Move4Health:
Feasibility of a student-designed Type 2 diabetes exercise and education intervention

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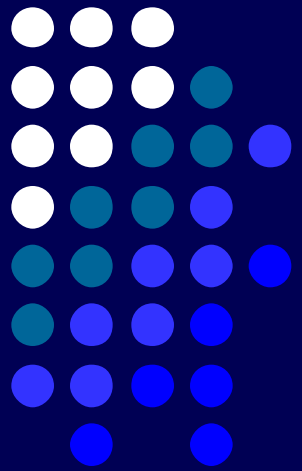
A collaboration within Thomas Jefferson University of

- Jefferson Medical College,
  Department of Family and Community Medicine
- Jefferson College of Graduate Studies
- Jefferson College of Health Professions



Diabetes Facts

- Prevalence in the US, 2005
  - –- all ages 20.8 million people or 7.0% of the population
  - –- ages 20 and older 20.6 million people or 9.6% of this age group
  - –- ages 60 and older 10.3 million people or 20.9% of this age group
- Prevalence in the Philadelphia, 2000
  - –- all ages 193, 000 people or 7.0% of the population
  - –- ages 18 to 64 5.0% of this age group
  - –- ages 65 and older 15.0% of this age group

- **Combination of genetic and environmental factors may increase disease severity in ethnic minorities**
- **African Americans have a greater incidence of . . .**
  - **Diabetic complications and disability than white Americans**
  - **End stage renal disease (ESRD)**

Diabetes Education

- Improved knowledge and self care reduces complications such as

  Retinopathy Peripheral neuropathy Nephropathy
  Limb amputations Stroke

- Shortage of Certified Diabetes Educators
- Shortage of culturally appropriate education programs

Background of the Program

- Develop a project involving **community service** and **research**
- Designed and implemented by health professional students
- Supported by faculty of the Department of Family and Community Medicine
- Planning began in Summer 2004

Participants

- Patients are from an urban family practice with a predominantly African American patient population
- Identified and referred by their primary care provider
- Eligibility criteria used by providers . . .
  - **Inclusion** -- Female, age 30 years or more, Diagnosed with Type 2 diabetes.
  - **Exclusion** – Medical history of MI, stroke, debilitating osteoporosis or osteoarthritis. Type 1 diabetes diagnoses. Pregnant. Plan to move within 1 year.

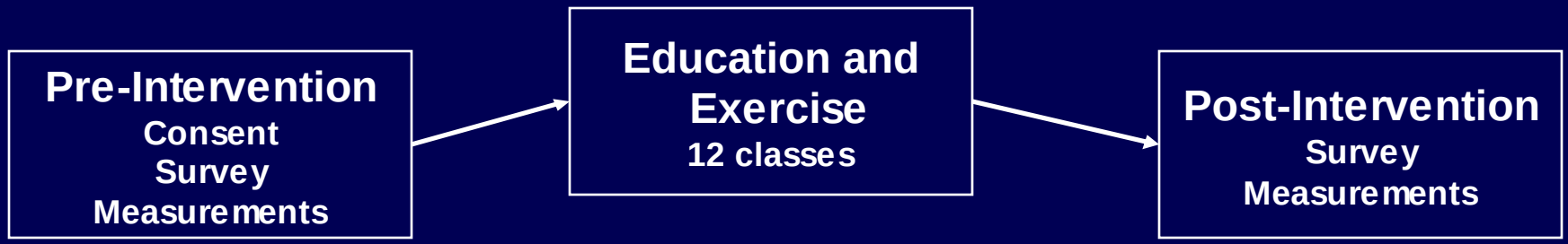
Recruitment

- Students contacted referred patients by telephone
- Patients were provided with information about the program and the research study
- If patients interested, invited to the pre-intervention visit

Move4Health Program Components

- Pre-intervention visit
- Diabetes education and exercise classes
  1 hour each week for 12 weeks
  - 30 minutes of **education** (i.e. disease management, nutrition, foot care)
  - 30 minutes of **exercise** (i.e. low intensity aerobics, strength training, yoga)
- Post-intervention visit

Study Design



The program was delivered **4** times to **4** different cohorts.

Demographics (N=34)

Variable	Mean (std.dev)	n (%)
Age	55.4 (10.6)	
Age at diagnosis	49.4 (10.6)	
Race *		
African American		28 (96.6)
White		5 (17.2)
Initial BMI †		
Overweight		5 (14.7)
Obese		29 (85.3)

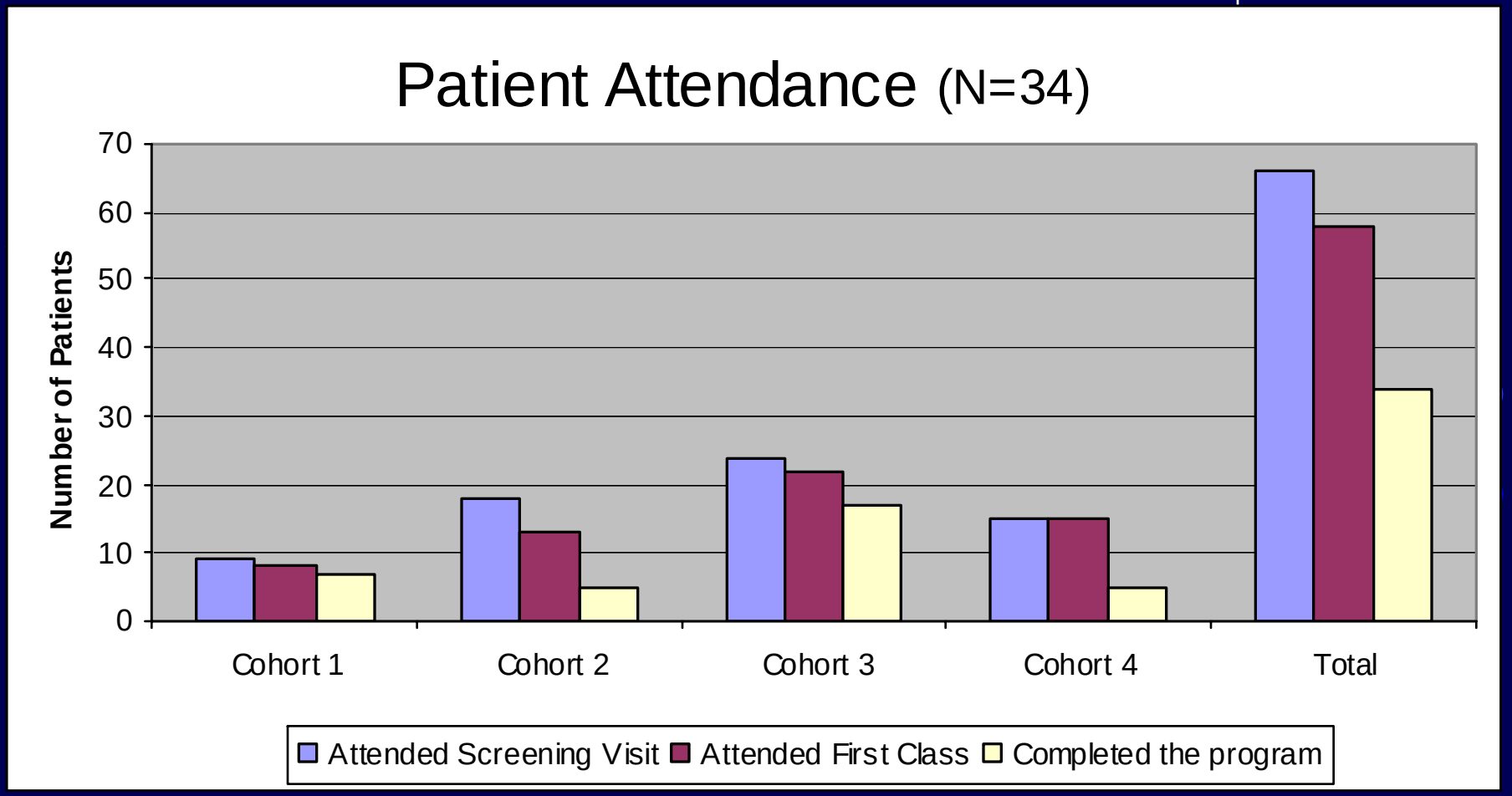
* 1 patient had no recorded race

† Overweight = BMI 25 to 29.9; Obese = BMI ≥ 30

Data Analysis

- Computed frequencies of demographics and attendance
- Created pre post comparisons of patient outcome measures

Results

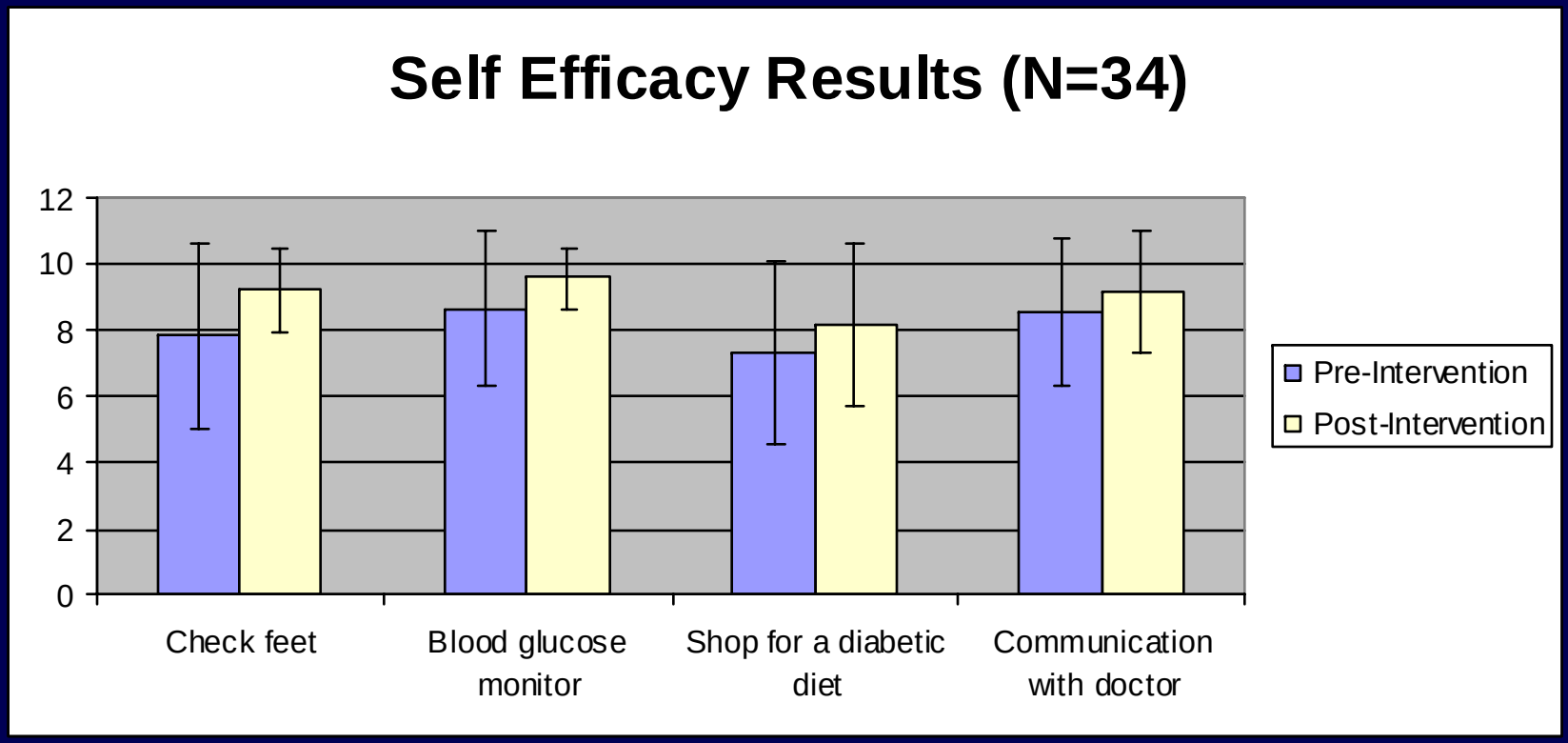


Patient Attendance and Retention
(N=34)

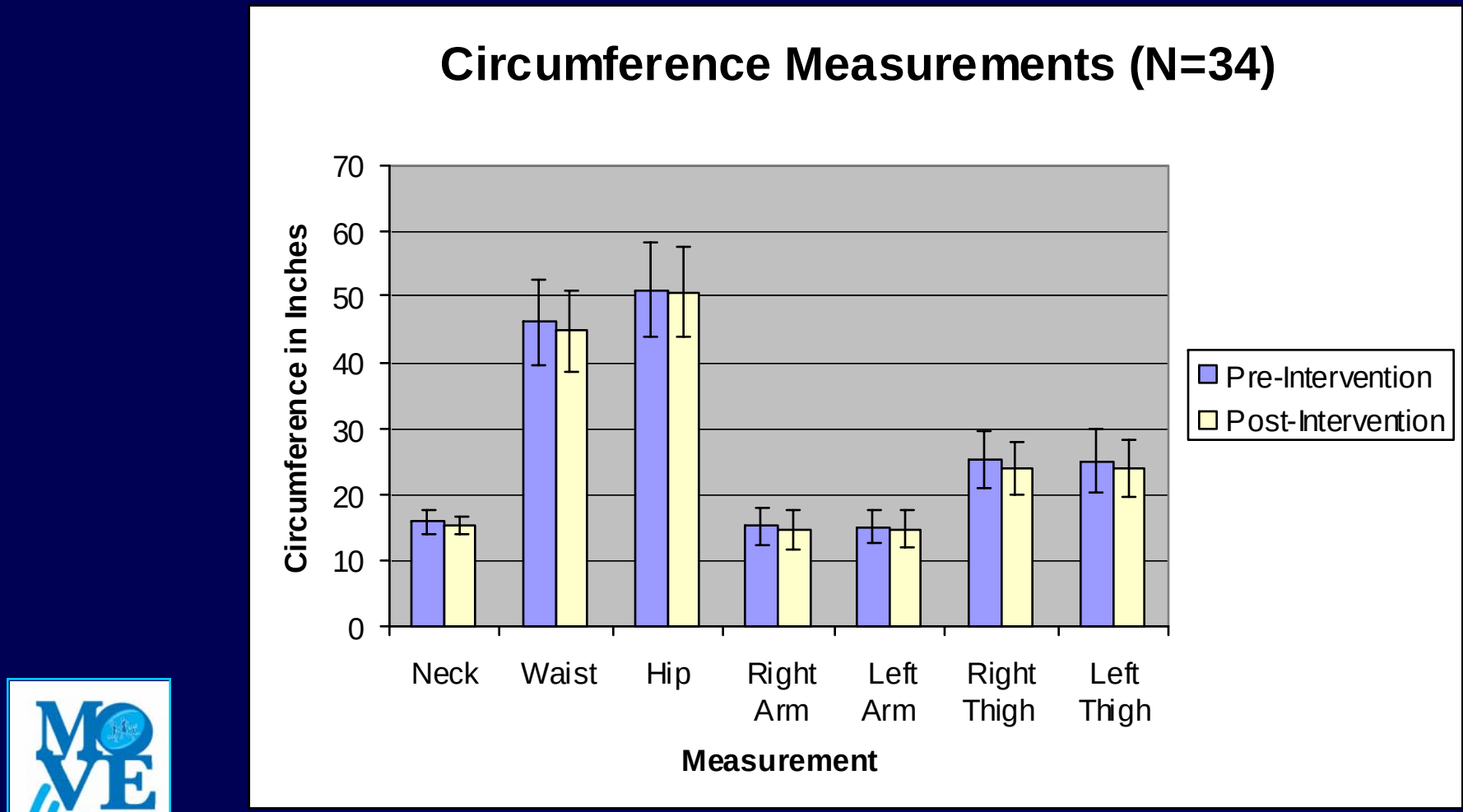
	Referred	Pre-intervention visit	Attended first class	Completed program	Retention Rate*
Cohort 1	30	9	8	7	0.88
Cohort 2	68	18	13	5	0.38
Cohort 3	76	24	22	17	0.77
Cohort 4	128	15	15	5	0.33
Total	302	66	58	34	0.59

* Retention Rate = $\frac{\text{Number who completed program}}{\text{Number who attended pre-intervention \& first class}}$

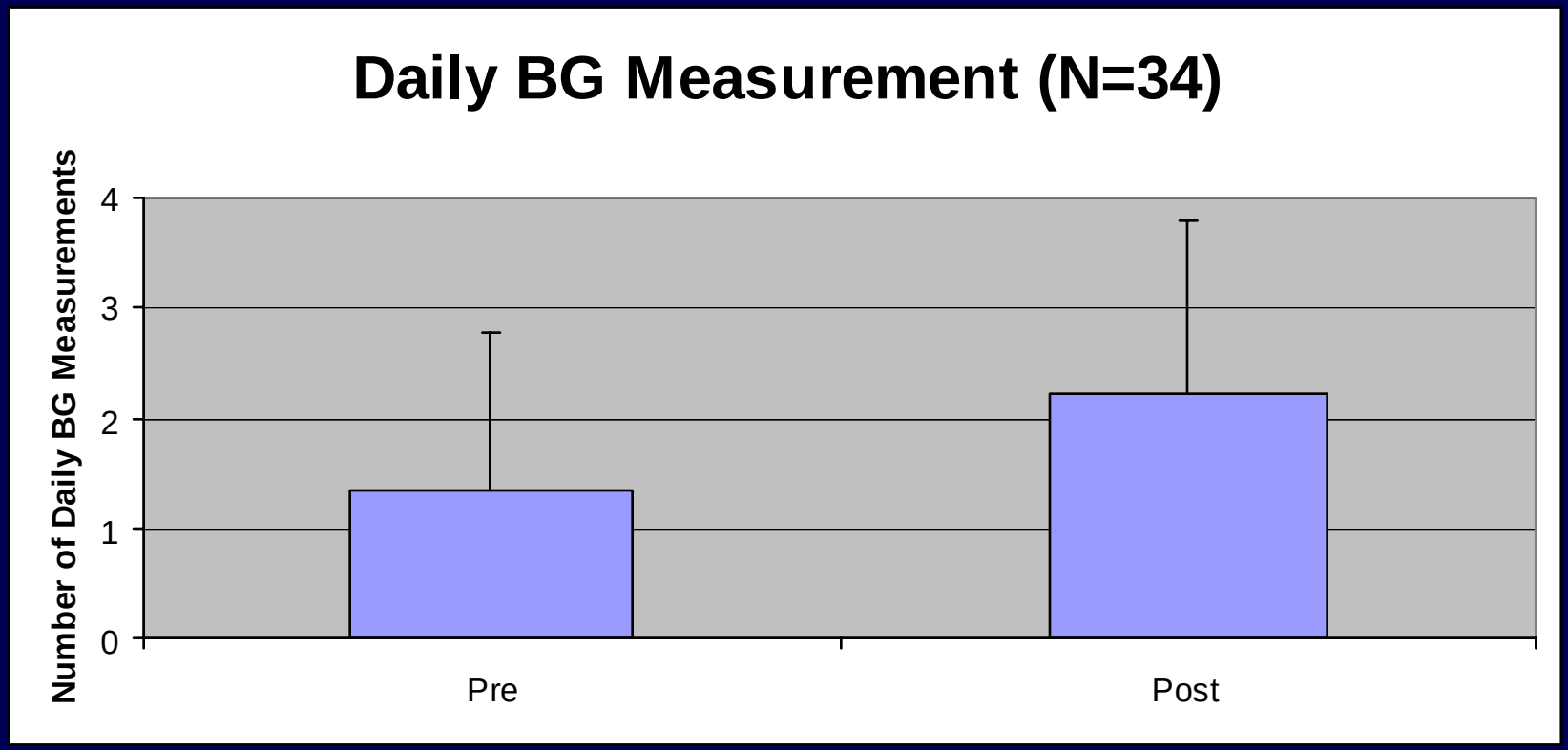
Results



Results



Results



Conclusions

- Feasibility was assessed by retention, which was based on patient attendance
- Primary barrier to patient attendance was class scheduling

Conclusions

- Increased knowledge correlated to improved self efficacy
- Changes in self efficacy and behaviors correlates to decreased HbA1c levels
- