

THE IMPACT OF CULTURALLY TAILORED DIABETES PREVENTION PROGRAMS ON
GLYCEMIC CONTROL AND LIFESTYLE BEHAVIORS AMONG NATIVE AMERICAN
INDIANS IN OKLAHOMA

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ABSTRACT

Native American Indians in the state of Oklahoma are at significant risk of developing diabetes compared to other populations of people. Native American Indians are more than two times as likely to be diagnosed with diabetes than other groups. The increased prevalence of the disease has raised important concerns about developing programs suited to fit Native American population needs. The development of culturally tailored diabetes prevention programs is necessary to address the unique cultural, social, economic, and environmental needs of the Native American Indian population. This paper explores the impact of the culturally tailored diabetes prevention programs on glycemic control and lifestyle behaviors of Native American Indians in the state of Oklahoma. The programs aim to provide education, materials, nutrition, and awareness to promote positive, healthy lifestyle behaviors and improve glycemic control to reduce the prevalence of diabetes. A mixed-method study approach was used to show the impact on hemoglobin A1c and the lifestyle behavior that is observed from Native American Indians participating in culturally tailored diabetes prevention programs. To further the research, community-based participatory research was used to understand compliance and adherence to the diabetes programs. The findings indicated a reduction in hemoglobin A1c laboratory values, resulting in improvements in glycemic control. Additionally, the results indicate that the unique approach of the culturally tailored diabetes programs has been able to lower the prevalence of diabetes in Native American Indians in Oklahoma by improving participation and adherence. Furthermore, the study exemplifies the importance of culturally tailored diabetes programs to improve and promote healthy lifestyles. Further studies include how telehealth could impact access, participation, adherence, and the management of diabetes and chronic diseases. Future recommendations also include using programs that promote cultural sensitivity to address other

health disparities. The future of culturally tailored programs includes new medications and incorporating successful techniques while continuing collaboration with the Native American population.

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DEDICATON

I would like to dedicate this project to my daughter, Nova. You are the reason I continue to strive to be better every day. May you continue to be strong-willed and never lose your silly side. May this be an inspiration to never give up and never let negativity influence you. Continue to chase every dream you ever have with faith and courage as your foundation.

INTRODUCTION

Diabetes, a long-time evolving disease, inhibits the body from regulating insulin as it should. The disease can be found in various forms, with the most prominent being type 1 and type 2. 95% of those with diagnosed diabetes are those with Type 2 and are adults. Genetics, poor nutrition, lack of physical activity, obesity, and other poor lifestyle choices lead to a greater likelihood of developing diabetes. Diabetes can lead to complications and even organ damage when left uncontrolled. (Mayo Clinic). Diabetes has led to a national health disparity affecting Native American Indians.

Additionally, race and ethnicity play a role in the likelihood of developing or being diagnosed with diabetes. Native Americans are more than two times as likely to develop diabetes as other populations. Additionally, Native American Indian populations face comorbidities and shorter life expectancies when compared to other groups (CDC). Programs have been developed to combat diabetes and complications through optimizing prevention while being culturally sensitive. These programs receive a 150-million-dollar federal grant annually to promote diabetes prevention and treatment. Most Native American tribe members live in the western part of the United States, with approximately 16% of the population in Oklahoma. Oklahoma is home to 57 Native American tribes. These tribes live in rural areas and face risks of developing diabetes. Culturally tailored programs address issues that those in rural areas may face and can impact glycemic control and healthy lifestyle behaviors.

Hemoglobin A1c, a laboratory test, can be performed to determine the index of glycemic control over a period of time. They can then use the hemoglobin A1c to determine compliance with treatment, nutrition, and modified lifestyle behaviors. Additionally, as prevention and treatment, the culturally tailored programs aim to address nutrition, physical exercise, and

lifestyle changes that can positively impact their health and lead to better outcomes, including reducing diabetes complications and diagnoses. The research performed addresses whether the culturally tailored diabetes prevention programs have significant effects on glycemic control and lifestyle behavior changes in the Native American population in Oklahoma.

