Doctor of Nursing Practice Project
Indian Health Service Clinic Diabetes Protocol Update

Charissa Barsos, APN, FNP-BC
Project Advisor: Dr. Rhonda Oldham

Background

- Native Americans are at a much higher risk for type 2 diabetes and associated complications (American Diabetes Association [ADA], 2022).
- ADA Standards of Care (2022):
  - Hemoglobin A1c less than seven (every 3 to 6 months)
  - Microalbumin (every year)
  - Foot exam (every year)
  - Diabetic retinal exam (every year)
  - Medications
    - ✓ Angiotensin-converting enzyme inhibitors (ACE) or
    - ✓ Angiotensin II receptor blockers (ARB) and
    - ✓ Statin

Purpose

- To update the type 2 diabetes protocol at a primary care Indian Health Service (a Federally Qualified Health Center) in Northern California.
- To increase the providers' knowledge about the guidelines and support the providers of the clinic to provide the highest level of diabetic care to the Native American population and all the diabetic patients.
- To strengthen the clinic's finances by:
  - Meeting government measures
  - Decreasing diabetic complications
  - Improving outcomes

Method

- Assessed and updated the type 2 diabetes protocol (approved by the chief medical officer) for an Indian Health Service.
- Providers completed the Diabetic Attitude Survey from the University of Michigan Diabetes Research and Training Center prior to the protocol update to determine their attitude toward treating patients with diabetes.
- Mandatory staff meeting included:
  - Updated protocol
  - Updated diabetes guidelines
  - Updated diabetes treatments
  - New diabetes medications
- Providers repeated The Diabetic Attitude Survey 3 months post-implementation to reassess their attitude toward patients with diabetes, which was optional.
- Diabetes standards of care were measured pre-and post-protocol the total diabetic population and the Native American diabetic population.

Results

Diabetes Attitude Survey Analysis

Subscale	Time Pre *n*=3 Post *n*=6	Mean Score	Standard Error	*p*-value
Need for Special Training	Pre	4.53	0.17	0.42
	Post	4.31	0.14	
Seriousness of NIDDM	Pre	4.24	0.19	0.77
	Post	4.32	0.15	
Value of Tight Control	Pre	4.21	0.19	0.54
	Post	4.02	0.16	
Psychological Impact of DM	Pre	4.39	0.16	0.73
	Post	4.47	0.13	
Patient Autonomy	Pre	4.06	0.15	0.26
	Post	4.38	0.13	

Note: Data analyzed with a repeated meatuses ANOVA

Diabetes Standards of Care Measurements

	Total Diabetic Population		Native American Diabetic Population	
	Pre	Post	Pre	Post
Total	677	677	219	219
A1c				
Total Collected	372 (54.9%)	378 (55.8%)	110 (50.2%)	113 (51.6%)
Average	7.5	7.4	7.8	7.9
Microalbumin	264 (39.0%)	247 (36.5%)	83 (37.9%)	85 (38.8%)
ACE/ARB Use	376 (55.5%)	399 (58.9%)	114 (52.15)	115 (52.5%)
Statin Use	421 (62.2%)	436 (64.4%)	106 (48.4%)	117 (53.4%)
Foot Exams	28 (4.1%)	100 (14.8%)	8 (3.75%)	35 (16 %)
Eye Exams	47 (6.9%)	115 (17.0%)	20 (9.1%)	41 (18.7%)

Discussion

Diabetes Attitude Survey Analysis

- Insufficient evidence to suggest any significant mean differences between pre-and post-survey subscales.
- 5 was the highest possible score for each subscale
  - All of the mean scores on the pre-survey were above 4, leaving little room for improvement.

Diabetes Core Measures Pre-Implementation

- No significant change in:
  - A1c measurement
  - Microalbumin measurement
  - ACE/ARB use
  - Statin use
- Mild increase in both foot exams and eye exams noted.

Limitations:

- Small sample size for Diabetes Attitude Survey
- Time frame for the diabetic guidelines collected was limited to three months due to new EMR implementation
- Higher compliance may be seen if data was collected for a longer period

Conclusion

- Diabetes management is a highly complex disease requiring high-complexity management that can be intimidating to providers (Unnikrishnan et al., 2017).
- Post protocol data identified Increased compliance with foot exams and eye exams.
- Clinic continues to use the updated protocol. used in the clinic today.
- ADA Standards of Care are regularly updated with 2023 guidelines recently published.

References

American Diabetes Association (2022). *Diabetes. www.diabetes.com*

Unnikrishnan, R., Pradeepa, R., Joshi, S. R., & Mohan, V. (2017). Type 2 diabetes: Demystifying the global epidemic. Diabetes 66(16), 1432- 1442. https://doi.org/10.2337/db16-0766