Active Steps for Diabetes: An Interprofessional Approach to Improved Patient Influenced Diabetes Outcomes

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INTRODUCTION

"Diabetes is a problem with your body that allows blood glucose (sugar) levels to rise higher than normal." There are three types of DM: Type 1 (formally known as juvenile diabetes and/or Type I), Type 2 (formally known as adult onset and/or Type II), and Gestational (ADA, 2015).

According to the Center for Disease Control and Prevention (CDC), diabetes is becoming more common. "From 1980 to 2014, the number of adults in the United States aged 18–79 with newly diagnosed diabetes more than tripled from 493,000 in 1980 to more than 1.4 million in 2014" (CDC, 2015).

The ADA (2014) has established diagnostic guidelines for patients which include tests such as the hemoglobin A1C test, fasting plasma glucose, and oral glucose tolerance test (OGTT). The hemoglobin A1C test measures a patient's average blood sugar over three months. The fasting plasma glucose test checks a patient's glucose level after at least an eight hour fasting period. The OGTT is a test that checks glucose pre and post a specialty drink.

Organizations such as The American Association of Clinical Endocrinologist (AACE) have also established recommended treatment guidelines to include diet, exercise, and medication therapy (2016).

METHODS

The Active Steps for Diabetes Program was established in 2008 at Bellarmine University. This is an interprofessional program partnering nursing students and faculty with physical therapy students and faculty to provide a supervised exercise and educational program for underserved populations with diabetes. Additional diabetes education is provided by local health department Certified Diabetes Educators (CDEs)

The program is hosted in conjunction with a local community health center that provides space to meet twice weekly, free of charge.

Program details:

•98 participants have completed the program
•Program offered 18 semesters (2007 – Spring 2016)
•8 week program (meeting twice a week)
•Self check of vitals and teachback used to evaluate patients understanding of values
•Healthy heart holiday potluck

ASDP Models:

•Group
- PT Zumba (30 mins)
- Group Diabetes Education (30 mins)

•One-on-One
- Individualized PT care
- Individualized nursing education and group nursing education

RESULTS

(2008-2016; n=98)

MEASURE	PRE-TEST	POST-TEST
A1c	8.4 ± 2.0%	7.85 ± 1.8%
BMI	36.0 (8.4)	35.3 (8.2)
Physical Activity (days/wk)	0.81 (1.0)	3.9 (1.1)
6MWD	340.3 (73.0) meters	389.5 (75)meters
9-Item Modified Physical Function Test (MPFT)	27.5 (5.4)	29.2 (5.0)
Selected components of the MPFT		
Chair Rise	14.0 (4.4)sec	12.3 (4.0)
Gait Speed	1.0 (.23) m/sec	1.2 (.20) m/sec
Timed Up and Go	10.8 (4.5)sec	9.2 (4.0)

CONCLUSIONS

Program Successes: Improved patient outcomes, involvement of more disciplines, continued student involvement, attraction of new and repeat patients

Program Barriers: Funding, lack of transportation, lack of supportive staff, mandatory class for PT students, faculty obligations, student schedules vs. time for program

Program Advantages for Nurses: Hands on diabetes management experience, cultural diversity exposure, practice with professional communication, improved assessment skills, enhanced knowledge of pharmacological and non-pharm diabetes/pain management options, and care coordination exposure

Program Advantages for PTs: Holistic understanding of diabetes, emphasis on disease progression prevention, cultural diversity exposure, and practice with professional communication.

Participant CVD Risk Profile

CVD RISK FACTORS	% of subjects
HTN	90.3
Hyperlipidemia	90.1
Obesity	84.0
Sedentary	80
Smoking	19

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