BACKGROUND AND MOTIVATION

The prevalence of Type 2 diabetes in Native American Indians is a public health concern. Native Americans have a high prevalence rate of diabetes along with shorter life expectancies. 20% of the Native American Indians in Oklahoma are affected by diabetes. This is primarily due to genetics, historical trauma, lifestyle, poor nutrition, and other socioeconomic disparities (CDC). Hemoglobin A1c acts as an excellent biomarker for glycemic control due to the inexpensive and readily available laboratory testing. Hemoglobin A1c is now a part of standard routine testing to screen for diabetes in wellness appointments across the United States. In addition to hemoglobin A1c, lifestyle behaviors such as adherence to program requirements, diet, and weight management are necessary for preventing complications and improving the prevalence of diabetes.

Culturally tailored diabetes programs have a foundation rooted in cultural value, addressing concerns such as geographical issues, nutritional education, financial needs, community engagement, and other unique requests of the Native American community in Oklahoma. Evidence has shown that culturally tailored diabetes programs, like the Special Diabetes Program for Indians (SDPI), can improve glycemic control and lifestyle behaviors through unique interventions and nutrition that promote adherence and sustainability of healthier means.

The research is motivated by the need to address and understand the prevalence of diabetes and the impact of culturally tailored diabetes programs on glycemic control and positive lifestyle behaviors. The focus of the research is to contribute to strategies that impact overall healthy wellness in Native Americans in Oklahoma.

ORGANIZATIONAL REVIEW

The organizational review of the culturally tailored diabetes prevention programs in Native Americans in Oklahoma includes the Native American population in Oklahoma, stakeholders and tribal leaders, and the healthcare providers working within the diabetes programs.

PROBLEM STATEMENT

Native Americans have battled health disparities that have now become a public concern. Native Americans face significant health challenges due to increases in comorbidities and shorter life expectancies. Native American Indians face disproportionately higher rates of diabetes than other populations. Approximately 15% of Native Americans are diagnosed with diabetes in the state of Oklahoma. Additionally, Oklahoma has a statistic that one in four elderly Native American Indians is diagnosed with diabetes. These numbers indicate that the prevalence of diabetes is significantly more in Native Americans over other populations in Oklahoma (“Diabetes”).

To improve the overall health of the Native American population, programs have been developed to address these concerns. To develop an effective program, it is important to address the unique needs of the Native American population in Oklahoma. Native American culture is based on traditions, spirits, and holistic approaches. Therefore, programs must be effective in delicately addressing cultural needs to prevent resistance and improve compliance with treatment and prevention.

Culturally tailored diabetes prevention and treatment programs can impact several factors, including participation, engagement, and address specific needs. The programs that value

culture are more likely to be effective in addressing the needs of Native Americans in Oklahoma by focusing on the value and practices leading to a greater chance at participation and appropriate prevention and treatment that will lead to adherence.

Through the Special Diabetes Program for Indians (SDPI), more than 150 million dollars are allocated to culturally tailored diabetes programs nationwide. The Indian Health Service (IHS) of Oklahoma has also committed an additional 139 million dollars to combat diabetes in Native American peoples. Developing additional research on culturally tailored diabetes prevention programs can impact the allocation of funds to the programs.

The focus of this research is to determine how the culturally tailored diabetes programs impact glycemic control in Native Americans in Oklahoma. Additionally, it will be explored how cultural approaches can impact the adoption of healthy lifestyle behaviors in Native Americans in Oklahoma.

PURPOSE STATEMENT

The purpose of this research is to determine the impact that culturally diabetes prevention programs have on glycemic control and lifestyle behaviors among Native Americans in Oklahoma. The research is to understand how culturally appropriate interventions can impact health disparities and improve patient outcomes in the Native American community in Oklahoma.

DEFINITION OF TERMS

-TYPE 1 DIABETES: Type 1 diabetes is considered an autoimmune disorder due to the body attacking cells in the pancreas and not allowing proper insulin formation which regulates blood sugar levels (Diabetes UK).

-TYPE 2 DIABETES: Type 2 diabetes is the inability of the body to produce enough insulin or use insulin effectively. Type 2 diabetes is often linked to behavior and lifestyle choices (Diabetes UK).

-HEMOGLOBIN A1C: A laboratory test that shows the average blood glucose level over a span of ninety days. This works by the glucose staying on the red blood cells their entire lifespan which is approximately three months. Those with blood disorders may not benefit from this test due to the test relying on red blood cell activity (MedlinePlus).

