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Staff Education for Improved Diabetes Management: Enhancing Knowledge and Patient Outcomes

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Walden University

College of Nursing

This is to certify that the doctoral study by

Carissa Bolden

has been found to be complete and satisfactory in all respects, and
that any and all revisions required by
the review committee have been made.

Review Committee

Dr. Lilo Fink, Committee Chairperson, Nursing Faculty

Chief Academic Officer and Provost
Sue Subocz, Ph.D.

Walden University
2025

Staff Education for Improved Diabetes Management: Enhancing Knowledge and Patient

Outcomes

by

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MSN, Walden University, 2018

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Executive Summary Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

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Summary

An increase in patients' hemoglobin A1c levels in a South Mississippi organization suggests that inadequate type 2 diabetes (T2DM) knowledge among the staff hindered them from delivering competent care. The gap in practice at the site revealed a deficiency in knowledge in nutrition education for healthcare providers and staff, which led to the practice question: Does educating providers and staff on nutrition for adults with type 2 diabetes improve knowledge, as evidenced by pre- and post-surveys? This educational initiative employed the analysis, design, development, implementation, and evaluation (ADDIE) model, the John Hopkins evidence-based practice (JHEBP) model, the Walden University Doctor of Nursing Practice (DNP) project checklist, alongside the *DNP Project Process Guide*. A literature search was conducted using EBSCOhost, PubMed, and CINAHL databases via the Walden University Library and resulted in 41 peer-reviewed articles, of which 14 were chosen to support the intervention. Content experts included a Walden librarian and a certified nutritionist. Two structured lunch-and-learning sessions were employed to educate 11 clinical staff members. Pre- and post-surveys issued via SurveyMonkey were used to evaluate staff knowledge. Results indicated that the post-test increased knowledge on average by 31 percentage points, as shown by a paired *t*-test with a pre-survey mean of 6.00 and a post-survey mean of 9.64 ($p = .001$). This educational project promotes positive social change by enhancing patient outcomes and reducing the risk of diabetes-related complications, thereby making an impact on the overall transformation of healthcare delivery.

Background

T2DM numbers are continually rising because of increasing obesity, poor dietary choices, and a lack of physical activity. T2DM is among the leading causes of morbidity, mortality, and chronic illnesses in the global world that burdens the healthcare system (Hacker et al., 2024). Although T2DM is one of the most prevalent chronic diseases, prior research has revealed that primary care providers have limited knowledge about how to treat patients with this condition (Yunis et al., 2024). Treatment of T2DM involves medical management, lifestyle modification, and most importantly, dietary adjustments. Nutrition is also vital in managing T2DM since it relates to rising blood glucose levels, weight gain, and the prevalence of cardiovascular diseases, kidney failure, and neuropathy. However, the education and confidence of primary care professionals and their supporting staff are secondary, as they lack the expertise to provide detailed recommendations to diabetic patients regarding nutrition-related issues (Ranjbar et al., 2024). The importance of possessing proper knowledge on nutrition for adults with T2DM is a factor in deciding the treatment for those patients regarding nutrition-related issues (Ranjbar et al., 2024). The relevance of obtaining correct knowledge on nutrition for individuals with T2DM is a consideration in determining the treatment for those patients.

Based on these findings, improving diabetes management necessitates increasing nutrition knowledge among healthcare providers (Karachaliou et al., 2020). The current project addresses this gap by implementing a nutritional education intervention. The project is expected to decrease the risks of complications and ultimately improve the quality of life for people living with T2DM by providing medical professionals with the

applicable education and knowledge. The present initiative is a social change program that aims to encourage improvements in educational and caregiving trends, resulting in healthier population groups and reduced long-term effects of type 2 diabetes mellitus (T2DM) among the general population. The practice question that inspired this evidence-based project (EBP) was: Does educating providers and staff on nutrition for adults with type 2 diabetes mellitus (T2DM) improve knowledge, as evidenced by pre- and post-surveys? This gap was addressed by implementing a nutritional education intervention.

Staff Education Project Development

The DNP staff education project was developed to enhance the multidisciplinary team's nutritional knowledge in managing type 2 diabetes mellitus (T2DM). This educational project was approved by the DNP-prepared preceptor, the faculty advisor, and Walden University's DNP committee. The project was aligned with the steps outlined in the Staff Educational Manual and the DNP Project Process Guide. The ADDIE model, used to guide the project, presents an educational framework that ensures a coherent, holistic, and engaging learning process.

