An Interprofessional Education Model Using Medical Residents and Pharmacy Students: The Effect on Diabetes Education

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Introduction

Diabetes affects 25.8 million Americans, with an additional 79 million at risk for developing diabetes.1 Diabetes contributes to over 200,000 deaths annually and is associated with a cost of $218 billion dollars annually in the United States.1 Interprofessional education (IPE) has become a novel approach to improving collaboration between health care providers. Improved patient outcomes can possibly be realized through collaboration.2 IPE may provide the interactions and attitude development between medical residents and pharmacy students that establishes the framework for future collaborative efforts. Patients better educated about their diabetes are more likely to achieve recommended target and have fewer adverse outcomes.3 Pharmacists and pharmacy students can help to provide this education and programs using pharmacists to help manage diabetes have been previously shown to be successful.4,5

Objective

The effects of an interprofessional collaborative care model between medical residents, pharmacy students, physicians and pharmacists was investigated to determine if there are any changes in patients’ understanding of their disease and medications.

Study Design

Prospective trial of pharmacists’pharmacy students’ intervention in patients with diabetes mellitus seen at the Scranton Temple Clinic. Sequential patients 18 years or older with a diagnosis of diabetes mellitus and were invited to participate in the study. Informed consent for trial participation was obtained.

Methods

We evaluated patients’ diabetes understanding of their disease and medications under the IPE collaborative care model. Initially patients underwent a brief medication history obtained by the pharmacy student. Compliance with pharmacologic and non-pharmacologic interventions was also assessed by the pharmacy student. The patient then underwent a individual diabetes education session given by the pharmacy student. The patient was then seen as usual by the medical resident. After the patient was evaluated by the medical resident, the collaborative care team consisting of the medical resident, attending physician, pharmacist, and pharmacy student developed a plan of care and then reviewed that plan with the patient. A the end of the visit, the pharmacy student educated and counseled the patient on any medication changes or reinforced current therapies. A 5 question post-care survey was given to all participants in order to gauge patients’ pre and post counseling understanding of their disease and medications, as well as overall satisfaction with the IPE process.

Results

Overall, 22 surveys were collected. Due to the small sample size only descriptive analysis was possible. Many patients had high baseline knowledge (Figure 1). All survey respondents noted an increased understanding of diabetes after IPE. Patients counseled by the pharmacy student thought the information provided by the pharmacy student was either excellent (68%) or very good (32%) and that counseling by the pharmacy student was either extremely helpful (59%) very helpful (36%) or helpful (5%).

Discussion

The patients involved in this study appeared to favorably rate the quality of the information provided, find counseling by a pharmacy student helpful, and overall have a better understanding of their diabetes. Additionally, most patients indicated that they would likely go to a pharmacist for medication related questions in the future. While these findings could not be analyzed statistically, the data do paint a promising picture for the use of pharmacy students in the education of patients. This study was conducted in part to examine the potential benefits of IPE.

Figure 1: Patient’s Understanding of Their Diabetes

In addition, when asked about their likelihood to go to a pharmacist for medication related questions in the future, a majority (95%) responded either likely or very likely. The remaining 5% responded as somewhat likely to go to a pharmacist for medication related questions in the future.

Conclusions

Collaborative care fostered through interprofessional education increased patients’ understanding of their diabetes care and medications. This preliminary data supports the integration of pharmacy students as means to provide and supplement diabetes education at a primary care clinic. Interprofessional education during residency training may have a positive effect on the development of collaborative practices between physicians and pharmacists.

Limitations

• Small Sample
• Simultaneous Pre and Post intervention survey
• Survey administered by student providing intervention

Conclusion

Throughout our study the pharmacy student and preceptor interacted closely with the physicians, residents and staff. After an initial transition period a beneficial and synergistic relationship emerged. The pharmacy student was able to learn from the medical residents and physicians and the residents were able to learn from the pharmacy student. Each party brought their own experience and knowledge and by working together, we believe, they were able to provide a better experience for both the patient and the providers. At the conclusion of the study there was an open invitation to return when future opportunities presented. Further investigations may help clarify the role of IPE on collaborative care.

References