The following is the hemoglobin A1c normal reference ranges:

Normal	<5.7%
Prediabetes	Between 5.7%-6.4%
Diabetes	6.5-7% or higher

-CULTURALLY TAILORED PROGRAMS: A culturally tailored program is one that is intended and adapted to use specific techniques that meet the beliefs, values, and needs including delivery to the intended target.

RESEARCH QUESTION

The research question that will be addressed is how does culturally tailored diabetes prevention programs impact glycemic control and lifestyle behaviors among Native American Indians in Oklahoma?

HYPOTHESES

H₀: Culturally tailored diabetes prevention programs have no significant effect on glycemic control or lifestyle behavior changes in the Native American population in Oklahoma.

H₁: Culturally tailored diabetes prevention programs significantly improve glycemic control and promote positive lifestyle behavior changes in the Native American population in Oklahoma.

LITERATURE REVIEW

Introduction

Diabetes is a nationwide issue affecting more than thirty-eight million Americans having diabetes. As of 2024, 12.4% of Oklahoman adults were diagnosed with diabetes. That number breaks down to 390,400 of about four million adults having a diabetes diagnosis. 16.8% of this number was Native Americans (American Diabetes Association). According to the CDC, Native American adults are twice as likely to be diagnosed with diabetes as compared to other groups (CDC). Diabetes can lead to significant complications that impact the quality and length of life. Diabetes can create havoc on healthcare costs and can leave an economic burden. The prevalence of diabetes in Native Americans has brought to light the necessary needs for programs to combat the disease. These programs are designed to be culturally intervened to navigate effective prevention and treatment. Culturally tailored prevention programs address social and economic barriers with a unique approach that can improve participation and patient outcomes.

Prevalence

Oklahoma diabetes and prediabetes costs are estimated to be more than \$3.7 billion annually. Because of the high prevalence of Native Americans diagnosed with diabetes annually; there is a great need to strategize and reduce diabetes and improve outcomes. The prevalence of diabetes before the 1950s is unknown, but it is now one of the top five causes of death (Olsen).

American Indians have the highest rate of diabetes among all groups in the United States. This can be attributed to lifestyles, diets, genetics, and environmental shifts. Southern states have

even higher rates of diabetes than others. In 2004, 15% of Native Americans in Oklahoma had a diagnosis of diabetes, with a decrease to 14.6% by the year 2017 (Olsen).

From participation in culturally tailored diabetes programs, there has been a 58% reduction in those with prediabetes developing into a confirmed diagnosis of diabetes (*OKLAHOMA DIABETES PREVENTION REPORT 2021*). The culturally tailored programs have had a significant impact on the prevalence of diabetes by promoting traditional cultural values, family interventions, enhancing self-management, and providing education material specific to the patients' unique needs, and emphasizing mindfulness and positivity (Lucero and Roubideaux).

Special Diabetes Program for Indians (SDPI)

The diabetic epidemic in the Native American community led to the development of the Special Diabetes Program for Indians (SDPI). Established by Congress in 1997, SDPI receives more than \$150 million dollars by the federal government annually to the program. Spreading across the United States, the tribal leader's diabetes committee provides funds for treatment and prevention (Special Diabetes Program for Indians (SDPI) | Indian Health Service (IHS)). The Cherokee Nation, a tribe located primarily in Oklahoma, is known for operating the largest program of SDPI. The program is committed to self-management classes, nutritional education, and physical and medical treatment as needed. In addition, other tribal councils, such as the Choctaw, Chickasaw, Ponca, and many other tribes have followed the SDPI curriculum to combat diabetes in the Native American community.

The SDPI of Oklahoma aims to provide education and tools for the Native American population to improve diabetes and the complications that may ensue. SDPI within Oklahoma provides educational materials tailored to the individual or tribe, physical activity programs, and food and nutrition programs to aid in diabetes treatments and prevention. Additionally, to prevent complications, other tools such as eye exams, podiatry visits, and wellness visits are provided free to the Native American community. SDPI provides tribes with financial aid assistance for prevention of diabetes and treatment that may help decrease complications such as special diabetic shoes, eyeglasses, blood pressure and blood glucose monitors, and other supplies. Most tribes in Oklahoma provide comprehensive care and have special programs that are tailored for diabetic patients. These programs are in addition to other services already provided acknowledging that Oklahoma tribes are partnering with SDPI to decrease the prevalence of diabetes in Native Americans in Oklahoma (“Programs”).