Analysis

This educational project aimed to identify a gap in practice and improve education on nutrition for diabetes management. To formalize the practice question, the JHEBP model was applied and analyzed using the organizational readiness tool, SWOT analysis, and stakeholder analysis, which showed that the organization was ready and willing for change. Research articles were sought with the assistance of the Walden librarian across many databases, including PubMed, EBSCOhost, and CINAHL. Fourteen peer-reviewed articles were chosen to support the educational project. Evidence was collected under

keywords such as *nutrition, type 2 diabetes, competency, and a reduction in A1C*. The study encompassed evidence Levels 1-5 that substantiated the initiative in enhancing staff knowledge on nutrition for adults with T2DM. The organization's strengths were leveraged to mitigate weaknesses and address threats.

Design and Development

The analysis, reviewed by content experts, utilized the question development tool of the JHEBP model. The synthesis of analysis from the JHEBP model's question development tool, the Organizational Readiness Tool, SWOT analysis, and stakeholder analysis led to the design and development of the project, which commenced with the application of the translation and action planning tool. A Walden librarian was involved in the project, searching for scholarly articles, research studies, and clinical guidelines to support the program. These sources made sure the educational material is based on peer-reviewed information. The certified nutritionist, T.P., with eight years of experience, provided invaluable information on dietary regimens to follow when managing type 2 diabetes mellitus (T2DM). This helped in the development of the pre- and post-survey questions (see Appendix A) and the educational PowerPoint presentation (see Appendix B). The reliability and validity of the PowerPoint presentation relied on the translation and action planning tool of the JHEBP model, the practices and policies of the location, and discussions with two content experts. This helped in the development of the pre- and post-survey questions, as well as the educational PowerPoint presentation. This enabled the design of a feasible education plan, which encompassed carb counting, meal planning, and an analysis of the influence of nutrition on blood glucose control, thereby contributing to the development of the education program (Ibrahim et al., 2023). This

educational PowerPoint content aligns with the daily activities of the staff. The concept of complex nutrition was introduced through these materials in a comprehensible and approachable manner, allowing all staff members to work with the material, regardless of their level of knowledge on the subject, and follow the project schedule. Interactive components, such as surveys and case studies, were included to enhance the course's interactivity and support the delivery of essential information (Sartania et al., 2022). The translation and action planning tools helped identify the needs of the clinical staff, break down the work, and estimate the project's duration. This practice ensured that the two education sessions were more useful, participatory, and relevant to the medical staff engaged in caring for patients with T2DM, as indicated by the pre- and post-surveys.

Implementation

Implementation commenced after the faculty advisor and preceptor approved the project. The educational portion was executed through two “lunch and learning” sessions once the ethics pledge was completed as required by Walden University. The 11 participants in this study were four certified nurse practitioners, two licensed practical nurses, two medical assistants, two office clerks, and the office manager. The staff provided consent and were aware that their participation was voluntary. No identifying information was received. The staff received nutrition education at the clinical site in the conference room. The lunch-and-learning sessions were informal, and a meal consisting of small bites was provided. Before the education session, the pre-survey was administered. The education provided was interactive, followed by the administration of a 10-question post-survey on SurveyMonkey aimed at gauging staff knowledge.

Evaluation

The program's efficacy was evaluated after its completion during the final phase of the ADDIE model (Luo et al., 2024)—interpretation and dissemination of the findings, as outlined in Walden University's (2022) DNP project process guide. The study's results were derived using a data analysis chart supplied by Walden University, which facilitated the examination of the percentage change in knowledge from pre- to post-survey and computed the alteration in the mean. IBM was used to perform a paired one-tailed t-test to compare the means of the pre-survey and post-survey results. These surveys monitored the awareness of key concepts in diabetes nutrition, such as carbohydrate counting, meal planning, and the impact of nutrition on blood glucose levels, before and after lunch and learn sessions led by healthcare providers. The results of the pre- and post-surveys were compared to determine whether the program contributed to an increase in the staff's knowledge and understanding.

