#85 Implementation of a pharmacist-run diabetes education in internal medicine resident clinics

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Drs. Kelley, Bullington, and Kelley have nothing to disclose.

BACKGROUND

• In 2010, according to Center for Disease Control and Prevention (CDC), 25.8 million people (8.3% of the population) in the United States have been diagnosed with diabetes mellitus (DM).

• **It is estimated that 11.7% of Alabamians have DM.**

• It is well documented that lowering hemoglobin A1C (A1C) by 1% reduces the incidence of microvascular complications by 40%.

• In addition, it is known that diabetes self-management education (DSME), is a powerful tool to provide patients with knowledge and self-management skills. However, estimates show that only about half (55.7%) of patients in the United States with diabetes have ever received any diabetes education.

• **In the National Standards for DSME , it is recommended that a pharmacist, a registered dietitian, or a nurse assist with the education.**

• At an internal medicine resident clinic in Birmingham, Alabama, a formal means for diabetes education, managed by a pharmacist and pharmacy students, was established in May 2010.

PURPOSE

• The goal of the service is to provide DSME to patients in the clinic where they receive their medical care. Many of these patients would otherwise go without education due to challenges following up and the inability to pay.
• It provides personalized education to achieve optimal management of diabetes as well as concomitant disease states.
• Working with the physicians, nurses, and social worker, pharmacists and student pharmacists play a vital role in providing this service to patients.

METHODS

• The service is available to all patients seen in the health-system's two internal medicine resident clinics - which are staffed by 35 resident physicians, 5 attending physicians, a social worker, 4 nurses, 1 pharmacist, and 1-2 pharmacy students.

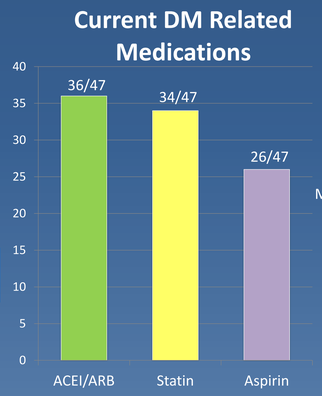
• All staff is involved in identifying patients that would benefit from one-on-one diabetes education and then work with the patient to determine the best time for the education to occur – either at the office visit or at a separate appointment.

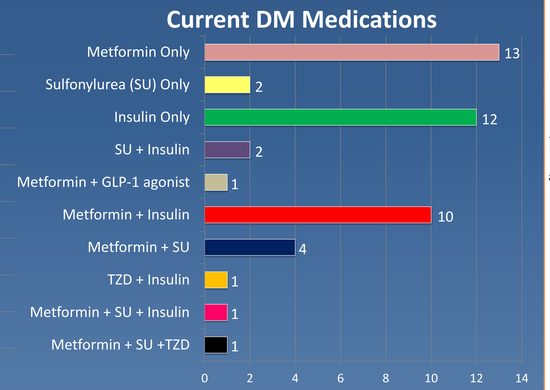
• The clinic pharmacist and student pharmacists provide patient education and specific instructions through written literature, direct patient counseling, and demonstrations.

RESULTS

• Forty-seven (27%) of the 172 patients with a diagnosis of diabetes mellitus who have been seen in the two clinics over the last year have had at least one individualized diabetes education session. A decline in A1C was seen in 96% of the patients who received DSME (24/25).

Avg. A1C before: 9.4% → Avg. A1C after: 8.2% → Avg. A1C drop: 1.2%





Areas of education specified by the National Standards for DSME	Areas of education covered in clinic encounters
Diabetes disease process and treatment options	**12/47 (25.5%)**
Incorporating nutritional management into lifestyle	39/47 (83.0%)
Incorporating physical activity into lifestyle	**15/47 (31.2%)**
Using medication(s) safely and for maximum therapeutic effectiveness	38/47 (80.9%)
Monitoring blood glucose	40/47 (85.1%)
Preventing, detecting, and treating acute complications	37/47 (78.7%)
Preventing, detecting, and treating chronic complications	**22/47 (46.8%)**
Developing personal strategies to address psychosocial issues and concerns	**1/47 (2.1%)**
Developing personal strategies to promote health and behavior change	**20/47 (42.6%)**

DISCUSSION

There are definite benefits to implementing DSME as seen by the improved A1C levels in 96% of the participants (24/25).

Benefits:

• DSME sessions are personalized to the patient's current needs while also based on their current diabetes education level.

• Through DSME, patients fully understand their goals, importance of obtaining glycemic control , and risks associated with not achieving control.

• Patients are able to see the injection technique demonstrated in front of them with the option of even practicing the technique themselves.

• Patients are provided with educational material to take home with them along with the understanding of the relationship between diabetes and concomitant disease states.

However, there are also some limitations seen from the current structure of this program.

Areas that Need Improvement:

• The referral process and scheduling at both clinics needs to be refined. To adequately assess A1C benefits, patients need to be seen at regularly scheduled intervals of approximately 3 months, providing further education sessions to those in need.

• With just 47 of 172 patients referred to DSME in the past year, the clinic staff is not fully in the habit of referring all potential patients to the program.

• No standardized DSME discussion rubric has been developed, allowing for several key areas of education to be neglected, currently falling below 50% in five topic areas.

• Efforts need to be made to ensure all patients' DM and DM related medications are appropriate and compliant with the ADA Guidelines.

CONCLUSIONS

• The implementation of this service has provided many benefits to the uninsured patients seen in the resident managed clinics.
• The involvement of a pharmacist and student pharmacists in this service has helped improve patient access to diabetes-specific education and has promoted interdisciplinary teamwork.
• Many patients are achieving their goals and receiving proper management; however, steps to further improve this service are necessary.

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