Laboratory Tests

One way to understand glycemic control is by tracking hemoglobin A1c. Hemoglobin A1c is a laboratory test that is a reliable measure of average blood glucose over sixty to ninety days. For most healthy patients, a hemoglobin of A1c <5.7% represents good glycemic control. When hemoglobin A1C is 5.7% to 6.4% they are considered to have prediabetes. Greater than 6.4% is often considered to be indicator of uncontrolled glycemic control and with clinical correlation could be considered diabetes. Since hemoglobin A1c is a reliable way to measure consistency and adherence to treatment plans, this gives an opportunity to track the program’s success. Hemoglobin A1c is a biomarker that can be used to track how effective diabetes management programs are, including SDPI. Beyond being able to track and measure

effectiveness in diabetes programs, hemoglobin A1c can also be used to identify those at elevated risk for developing diabetes. The benefits of using hemoglobin A1c as a key identifier of diabetes management are that fasting is not required and is affordable, making it ideal for routine testing. Lifestyle and nutritional changes, medication management, and other interventions can be easily tracked using hemoglobin A1c testing (Camplain et al.)

SDPI has mandated glycemic control monitoring through hemoglobin A1c to be routinely reported to the measuring data collected by the Indian health services. SDPI, a culturally tailored diabetes program, significantly improved glycemic control by lowering the average hemoglobin A1c nationally by 12% since 1997. In Oklahoma, through SDPI, the average glucose has decreased from an average of 9% to an average of 8.1% (“SDPI: 2023 Senate Letter Supporting Reauthorization - National Indian Health Board”).

Culturally tailored programs

Programs that are culturally tailored focus on culturally relevant material, include sacred and traditional tools, and are designed to be flexible to meet the patients’ needs so that they can be successful. Culturally tailored diabetes programs can positively impact behavior changes by understanding the cultural needs of the population including family interventions, nutritional education and materials, emotional support, and encouraging engagement are all tools’ that programs like SDPI use to guide patients to success. In Oklahoma, culturally tailored programs have been implemented to promote healthy lifestyle changes. The culturally tailored programs give opportunities to Native Americans. These opportunities are founded across Oklahoma in small programs such as Get SET (screening, education, and treatment), BRAID (being

responsible American Indians with diabetes), STAR (steps to achieve results), and SHINE (strengthening home life through improving nutrition and exercise). All of these initiatives are dedicated to improving education, health, and the prevention of diabetes (Hacker). These small opportunities are spread out across the state of Oklahoma in the thirty-nine federally recognized tribes to overall impact the wellness, including treatment and prevention of diabetes, in the Native American community.

A particular intervention study used community-based participatory principles through nurse researchers, tribal diabetes educators, leaders, and community members to analyze family and generational output on patient's compliance and outcomes. This study used multi-generational diabetes prevention and management strategies to determine if family interventions that involved multiple generations with emotional behavioral support to those at risk or diagnosed with diabetes improved healthier lifestyles and patient outcomes (Scarton et al.). It was determined that those within the study who had family interventions through the help of culturally tailored programs more easily adopted healthier lifestyles and had better outcomes. This study also explored Kolb's Experimental Learning Theory (ELT) as the framework on individual learning styles. The theory suggests that when people have access to all four learning processes (concrete experience, reflective observation, abstract conceptualization, and active experimentation) they are more likely to succeed. This was not used in this research but was found successful in other medical treatment adherence studies, making it potential for future interventions in studying behaviors for compliance. The theory is believed that when all four processes are available, they are less likely to resist change, have higher participation rates in treatment, and would improve treatment compliance (Scarton, PhD, RN et al.).

Impact of culturally tailored programs on chronic diseases

Results from culturally tailored programs indicate that lifestyle interventions catered to cultural needs along with nutrition and physical activity will lead to improvements in diabetes management. These improvements have significant impacts on prevalence of chronic diseases related to diabetes complications. Chronic diseases such as kidney disease, heart disease, and podiatry complications stem from uncontrolled diabetes. Management of diabetes has a direct link to a decrease in chronic diseases that are correlated to diabetes related complications. Culturally tailored programs have been able to improve access to healthcare by promoting training and education to healthcare workers on culture sensitivity. Additionally, the programs provide support tools that encourage self-management and community empowerment that lead to better patient outcomes (Abu and Llahana).

The prevalence of diabetes in Oklahoma has decreased from 15.4% to 14.6% from 2013 to 2017. Consequently, there has also been a decrease in all diabetic associated long-term diseases, including a 50% reduction in eye disease and a 55% reduction in end-stage renal disease due to diabetic complications. Additionally, obesity and diabetes rates in children have not increased in more than 10 years since starting the program in Oklahoma. This is credited to the program's ability to adapt and implement strategies that meet the needs of the patients ("Diabetes Archives - National Indian Health Board"). Required audits managed by the Division of Diabetes Treatment and Prevention (DDTP) from 273 SDPI-sponsored programs and 51 Indian Health Service facilities, including age-adjusted results, compiled statistical reports that revealed reductions in hemoglobin A1c, better blood pressure control, and decreased cholesterol. Additionally, there were reductions in diabetes complications from utilization of evidence-based strategies to alleviate those complications. While this data was collected nationwide, Oklahoma

was a significant part of the audit (Indian health Service Division of Diabetes Treatment and Prevention).

METHODS OF DATA COLLECTION

The methods of data collection include a mixed-method study approach. Qualitative studies were researched to show the impact on hemoglobin A1c and lifestyle behavior that Native American populations in Oklahoma experience from culturally tailored diabetes programs. Additionally, community-based participatory research data was used to determine if culturally tailored programs impacted long term adherence and compliance to treatment that led to better lifestyles. Quantitative data, using statistical analysis, grounded the foundation for developing an understanding of the impact of culturally tailored programs on hemoglobin A1c laboratory results.

The methods to identify lifestyle influence and glycemic control in culturally tailored programs for Native American Indians in Oklahoma must remain ethical, respect culture sensitivity, and collaborate appropriately. Historically, Native American's dealt with mistrust so therefore collecting information while remaining ethically and culturally aware may be difficult. Using community-based participatory research (CBPR) and including tribal leaders, elders, and community member's support keeping research culturally aware and being more ethical in studies. Additionally, studies may include the tribal institution review board (IRB) and ensure data sovereignty helps protect the Native American community during research studies (Kuhn et al.).

RESULTS AND FINDINGS

There are numerous studies that support the evidence of the impact of culturally tailored programs. The relevant studies that were reviewed examined insight into culturally tailored programs designed for diabetes and the impact from lifestyle behaviors and glycemic control. Specifically, the research looked for evidence of culturally tailored programs in the state of Oklahoma. Utilizing evidence from research organizations like the Indian Health Service (IHS), the CDC, and data from the Special Diabetes Program for Indians (SDPI) the results concluded the significance and impact on the lifestyle behaviors and glycemic control on the Native American Indians in Oklahoma that participate in culturally tailored programs for diabetes.

The CDC recognizes that Native Americans are more likely to have a diabetes diagnosis and complications that follow. The likelihood of Native Americans developing diabetes stem from historical, lifestyle, socioeconomic, and cultural factors. It has also been found that Native Americans are more naturally dispositioned to insulin resistance, inactive lifestyles, and obesity that can increase the risk of developing diabetes. The increase in obesity can be a direct link to environmental factors that result in less fiber, healthy foods, and reduced physical activity (McLaughlin). The culturally tailored diabetes programs have used culturally sensitive and nutritional education to help aid patients in contributing to weight loss, a crucial factor in diabetes management. The programs aid in developing and adopting physical activity regimens suited to the patient's needs and cultural values. Using culturally tailored programs such as SDPI, Oklahoma has been successful in reducing diabetes prevalence by 58% since the program was initiated. The programs have been successful by identifying gaps in cultural needs, lifestyle and nutritional necessities, and the socioeconomic factors that play a role in the prevalence of diabetes.

The research identified that the prevalence of diabetes has been reduced since implementing culturally tailored programs specific to Native American Indians. The prevalence has decreased significantly from 15.4% to 14.6% by the year 2017 with a downward trend since. More current data shows an even further decrease with only 13.6% of the disease affecting Native Americans. The graph below shows the relevance of prevalence in consideration of other ethnic groups as of 2021.

Diabetes diagnosis rates are highest among American Indian and Alaska Native adults.

Share of US adults diagnosed with diabetes by race/ethnicity, 2019–2021



2019–2021 data from National Health Interview Survey, except American Indian or Alaska Native data, which is from the Indian Health Service National Data Warehouse (2019 data only).

Source: Centers for Disease Control and Prevention

Glycemic control has also been a key role in identifying the impact of the culturally tailored diabetes programs that were designed for Native American Indians. The studies identified a significant reduction in hemoglobin A1c, a laboratory test that aids in understanding the average glucose over a span of ninety days. Those diagnosed with diabetes had an average hemoglobin A1c of 9%. Through the SDPI and other culturally tailored diabetes programs, the Diabetes Care and Outcomes Audit identified that the number had reduced to 8.1%. Since 2014,

that number has reduced further by 5.3% with more than 61% of patients having average hemoglobin A1c levels of less than 8% and only 19% of patients with levels above 9% (Indian health Service Division of Diabetes Treatment and Prevention).

The culturally tailored diabetes programs also saw significant impacts in the diseases associated with complicated diabetes. The 2024 audit identified a 20% decrease in total cholesterol and a 28% decrease in LDL cholesterol since the development of diabetes programs. Although there was a slight increase in cardiovascular disease, the studies concluded that there has been a 50% reduction in eye disease and a 55% reduction in end-stage renal disease, directly linked to the success of culturally tailored programs. The culturally tailored diabetes programs aid in adopting lifestyle behavior changes that show improvements in medication management, dietary improvements, and physical exercise that have led to a decrease in overall complications from diabetes.

Community-based participatory research using researchers, leaders, educators, and members of the Native American community reveal that culturally tailoring programs significantly boosts participation and emphasizes positive results. The studies found that programs that honor cultural aspects and value the needs specific to the Native American Indians. Additional factors like custom foods to the community, ceremonies, and community gatherings should be incorporated into culturally tailored programs to be effective. The goal is to help soften previous harm by research, avoid bias and exploitation, and incorporate elements that can be a positive influence on culturally tailored programs. Community-based participatory research also identified that generational output has significant impacts on patient compliance. Additionally, the research found that culturally tailored diabetes programs can enhance compliance to treatment by optimizing emotional support and improving lifestyles and outcomes.

Community-based participatory research identified that standard diabetes prevention and treatment often fail in Native American Indians due to the inability to include traditional practices, language, and perspectives into the treatment. Culturally tailored diabetes programs have an impact on cultural needs, nutrition, emotional support, and physical activity necessary leading to the improvement in diabetes prevalence and the associated chronic diseases.

RECOMMENDATIONS AND DISCUSSION

The culturally tailored diabetes prevention and treatment programs have made significant strides in addressing the burden of diabetes in Native Americans in Oklahoma. The high prevalence of diabetes in Native American Indians enhances the obvious need to address the issue. The development of culturally tailored programs was created to address specific needs of the Native American community while maintaining culture integrity and promoting holistic approaches. The culturally tailored programs emphasize physical activity through traditional approaches such as participating in pow wows. The culturally tailored programs encourage community engagement and adhering to interventions designed to meet specific needs. Studies have proven that culturally tailored programs, such as SDPI, are improving lifestyle behaviors, nutrition, and better glycemic control. The reduction in hemoglobin A1c levels are direct effects from adherence to the culturally tailored programs metrics. The programs see higher retention and adherence when culturally tailored interventions are utilized rather than standard methods. Culturally tailored diabetes programs also have seen improvements in reducing obesity and chronic disease progression due to diabetes.

Challenges do still exist in the culturally tailored diabetes prevention programs in Oklahoma. The rural and isolated areas present a geographical challenge, including access to providers. Other socioeconomic factors such as healthy food availability, historical trauma leading to mistrust, and lack of generational support can lead to lower adherence rates. There is also little evidence related to long-term adherence greater than six months. While the evidence shows a continuance decrease across the Native American community, there is no relevance or correlation if these are new patients or if current and past patients are maintaining and adhering to the program initiatives. Additionally, most research groups all Native American Indian data

collectively when determining success rates making it more difficult to look at a smaller scale rate like by state.

To expand program accessibility, increased funding for telehealth and other mobile units is necessary. This would increase accessibility to those in rural areas who may lack transportation to providers. Additionally, the culturally tailored programs should continue to remain free to Native American Indians to ensure that there is no monetary impact to accessing the program. To maintain the integrity and authenticity of approaching the Native American Indians facing diabetes complications, continuous training and incorporating community leaders is crucial. Other recommendations on studies include mixed-method studies that include qualitative feedback from participants and use tribal research that identifies gaps that impact culturally tailored diabetes programs. Additionally, integrating mental health support and culturally appropriate food initiatives can support the success of culturally tailored diabetes programs. All of the recommendations can influence lifestyle behaviors and glycemic control and empower the Native American community to improve the overall health of the people.

Trending GLP-1 medications for diabetes and weight management

Future studies may include the influence and impact of GLP-1 receptor agonists in combination with other medications in the culturally tailored diabetes programs. Programs like SDPI funds and guide the Native American community including access to the most new and relevant drugs approved for diabetes management. GLP-1 receptor agonists are now being widely used for diabetes and obesity. GLP-1 regulates blood sugar levels by stimulating insulin secretion from the pancreas and suppresses glucagon, a hormone that raises blood sugar levels. GLP-1 slows stomach emptying with consequences of reducing appetite and results in weight loss. GLP-1 used in type 2 diabetes has been successful because it successfully lowers blood

glucose levels without causing hypoglycemia and results in weight loss, a major cause of type 2 diabetes.

SDPI and other culturally tailored diabetes programs require the use of best practices which now includes the regular use of GLP-1 medications. The focus of the groups is to ensure that patients have access to specialized needs including medications. While there has been obvious evidence that the programs have been successful to date, the use of GLP-1 can have a positive impact and a significant effect on the prevalence of diabetes. Future studies would benefit from observing the effect on GLP-1 medications on the prevalence of diabetes and glycemic control (Phelan).

HEALTHCARE ADMINISTRATION ROLE

The healthcare administrator role in culturally tailored diabetes programs involve overseeing development, implementation, and aligning goals with the community's specific needs. Healthcare administrators oversee budgets, resource utilization, and ensure that the design of the program will be functional. The healthcare administrator maintains the delivery of care allows for shared decision making and permits appropriate feedback for improvements. The healthcare administrator also plays a role in ensuring the staff is suitable and receives adequate training in understanding culturally sensitive subjects. Additionally, staff should be trained on specific cultural beliefs focusing on a patient-centered practice that allows for effective communication. Healthcare administrators of programs ensure that relationships are developed with the staff, tribe, and community leaders to ensure that the needs of the Native American

Indians are met during implementation. The healthcare administrator aids in the development of strategic plans that can be implemented and facilitated to meet the emotional, mental, and physical needs that lead to improvements in the health of the Native American community (Shiyanbola et al.).

CONCLUSION

In conclusion, diabetes is a disease impacting blood glucose levels that lead to detrimental long-term conditions. According to the CDC, Native American Indians are more likely to be impacted by the disease (CDC). This has led to the development of structured and culturally tailored programs designed to meet specific needs for the Native American population. SDPI and other culturally tailored programs were developed and implemented across the United States and Oklahoma and are funded by the government and the Indian Health Service. The culturally tailored diabetes programs focus on traditional approaches that include meeting specific needs for the patient. The studies have proven that culturally tailored programs have been successful at impacting lifestyle and improving glycemic control. SDPI and associated audits report that there has been decreases in the prevalence of diabetes and chronic complications due to diabetes.

Future research includes how culturally tailored diabetes programs are impacted by rural and geographical isolation and how this can be resolved. Additionally, future research may include how culturally tailored diabetes programs are impacting long-term glycemic control and lifestyle behavior changes. Although the research and studies show they are positively impacted, it does not show if these are the same patients being tracked. Other future research may also

include how new medications such as GLP-1 receptor agonists are impacting the results of the programs.

Healthcare administrators play a role in successful culturally tailored diabetes programs. As they oversee day-to-day operations, they are also responsible for implementing and aligning strategic plans and ensuring the program remains patient-centered. The strategic plan ensures that staff are adequately trained and equipped to understand culturally sensitive practices to protect the traditional needs of patients. The healthcare administrator develops relationships with community and tribe leaders to develop and implement diabetes prevention programs into Native American communities successfully.

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