The participants were also expected to provide feedback on the survey and their experiences during the session. Gathering feedback entailed inquiries about how explicit and relevant the content was, the general layout of the entire session, and how useful they found the learning material in their day-to-day practice. This feedback helped determine the extent of activity and satisfaction with the program (see Vrkić et al., 2022). The findings were discussed, and a conclusion was drawn on whether the educational intervention significantly improved healthcare providers' capacity to offer nutrition counseling to people with T2DM. Success was demonstrated by a higher level of knowledge, improved self-confidence in providing nutritional information, and increased insight into controlling blood glucose levels through diet. Additionally, adjustments to

the program will be made based on feedback and evaluation results to provide ongoing staff education and improvements that facilitate effective diabetes care.

Results

The content experts reviewed the project and identified it as a positive change in knowledge (see Appendix C). The nutrition education program was planned and developed in collaboration with experts in the field, including a nutritionist and certified librarian. The nutritionist emphasized evidence-based approaches to managing diabetes, which enabled her to draw connections between the material and current clinical suggestions and procedures, making them applicable to the clinics and practice's requirements (Gebreyesus et al., 2024). These sources made sure the educational material is based on peer-reviewed information. Particularly, the study of patient-centered nutrition education and its effects on diabetes management was considered. The content experts emphasized that healthcare providers had a good understanding of the general concept of diabetes treatment; however, there was a notable lack of awareness regarding nutrition-specific strategies (see Appendix D). This program bridged the gap and equipped providers with the nutritional knowledge needed to advance their counseling abilities. The expert also suggested that case studies and real-life experiences should be incorporated into subsequent sessions to enable providers to apply the knowledge in clinical practice more effectively, thereby enhancing patient care and outcomes.

The effectiveness of a nutrition education program on participants' knowledge of T2DM nutrition management was evaluated using a paired-samples *t* test. Pre- and post-intervention quizzes were administered to 11 participants. The pre-survey mean score

was 6.00 ($SD = 2.68$), and the post-survey mean score was 9.64 ($SD = 0.51$). This significant gain indicates a positive outcome from the intervention.

The paired-sample correlation between the pre- and post-scores was weak and insignificant ($r = 0.074$, $p = 0.829$), indicating that the scores were not strongly related. The paired sample t-test, on the other hand, revealed a significant increase in scores: $t(10) = -4.478$, $p = .001$. The mean difference between the pre- and post-scores was -3.636, and the 95% confidence interval was from -5.45 to -1.83. This means that the actual mean change is unlikely to be due to chance.

Cohen's d was used to determine the effect size, which was substantial ($d = -1.35$), providing further evidence that the intervention had a significant impact on education (see Table 1). This conclusion is supported by Hedges' adjustment ($d = -1.30$). These findings show that the nutrition education program significantly increased participants' knowledge, making it a successful intervention for adults with type 2 diabetes. Overall, the results showed a 31% improvement in knowledge, reflecting the percentage of total correct answers, indicating an improvement in staff expertise concerning the management of T2DM.

Table 1*Paired Samples t Test*

Paired Samples Effect Sizes			Standardizer ^a	Point Estimate	95% CI	
					Lower	Upper
Pair 1	Pre-Score – Post-Score	Cohen's <i>d</i>	2.693	-1.350	-2.164	-.503
		Hedges' correction	2.800	-1.299	-2.082	-.484

Table 2*Pre and Post Survey Change Results*

T2DM Nutrition Survey		Pre-survey		Post-survey		Change
No.	Description	Number of correct answers <i>n</i>	Percent of correct answers %	Number of correct answers <i>n</i>	Percent of correct answers %	%
SAMPLE	Question	2	20%	7	70%	
1	John weighs 128 pounds. How much water should John drink daily (in ounces)?	6	54.55	11	100	45.45
2	Which meal would cause a diabetic patient's glucose level to rise the most?	8	72.73	9	81.82	12.49
3	John is a type 2 diabetic who weighs 215 lbs. and is 5'6". He works in cybersecurity. How much protein should he consume daily?	3	27.27	11	100	72.73
4	What is Type 2 Diabetes? Choose the best answer.	6	54.55	10	90.91	36.36
5	What is a good form of exercise for a person with diabetes?	10	90.91	11	100	9.09
6	Which plate is most appropriate for a diabetic patient?	10	90.91	11	100	9.09
7	Why is a diabetic-friendly diet important?	9	81.82	11	100	18.18
8	What is ideal for a three-step diet plan for an adult with type 2 diabetes	8	72.73	11	100	27.27
9	How many carbohydrates should one consume daily to maintain glycemic control for a 1200-calorie diet?	4	36.36	11	100	63.64
10	Cindy is a person with type II diabetes weighing 200 pounds. She is recommended a diet of 1400 calories per day. How many grams of carbs should she consume per day?	2	18.18	10	90.91	72.73
<i>M (SD)</i>		11	60	11	91	31

Implications and Limitations

The nutrition education program was effective in increasing the knowledge of providers and staff, which can result in improved glycemic control and decreased complications through improved knowledge on nutrition for adults with T2DM. The initiative facilitates sustainable healthcare improvement by educating staff on practical applications and modifying the social environment to improve patient outcomes. Nevertheless, there is a limitation with the small sample size (11 participants), which can undermine generalizability. The study's limited duration limited the evaluation of long-term retention of knowledge for the staff receiving the education. The use of self-reported surveys can be biased, and a single-site location may not accurately represent varied clinical settings. Future versions would entail larger multi-site cohorts and longitudinal assessments to establish and extend these findings. The strength of this educational project lies in its confirmation that educational interventions lead to increased knowledge among nursing staff. To maintain nurse competency and ensure consistent and safe patient outcomes, providers and staff should receive regular education on nutrition for adults with type 2 diabetes mellitus (T2DM).

Conclusions

In conclusion, the nutrition education program was successful in improving the knowledge and confidence of healthcare providers and staff in managing type 2 diabetes mellitus (T2DM) through nutrition counseling. The organized "lunch and learning" system facilitated the efficient transfer of expertise without disrupting clinic activities. The most critical areas, including carbohydrate counting, meal planning, and the role of

nutrition in glycemic control, were well-received and demonstrated a notable improvement in the staff's knowledge. The post-survey scores and the positive responses from the participants are statistically significant, affirming the program's success. Expert opinion was utilized to ensure the content was evidence-based and clinically significant. The intervention can not only impart essential skills to providers but also enhance their professional development. Still, it can also improve patient outcomes and minimize the risk of diabetes-related complications, making its contribution to the overall social change in healthcare delivery momentous and sustainable. To share the findings, I will release a report through an internal clinic portal and email, present the findings at medical and nutrition conferences, and submit a manuscript to a peer-reviewed journal. I will also organize webinars with access to records and present the main results through the professional social network and the clinic newsletter to expand the audience as much as possible, demonstrating a notable improvement in the staff's knowledge.

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Appendix A: Pre- and Post-Survey

Diabetes & Lifestyle Knowledge Check

Date _____

1.	<p>John weighs 128 pounds. How much water should John drink daily (in ounces)?</p> <p>32 oz</p> 	<p>64 oz</p> 
	<p>80 oz</p> 	<p>100 oz</p> 
2.	<p>Which meal would cause a diabetic patient's glucose to be elevated the highest?</p>	
	<p>2 cups of red beans, rice, sausage links, and cornbread. Apple fritters and Diet Coke</p>	<p>Green salad, beet juice, medium-sized orange, glass of water</p>
	<p>Three lettuce wraps, 1 cup of dragon fruit salad, and green tea</p>	<p>Half roast chicken, two cups of collard greens, one corn muffin, Sprite Zero</p>
3.	<p>John is a type 2 diabetic who weighs 215 lbs. and is 5'6". He works in cybersecurity. How much protein should he consume daily?</p>	

<p>75g–95g of protein daily</p> 	<p>35g-45g of protein</p> 
<p>55 g- 65 g of protein</p> 	<p>115g–125g of protein</p> 
<p>4. What is Type 2 Diabetes? Choose the best answer.</p>	
<p>A chronic condition affecting glucose metabolism</p>	<p>A condition resulting from overeating</p>
<p>An acute condition resulting from high cholesterol and high blood pressure</p>	<p>An A1c of 5.6</p>
<p>5. What is a good form of exercise for a person with diabetes?</p>	
<p>15 minutes of maximum weightlifting</p>	<p>120 minutes or more of swimming</p>
<p>30 minutes or more of brisk walking</p>	<p>60 minutes or more watching TV</p>
<p>6. Which plate is most appropriate for a diabetic patient?</p>	
 <p>A.</p>	 <p>C.</p>



B.



D.

