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Type 2 Diabetes Outcomes Resulting from Nurse Practitioner Utilization as a Primary Care Provider in Rural Communities

Chelsey Kamla, DePaul University, Master’s Entry to Nursing Practice 2017

Background
Type 2 diabetes mellitus is one of the most prevalent, preventable metabolic disorders our nation faces today. 29.1 million Americans or 9.3% of the U.S. population is diagnosed with diabetes, and the incidence of diabetes is approximately 17% higher in rural populations. Because of this, the nurse practitioner (NP) role is being increasingly utilized to provide quality, affordable primary care to offset physician shortage in rural communities and improve diabetes outcomes.

Purpose
This integrative review aims to explore how rural diabetes patients can benefit from health care provision from the nurse practitioner roles. It focuses on answering how the role of the NP has increased access to preventative primary care in rural communities, with special attention to diabetes prevention, including screening and education to vulnerable, high risk populations.

Problem Statement
- This research works to answer how utilization of the nurse practitioner as a primary care provider has affected the rates and outcomes of type 2 diabetes diagnoses within rural populations.

Research Question
- What outcomes have resulted from diabetes management by nurse practitioner primary care providers within rural communities?

Methods
- **Research Design:** An integrative literature was conducted to synthesize published literature on patient outcomes resulting from diabetes management by nurse practitioners as primary care providers. A literature review was chosen over a human study based on the abundance of data available surrounding this subject matter through various search engines.
- **Search Methods:** Computer databases such as Cumulative Index to Nursing and Health Literature (CINAHL), PubMed, and ProQuest were used to obtain articles for research. Search combinations included the following key words: diabetes, outcomes, rural, nurse practitioner, primary care, and preventative care.
- **Data Synthesis & Analysis:** To display categorization of the data, a matrix was used to compare and contrast selected articles chosen. The matrix included information such as objectives of each study, conceptual frameworks used, data analysis methods, and results directly related to diabetes outcomes from the rural NP primary care provider.

Results
**Barriers to Diabetes Care in Rural Communities:**
- Greater prevalence of cultural diversity and cultural beliefs and practices that guide self-care and perceptions of diabetes management
- Fewer educated individuals and less understanding of glycemic control through diabetes medications, diet, and exercise
- Physician shortage & financial burdens

**Benefits of Nurse Practitioner Utilization**
- Increased access to quality, affordable primary care for rural citizens. In 2012, the overall cost for diabetes care from a physician primary care provider was $3,666,039,684 vs. that of the NP at $37,500,532, a 63.95% difference per patient annual cost.
- NPs have shown to be as effective as MDs in managing diabetes, however, NPs are better at using a collaborative team (i.e. diabetes nurse educators and dietitians) when developing care plans for diabetes management. By creating better access to these specialists for rural patients, NPs have seen substantial improvements in glycemic control, lower HbA1c levels, reduced diabetes-related hospitalizations and emergency department visits.

Limitations
- There are varying degrees of education to the NP profession, which may impact the plan of care and patient education, and thus produce differing diabetes outcomes.
- Of the 205,000 NPs practicing in the U.S., a majority are female, which serves as a major limitation in providing sensitive care for all genders.

Conclusion
- Poor perceptions of healthcare, financial burdens, and lack of knowledge surrounding the diabetes disease process and complications limit NP progression in rural communities. Because of this, NPs must not only serve as primary providers in prevention and management of diabetes, but they must also be educators and health promoters outside of the hospital and within their communities.
- With increased resources, such as the addition of nurse practitioner primary care providers to these rural areas, higher rates of diabetes medication adherence and improved glycemic control have been achieved. These findings support the continued use of nurse practitioners as care providers for rural patients diagnosed with diabetes mellitus.

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