PREVENTION OF DIABETIC FOOT ULCER RECURRENCE

Mary Kinsey, BSN, RN, CWON; and Margaux Trejo, RN, WCC Memorial Hermann Greater Heights | Houston, Texas | USA

ABSTRACT

INTRODUCTION

A large population seen in the outpatient wound care space are those with diabetic foot ulcers (DFU). One third of those admitting to the wound care center for DFU were readmits who had been seen previously in the center. It is widely recognized in the literature that healing DFUs and preventing their recurrence can be difficult especially in those with lower socioeconomic status.

METHOD

The Plan-Do-Study-Act model for quality improvement was used. Literature was appraised for best practice. Interventions included providing patients with education packets and automatic referrals to nutrition, diabetic self-management, vascular surgery, and endocrine providers. All discharging patients were referred to podiatry for routine follow-up and orders placed for customized footwear.

RESULTS

All readmitted patients with DFUs in the outpatient setting were captured and only 7.5% refused education packets. While 100% of patients were referred at the beginning of their course of care, only 32% were confirmed as having followed up with vascular, 20% for nutrition, 5% for diabetic management education, and 2.5% in endocrine. The beginning readmission rate for DFU was 31%, which decreased to 28% after the intervention.

DISCUSSION

Further work is needed to determine how best practice standards in nursing education translate into specific demographics within the wound care setting. Investigation into the social aspect to better support the ability to remain adherent is crucial as patients with lower socioeconomic status are disproportionately at higher risk for amputation related to DFU.

BACKGROUND

An evidence-based practice (EBP) project was conducted to determine best practice implementations for nurses in an outpatient wound care center for patients with healed DFU to promote patient safety and prevent readmission for new wound development.

One-third of admitted patients with DFU were known to have previous DFU in a center serving an area of lower socioeconomic status.

PURPOSE

This EBP project aimed to evaluate foot ulcer readmission rates from existing organizational reports pre and post development and implementation of nursing workflow processes in the following areas:

- Referrals to interdisciplinary specialties by protocol
- Timing of referrals for diabetic footwear
- Evaluation of hemoglobin A1c
- Admission, ongoing, and discharge education of diabetic foot care

Readmit Rate





METHODS/DESIGN

The Plan-Do-Study-Act (PDSA) model was utilized, and a literature review revealed the following best practice recommendations for nurses:

- Educate patients and family members on foot self-care and allow them to demonstrate back practices
- 2. Monitor glucose levels/A1c throughout encounter
- 3. Refer to diabetic educator, nutritionist, endocrinologist, vascular surgery as needed
- Provide immersive education at patient's level of ability throughout the admission encounter to reinforce needed practices
- 5. Schedule remission foot consultations
- 6. Have patient fitted for custom shoes prior to discharge

Interventions adapted to this clinic included:

- 1. Education packet provided on admission and ongoing education reinforced throughout encounter
- 2. Hemoglobin A1c captured and provided with referrals
- 3. All patients with DFU referred to diabetic education, nutrition, endocrine, vascular surgeon
- Referrals made for diabetic footwear organized at admission and sent prior to discharge
- Referrals to podiatry for routine follow up prior to discharge
- 6. Have patient fitted for custom shoes prior to discharge

Patients were excluded who were deceased during any point of this project.

RESULTS

Results were evaluated after a one-year period. Readmission rates for DFU were reduced by 8.3%.

Other findings included:

- 28% of wounds healed during the evaluation period with average days to heal of 54
- 2.5% of patients both healed and readmitted during the project period-100% of those refused education
- Average hemoglobin A1c was 7.7%
- 15% of patients were lost to financial difficulty
- Transportation status: =/>45% were dependent on others for transportation, including family members, public transportation, or by ambulance

MERAORIAL®

Completed Referrals



PRACTICE IMPLICATIONS

- It should be noted that socioeconomic factors outweighed patient willingness to adhere to the plan of care and promote healing in some cases.
- In this setting, attention should be turned toward supporting socioeconomic factors such as ability to meet payment requirements, coordination of transportation, and how to better support ongoing education with non-English speaking populations.

REFERENCES

Arruda, C., Willrich Boell, J.E., Guerreiro Vieira da Silva, D. M., Rozza Lopes, S. G., Lauterte, P., & Junkes, C. (2021). Educational Technology for Care and Prevention of Diabetic Foot Ulcers. Ciencia, Cuidado e Saude, 20, 1-8.

https://doi.org/10.4025/ciencuidsaude.v20i0.50115 Bouly, M., Laborne, F.X., Tourte, C., Henry, E., Penfornis, A., & Dardari, D. (2022). Post-healing follow-up study of patients in remission for diabetic foot ulcers Pied-REM study. *PloS one, 17*(5), e0268242. https://doi.org/10.1371/journal.pone.0268242 Davis, M.L. (2017). Nurses' Role in Diabetic Foot Prevent and Care: A Healthcare Challenge. *International Journal of Nursing*, 3, 44-52. DOI: 10.21522/TIJNR.2015.03.01.Art004



