socio-cultural aspects of this issue. Disease perception, diet, traditional medicine, poor communication, sedentary lifestyle, poor socio-economic status are most important obstacles. Various government-funded programs like National Diabetes Education Program, “We have the power to prevent diabetes” and “Move it! And reduce your risk of diabetes” and diabetes prevention program are in place. Similar guidelines should be developed for all the ethnic or tribal groups across the world before it becomes a pandemic.

**Key words:** American Indian and Alaskan Indian, diabetes, government programs, social and cultural barriers

### INTRODUCTION

“Sho-goh-wah-pee-nay” or “sugar disease,” an Oji-Cree word (Native American Indian terminology), is more commonly known as “diabetes.”<sup>[1]</sup> Over the last 70 years, diabetes has become an epidemic within Native American Indian tribes. At about 16%, American Indians and Alaska Natives (AIAN) have the highest occurrence of diabetes in the United States.<sup>[2]</sup> The Pima Indians in Arizona, a subgroup, have the highest percentage of diabetes in the world at 33%, while the percentage in Non-Hispanic Whites is only 7.1%.<sup>[3]</sup> Overall, the prevalence of diabetes among American Indians is 2.8 times greater than the general US population. The rate of diabetic complications is higher among this group as well. As per the Center for Disease Control and Prevention, the proportion of diabetes is increasing in the younger population within

this ethnic group. Interestingly, for AIAN youth aged 10-19 years, the rate of new cases was higher for type 2 diabetes than type 1 diabetes, whereas the opposite was true for non-Hispanic White youth. Type 2 diabetes had increased 106% from 1990 to 2001 in AIAN youth between the ages of 15-19 years.<sup>[4]</sup> Diabetes-related health care costs have also increased exponentially in recent years. The total cost of diabetes and associated complications was \$174 billion, both directly and indirectly for the US alone in 2007.

### BACKGROUND

A 2011 American Community Survey showed the number of AIAN, including more than one race, was 5.1 million: 1.6% of the total US population. The population of this group increased by 26.7% compared to 9.7% of the overall population growth between 2000 and 2010. Five hundred and sixty-six tribes are federally recognized, living primarily in federally recognized reservations and small rural communities.<sup>[5]</sup> Each Indian tribe is different from another, but they share many common beliefs, including determination to retain their cultures and languages. Some of the major tribes are Cherokee, Odawa, Apache, Maya, Shawnee etc. They are located all over the country but California, Oklahoma, Texas, Florida,

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North Carolina, New Mexico, and Alaska have highest population.

## OBSTACLES TO DIABETES CONTROL

As mentioned above, diabetes has reached epidemic proportions within these ethnic subgroups, which necessitates the review of obstacles for effective disease control in them. Drifting genes, obesity, and lower educational levels are among the well-known causes of this hurdle. However, often forgotten are the socio-cultural aspects of this issue. Here, we will briefly discuss various social and cultural concerns affecting effective disease control and, more importantly, disease prevention.

### Disease perception

As diabetes may not present with scaring pain or illness, the misconception of good health in the absence of any physical symptoms prevents them from visiting a health care practitioner. This greatly hampers early diagnosis and treatment. Some think of it as a natural inevitable disease with a fatal outcome, especially in people with strong family histories, which results in decreased interest in taking appropriate preventative measures as well.

### Diet

There is a clear distinction between “Indian foods” or “strong foods” and “white man’s food” or “fillers.” Traditionally, within the AIAN culture, meat is considered a food, which gives strength. On the other hand, vegetables are not a major part of the AIAN diet. In fact, there is no clear translation of the word “vegetable” in Indian languages. Rather, the closest translation is synonymous with “weeds,” which may be considered inedible or at least not necessary for health, by members of this population.<sup>[6]</sup> This greatly impairs incorporation of vegetables in their diet.

### Traditional medicine

American Indians practice traditional medicine with herbal remedies. Many foods like vegetables are not allowed to be combined with herbs, as they interfere with their medicinal benefits. The adherence of the AIAN to traditional medicine sometimes also delays in receiving appropriate medical treatment, also referred to as “white man’s treatment.” The medicinal effect of these herbal remedies is not clear, but they potentially can cause drug interaction. Careful history should be taken about these supplements while managing a patient.

### Communication

Most of the diet plan guidelines are based on a modern diet. They do not explain how to incorporate healthier

choices with the traditional AIAN diets. As a result, the members of this population are not eager to comply with healthier dietary guidelines, as they have difficulty letting go of their own cultural foods and cooking methods.

### Lifestyle changes

In earlier days, tribes relied on hunting their food, which involved considerable physical activity, whereas now, tribes have switched to a more sedentary lifestyle leading to decreased energy expenditure, increasing obesity, especially central obesity, and insulin resistance. One study from Canada describes increased consumption of “junk food” (rich in refined carbohydrates and saturated fats and low in fibers) a.k.a. “white man’s food” among Native Indian youth to be a major cause of increasing incidences of diabetes.<sup>[1]</sup>

### Other factors

Many of these tribes live in hard to reach rural areas, which have little funding for health care facilities and/or workers. Language barrier and racial differences play an additive role. Lower median annual income (\$35,192 vs. \$50,502) and the number of people without health insurance (27.6% vs. 15.1%) compared to the general population are other contributing factors. The higher number of tobacco smokers within this group (32% vs. 22%) also plays a very important role.<sup>[5]</sup>

## CURRENT DIABETES PREVENTION AND TREATMENT INTERVENTIONS

The US government has initiated many specialized programs, which cater specifically to this sub-group of its population. The National Diabetes Education Program (NDEP) was established in 1997 to promote the effective control of diabetes. It is a fully federally funded program with about 200 partners at state and national levels. A special NDEP AIAN workgroup has been formed with AIAN health professionals, tribal community leaders, and local representatives. It has launched special culturally appropriate education programs and campaigns for these communities. A special guide has been developed to create various activities for this ethnic group. “*We have the power to prevent diabetes*” and “*Move it! And reduce your risk of diabetes*” are the two most notable examples.<sup>[4]</sup> Some of the measures include providing culturally appropriate print and radio public education materials, scheduling home visits for meal planning, assisting in weight management plans, using community centers, implementing plans to increase physical activity, and providing weekly education seminars for pregnant women. “Move it!” is a special program focused on youth that provides posters, fact sheets etc., for schools and other organizations. Nutrition

fairs and after-school physical activities are organized for 12-14 year olds. Diabetes prevention program research program has provided a message of 'HOPE' to prevent diabetes and its complications by making lifestyle changes and encouraging weight loss. Forty-five percent of the participants in this study were from AIAN and other tribes.

## OTHER RECOMMENDATIONS

Using cultural themes and folk tales to deliver health messages, giving indirect messages instead of confrontation, involving local leaders and organizations, developing native-oriented material, and gaining patient trust first have been recommended to improve and ease this herculean task. For example, 'Nanabush and The Pale Stranger'<sup>[7]</sup> and the "Eagle Books"<sup>[8]</sup> are culturally based methods created to provide an explanation of diabetes. Cultural competence is being promoted at all provider levels. These interventions have been divided as culturally neutral, sensitive, innovative, and transformative interventions.

## CONCLUSION

Diabetes has become a major health in AIAN, and specific national guidelines have been developed for addressing socio-cultural aspect of diabetes. Similar guidelines should be developed for all the ethnic or tribal groups across the

world before it becomes a pandemic. Involvement of local leaders and regular feedback is greatly recommended to make it a more concerted approach.<sup>[9]</sup>

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How to cite this article: ???.

Source of Support: Nil. Conflict of Interest: None declared.