7.	Why is a diabetic-friendly diet important?	
	It improves glycemic control, supports weight loss, and protects cardiovascular health.	It helps patients avoid sugar.
	It reduces calorie intake only.	It tastes better
8.	What is ideal for a three-step diet plan for an adult with type 2 diabetes	
	Low protein. Adequate water intake and high-carb intake.	High protein. Adequate water intake and low-carb intake.
	High water intake, no carb intake, low protein intake	High protein. Low water intake and high carbohydrate intake.
9.	How many carbohydrates should one consume daily to maintain glycemic control for a 1200-calorie diet?	
	Men 100-200 Women 75-150	Men 200-350 Women 225-325
10.	Cindy is a person with type II diabetes weighing 200 pounds. She is recommended a diet of 1400 calories per day. How many grams of carbs should she consume per day?	
A	50g	B 400g
C	350g	D 175g
E	100g	F 200g

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Answer Key

1. 64 oz

Rationale: It meets general hydration needs and supports overall health— $128/2=64$ ounces daily (American Diabetes Association, 2023).

2. The meal consists of 2 cups of red beans and rice, one sausage link, a serving of cornbread, apple fritters, and Diet Coke

Rationale: Certain foods cause a spike in glucose levels. One cup of kidney beans contains 110 grams of carbohydrates, while rice has 45 grams of carbohydrates per cup. Cornbread has 16 grams of total carbohydrates, and an apple fritter has 34 grams of carbohydrates per serving. Thus, the client is well over the recommended carbohydrate intake (Mayo Clinic, 2024).

3 75g–85g of protein daily.

Rationale: Increased protein intake is beneficial for people with diabetes in maintaining muscle and controlling blood sugar. Because he works in cybersecurity, he is not regularly active. Protein formula. $215/2.2=97.727\text{kg}$. $97.727\text{kg} \times 0.80=78.1818$ grams of protein daily

4. The CDC defines diabetes as a chronic metabolic disorder affecting glucose metabolism

Rationale: The CDC defines diabetes as a chronic metabolic condition with persistently elevated blood glucose levels. (CDC, 2024).

5. 30 minutes or more of brisk walking is ideal for the average diabetic patient

Rationale: Regular exercise can help get blood sugar under control and improve one's sensitivity to insulin. (American Diabetes Association, 2023).

6. Grilled chicken, greens, and water

Rationale: This is a balanced, low-carb meal to control blood sugar (ElSayed et al., 2023).

7. It improves glycemic control, supports weight loss, and protects cardiovascular health.

Rationale: It helps control glycemic acid and supports weight loss and cardiovascular health.

8. High protein. Adequate water intake and a low-carbohydrate diet. (American Diabetes Association, 2023).

Rationale: A balanced diet improves diabetes and the client's overall health

9. Men 100-200, Women 75-150

Rationale: Diet should be personalized. Carbohydrates make up 30–45% of Americans' daily intake. In a 2000-calorie diet, most men and women should consume 225-300 grams of carbs daily. To maintain glycemic control on a 1200-calorie diet, a person typically consumes less than the recommended amount to lower blood glucose levels (CDC, 2024). Carb counting is a valuable tool for maintaining glycemic control. The average for both men and women is 150 carbs.

10. 175 grams of carbs daily based on a 1400-calorie diet.

Rationale: Daily carbohydrate intake is based on daily caloric intake. The formula is to divide daily calories by 2 and then divide by 4 to determine the recommended number of carbs for everyone's daily caloric intake. $1400/2=700$. $700/4=175$

Appendix B: Education PowerPoint

Nutrition Education for Adults with Type 2 Diabetes

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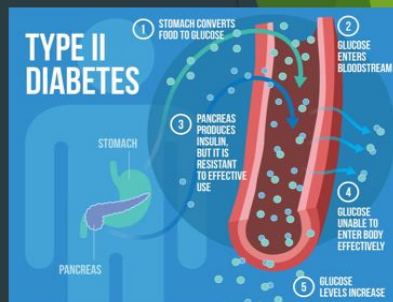
Dr Lilo Fink, DNP APRN, FNP-BC, MSN-ED, RN

NURS 8512

April 12, 2025

What is Type 2 Diabetes?

- ▶ Chronic condition affecting glucose metabolism
- ▶ Linked to insulin resistance or decreased insulin production
- ▶ Strongly associated with obesity and inactivity (Goyal et al., 2023)
- ▶ Can result in complications like heart disease or kidney failure



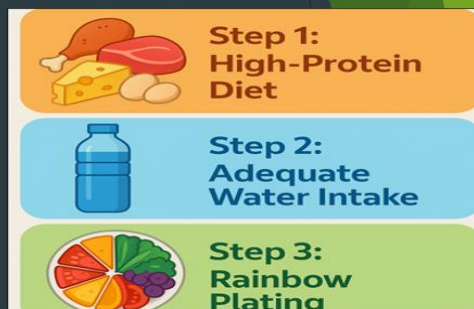
Why Nutrition is Important in Diabetes

- ▶ Nutrition is essential for glycemic control
- ▶ Prevents spikes and crashes in blood sugar
- ▶ Balanced diets improve insulin sensitivity (Reynolds & Mitri, 2024)
- ▶ Proper meals can lower A1C and reduce medication use



Three-Step Diet Plan Overview

- ▶ Step 1: High-Protein Diet
- ▶ Step 2: Adequate Daily Water Intake
- ▶ Step 3: Rainbow Plating for Balanced Nutrition (CDC, 2024)



Protein Intake

- ▶ **Protein Importance:** Maintains muscle mass, balances fluids, supports heart health
- ▶ Protein should account for 10-35% of daily calories. (American Diabetes association)
- ▶ Calculating Daily Protein By Body Weight:
- ▶ 0.8gram-1gram per KG
- ▶ ex. 160 lbs divided by 2.2lbs then multiply by 0.8= 58 grams of daily protein
- ▶ **Examples of High-Protein Foods:** Eggs, chicken breast, lentils, Greek yogurt, tofu, salmon (American Diabetes Association, n.d.).



Daily Water Intake

- ▶ Water is essential to glucose regulation and provides hydration.
- ▶ Water also is made of Oxygen. Oxygen is vital to the life of our organs including the Kidneys and Heart.
- ▶ **Water Intake Formula:** Half your body weight (lbs) in ounces of water daily (e.g., 150 lbs = 75 oz water) (Reynolds & Mitri, 2024)
- ▶ **Note:** Exclude if patient has CHF or fluid restrictions



Rainbow Plating - The Star of the Diet

- ▶ “Eat the Rainbow”: Red to purple foods provide full-spectrum nutrients
- ▶ Each color group offers antioxidants, fiber, and vitamins
- ▶ Eating foods that are rainbow color (in moderation) can significantly lower the client’s glycemic level (NIDDK, 2023)
- ▶ Makes meals both nutritious and visually appealing



Food Comparison Chart

- ▶ Understanding carb content helps control glucose
- ▶ Bananas (27g) vs. Oranges (11g) - big differences
- ▶ Beans are nutritious but very high in carbs (Jideani et al., 2021)
- ▶ Encourage substitutions with low-carb alternatives

Food	Carb Content (g)
 Orange (1 medium)	11
 Apple (1 medium)	25
 Banana (1 medium)	11
 Collard Greens (1 cup)	4
 Kidney Beans (1 cup)	110
 Kidney Beans (1 cup)	

How many carbs should an Adult with Type II Diabetes consume

- ▶ Men 175-225,
- ▶ Women 100-175

Rationale: Diet should be personalized. Carbs make up to 30-45% of Americans' Daily intake. In a 2000-calorie diet, most men and women should consume roughly 225-300 grams of carbs daily. To maintain glycemic control, A person will typically consume less than recommended to lower blood glucose levels (CDC, 2024). Carb counting is a valuable tool to maintain glycemic control. formula 2000 calories divided by 2=1000 calories. 1000 calories/4=daily carb amount.

Rainbow Low-Carb Foods

- ▶ Low-carb + rainbow = the perfect combo!

Examples of rainbow-colored low-carb foods.

- ▶ Greens: Spinach, kale, green beans
- ▶ Yellow: Cheese, squash
- ▶ Red/Orange: Carrots, bell peppers
- ▶ Purple/Blue: Berries, cabbage
- ▶ Healthy fats: Avocado, nuts, meat



Conclusion + Physical Activity

- ▶ Educating clients on the 3 rules = better blood sugar, heart health, and weight loss.
- ▶ Reinforce the 3-step plan: Protein, Water, Rainbow.
- ▶ Just 30 minutes of daily physical activity helps burn stored carbohydrates and reduce the risk of heart disease (American Diabetes Association, n.d.).



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Appendix C: Context Expert Forms

Assessment Dimension	Description	Select the most appropriate			
		Not Relevant	Somewhat Relevant	Relevant	Very Relevant
Knowledge retention of staff on nutrition for adults with type 2 diabetes	Impact on nurses' retention of key dietary concepts (such as nutrition, indications, and disease processes).				Yes
Confidence in educating on nutrition	Impact on staff confidence in educating and managing patients with diabetes				Yes
Adherence to NDORI protocols	Impact on nurses' adherence to NDORI protocols in clinical practice (such as diet education and nutritional guidelines).			YES	
Patient communication and education	Impact on how nurses communicate and educate patients about nutrition and address concerns				Yes
Impact on patient outcomes	Impact on improving patients' outcomes (such as reduced A1C and improved compliance)				Yes
Collaboration with multidisciplinary teams	Impact on how nurses collaborate with other healthcare providers (physicians, counselors) in managing diabetic patients.				Yes
Behavioral changes in practice	Changes in education practices post-training (e.g., willingness to learn				Yes
Satisfaction with PowerPoint education	Nurses' satisfaction with the education program and its relevance to their daily work				Yes
Barriers to effective nutrition education implementation	Ongoing challenges nurses face in implementing Nutrition education include time constraints, lack of resources, and patient compliance.			Yes	

Appendix D: Content Expert Evaluation

- I. This educational project enhanced nutrition education for staff managing adults with type 2 diabetes. Knowledge of dietary requirements can improve healthcare staff's understanding.
- a. Kindly evaluate the project's communication, motivation, and aspiration efficacy.

First Content Expert	Second Content Expert
This project significantly enhanced communication between physicians, personnel, and patients. The education equipped clinicians and workers with nutritional information that is comprehensible and reassuring for patients. The project instructed physicians to enhance patient compliance by tackling prevalent obstacles and maintaining ongoing involvement during nutrition education.	The training made doctors even more eager to provide patients with personalized meal plans, encouraging them to tailor their approach to each patient's specific needs. The nurses were more motivated to educate type 2 diabetes patients about nutrition due to the individualized care and enhanced communication skills. This led to improved patient outcomes and lower A1C levels.

- b. Describe your feelings about your involvement as a content expert

First Content Expert	Second Content Expert
It was an honor and a unique opportunity to assist the student in conceptualizing and executing an educational initiative for adults with type 2 diabetes. I appreciated assisting the student during the entire process, from preparation to evaluation. I valued witnessing the student's development in confidence and knowledge while engaging with a topic of significant relevance in contemporary healthcare.	I enjoyed sharing what I knew and helping create a training program that will immediately enhance patient care and the staff's understanding of the right diet for type 2 diabetes. Keeping the student on track with Walden University's rules and standards was crucial so that the project stayed focused, based on evidence and morals.

- c. What aspects of the project do you think require improvement

First Content Expert	Second Content Expert
The information was instructive, incorporating case studies or real-world issues. One area for enhancement is the use of pamphlets and additional interactive components in the educational framework to engage learners better and foster active learning. I enjoyed the presentation.	I contend that increased focus on regionally accommodating treatment for indigent populations might benefit education, particularly people experiencing homelessness and those whose diet is regulated by their socioeconomic status.

II. Pre/ Post-Test

a. Were pre- and post-tests relevant to the content taught?

First Content Expert	Second Content Expert
Yes, the pre- and post-tests matched well with what was taught.	Yes, the tests covered the important things discussed during our sessions and are pertinent to the topic.

b. How might you have changed the project?

First Content Expert	Second Content Expert
I have spoken to adult diabetic patients and used what the patients had to say to understand their food problems and issues better. Hearing from people with type 2 diabetes would have enlightened the project and provided more information.	There is a possibility that I would have incorporated instructional sessions that were tailored precisely to the roles that each member of the team plays.

III. The role of the student as a team leader

a. Did the student successfully lead the team and achieve the organization's goals?

First Content Expert	Second Content Expert
The student exhibited strong leadership by efficiently collaborating with all stakeholders, fostering transparent communication, and ensuring the project was aligned with the organization's objectives.	The student demonstrated creativity and professionalism in leading the project team. She maintained clear objectives, guaranteed adherence to timetables, and fostered teamwork.

IV. Please provide suggestions for improvement.

First Content Expert	Second Content Expert
I enjoyed the experience. It was an enlightening educational experience	In light of what was mentioned before, I suggest that future training sessions incorporate more inclusive components.