The Prevalence of Diabetes in Aboriginal Communities: Modern Causes and Solutions via Reconciliation and Primary Intervention

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The loss of culture, tradition, language, and land were some of the few ghastly effects of colonization the Indigenous people of Canada experienced. Among their losses was the loss of health which resulted in Aboriginal peoples in the latter half century to have adverse health effects. Diabetes, a prevalent health challenge affecting the Indigenous community in Canada, has been induced by a metabolic syndrome stemming from biological, genetic, environmental and lifestyle factors. To resolve this issue, we must have an increased awareness of the history regarding Indigenous health and reconciliation of the past, while enforcing primary intervention, frequent screening, and educational programs.

Overview of Diabetes

Diabetes is a chronic disease in which the pancreas releases beta cells when the body’s blood glucose level exceeds the normal. This will then release of a hormone called insulin (Public Health Agency of Canada [PHAC], 2011). The job of insulin is to absorb the excess sugars, either using it or storing it away for later use (PHAC, 2011). When one has diabetes, one’s body cannot produce enough insulin or use the insulin properly (PHAC, 2011).

Classification of Diabetes

There are currently three classifications of diabetes to address the variance in insulin usage. The first classification is Type I diabetes in which the body’s immune system will terminate the insulin-making cells so that the body becomes reliant on an external source of insulin (PHAC, 2011). Essentially, there is an absence of insulin in your body. The second classification is Type II diabetes is which the pancreas does not make a sufficient amount of insulin nor can the body use the insulin properly. There is a higher risk for Type II diabetes
among those that are overweight, obese, or are of certain ethnic groups (PHAC, 2011). The third classification is gestational diabetes usually develops after you have high blood glucose level during your pregnancy. It usually disappears after the delivery but will result in an greater risk of type two diabetes establishing in both the mother and the child (PHAC, 2011).

**Diabetes in Indigenous Communities**

Diabetes, prior to 1940, was a rare condition in the Aboriginal community, however, in 1950, rates of diabetes rapidly increased and has quickly become a prevalent issue in some Aboriginal communities with Type II being the most devastating (PHAC, 2011). This leads to further concerns because Type II diabetes has higher proportions of complications and are, in most cases, preventable (PHAC, 2011).

**Research and Methods of Data Collection**

Before discussing the prevalence of diabetes as well as diabetic mortality in Indigenous communities, it is important to discuss how the Government of Canada gathers the data. Diabetic figures are gathered in one of two main ways. The first is through the First Nations Regional Longitudinal Health Survey (RHS) which is a national health survey, self-conducted by the First Nation community, collects data on the “health and wellbeing” of the Indigenous adults on reserves (PHAC, 2011). The second way of collecting data is through the Aboriginal People’s Survey (APS), a survey run by Statistics Canada every five years that surveys the concerns facing Indigenous communities living off reserves (PHAC, 2011).

**Prevalence of Diabetes in Indigenous Communities**

After the conduction of a national survey, the proportion of the population with the highest frequency of diabetes was in adult Aboriginal individuals living on-reserve with 15.3% and the second highest was Aboriginal persons living off-reserve with 8.7% (PHAC, 2011). This
is comparable to the non-Aboriginal figure of 6.0%, showing a drastic distinction between the Aboriginal and non-Aboriginal populations (PHAC, 2011).

Age plays a factor in the prevalence of diabetes as the prevalence increases with age in the First Nation communities (PHAC, 2011). Sex also plays a factor as “Aboriginal females experience higher rates of diabetes than non-Aboriginal females” (PHAC, 2011). The difference between female Aboriginal and female non-Aboriginal is apparent as 4.8% of First Nations, 4.0% of Inuit and 2.2% of Metis women are diagnosed with diabetes compared to the 0.5% of non-Aboriginal women (PHAC, 2011). Aboriginal women in Canada also have a 2 to 3 times higher chance of experiencing gestational diabetes than anyone else (Canadian Diabetes Association [CDA], 2013).

The region is also a factor as “diabetes is one of the fastest growing diseases among the Aboriginal populations in Canada” (PHAC, 2011). From 2002/03 to 2006/07, the prevalence of diabetes in BC First Nations population aged one year and older increased by 15.5% while the prevalence of the First Nations population in Northern Quebec aged fifteen years and older increased by 36.4% (PHAC, 2011).

**Mortality due to Diabetes in Indigenous Communities**

The mortality due to diabetes has now become comparable to mortality due to cancer. Higher levels of diabetes, usually caused by environmental and lifestyle factors, lead to greater complications of health including kidney disease, retinopathy, and an increased chance of cardiovascular mortality (CDA, 2013). In 2008-2009, the deaths of one in ten adults were due to diabetes (CDA, 2016).
Risk Factors for Diabetic Prevalence

Risk factors include genetic, environmental and lifestyle factors that may increase an individual’s likelihood of getting a disease. The changes in these factors and, overall, in the culture of the Aboriginal peoples in the latter half century had a vast impact on their health today (PHAC, 2011).

Biological and Genetic Risk Factors

Biological risk factors state that women of Aboriginal descent are more likely to develop gestational diabetes which normally settles after pregnancy. There is, however, an increased risk of Type II diabetes later in life that may be passed on to the younger generation (PHAC, 2011). Because of a woman’s biology, the younger generation, as well as the mother, are at a higher risk for diabetes.

Genetic risk factors attempt to reveal a genetic cause for diabetes. In 1962, Neel, a professor of human genetics, proposed that Aboriginal people were genetically predisposed to reserve calories as a means of survival which was advantageous during their hunter-gatherer lifestyles (Williams & Buttfield, 2016). However now, due to the increased amount of processed food which are high in sodium and saturated fats, this genetic predisposition is no longer beneficial and leads to adverse health effects, namely diabetes (Williams & Buttfield, 2016). Neel’s “thrifty gene” theory has since gained many criticisms one of which claimed that “Neel was framing Indigenous people with explanations of inherent weakness in their bodies, like an earlier discredited ‘obsession with brain size’ and low intelligence” possibly in an effort to displace the glaring blame to be held by his ancestors and to fuel his prejudice (Williams & Buttfield, 2016). Not only did it fuel his prejudice but it also strengthened the prejudice of the whole nation. According to William & Buttfield (2016) “The thrifty gene’ has served to
stigmatize and even harm First Nations peoples by helping to neutralise with the power of science their long-standing claims to justice and respect, and for their subjective experiences to be included and valued in the policy process”.

**Environmental and Lifestyle Factors**

Although Genetics plays a part in the increasing amount of diabetes cases among Aboriginal populations, environmental and lifestyle changes since colonialization are arguably the bigger contributors to the rise in diabetes as “traditional First Nations, Inuit and Metis diets are based on a combination of food which includes fish, shellfish, land mammals, and game birds…as well as vegetables, fruit and berries – food sources that provide a protective effect from diabetes” (PHAC, 2011).

Food has always been changing. Before 1900, women worked inside the home to produce nutritious food. Now, with the food trade between countries and the increased presence of women in the workforce, more and more new and processed food are introduced, allowing an unhealthy alternative to a home cooked meal (Williams & Buttfield, 2016). One of the unhealthy aspects of current day food is salt content. According to Williams & Buttfield (2016), 10 percent of our salt content comes from fresh foods, 15 percent from cooking salt, and 75 percent from takeaway or pre-packaged meals, which as of late, have been becoming increasingly popular among low-income communities.

Due to the refusal of the Government to allow Aboriginal people post-secondary schooling as stated in the Indian Act of 1876, there was a drastic reduction in their employment range (Williams & Buttfield, 2016). This is still seen today, as very few Aboriginal people hold high positions in society (Williams & Buttfield, 2016). The lack of education and employment leads to the lack of good, nutritious food (Williams & Buttfield, 2016).
Methods to Reduce Diabetic Prevalence in Indigenous Communities

Taking into consideration the risk factors and prevalence of diabetes in Indigenous communities, there must be steps taken to reduce chronic diabetes in these communities.

Acknowledgement and Reconciliation of Indigenous history


We call upon the federal, provincial, territorial, and Aboriginal governments to acknowledge that the current state of Aboriginal health in Canada is a direct result of previous Canadian government policies, including residential schools, and to recognize and implement the health-care rights of Aboriginal people as identified in international law, constitutional law, and under the Treaties.

In addition to the request for the Government of Canada to acknowledge the lead cause of many devastations in Aboriginal communities, there are additional calls to acknowledge the value behind Aboriginal healing and establish Aboriginal Healing Centres (Truth and Reconciliation Commission of Canada [TRC], 2015). It also calls for an additional requirement for medical and nursing students to take classes pertaining to Aboriginal health (TRC, 2015). The more we understand the suffering and difficulties of the Indigenous populations at the hands of colonial Canada, the better we are able to understand common adverse health effects and the way to deal with them.

Another important part of acknowledging and bringing back Aboriginal health values and views is through the re-invention of traditional food (Haman et al., 2010). Haman (2010)
attributes traditional food as a “cultural anchor” citing it’s importance to the Indigenous identity (Haman et al., 2010). Haman states that “the sharing of traditional foods has a role in the maintenance of social norms and expectations. There are important spiritual aspects associated with traditional food use.” (Haman et al., 2010).

**Management of Lifestyle and Lifestyle Risk Factors**

The next step is the management of lifestyle risk factors, such as “physical inactivity, unhealthy eating, and overweight and obesity” (PHAC,2011). Enforcement of primary intervention, frequent screening, and educational programs are the most common aspects. Primary intervention should be the main plan in focusing on managing risk factors including childhood obesity, and managing the health of pregnant women to decrease the risk of diabetic offspring (CDA, 2013). Screening along with routine medical check-ups should be a priority – especially screening for diabetes via “fasting plasma glucose or an oral glucose tolerance test” every 1-2 years (CDA, 2013). Because of the relationship between metabolic syndrome, which is the accumulation of 3-5 medical conditions, and Type II diabetes, there should be programs designed to prevent the development of Type II diabetes by targeting this metabolic system via exercise, and the ingestion of low fatty foods (CDA, 2013).

The objective a study by Bhattacharyya et al. (2011) was to get Aboriginal communities with high rates of diabetes and heart disease to take part in “interactive education workshops and chart audit with feedback on cholesterol management” to see if it would be effective. These workshops were not effective; however, the person acknowledged that it may have been due to low-intensity feedback. If rectified with an increased sample size, it would be more efficient in alleviating the education factor of diabetic causation (Bhattacharyya et al.,2011).
Conclusion

Diabetes is a prevalent health challenge effecting the Indigenous community in Canada. The cause stems from biological, genetic, environmental and lifestyle factors and to resolve this issue, we must acknowledge and reconcile the past, while enforcing the management of lifestyle risk factors through primary intervention, frequent screening and educational programs.
References

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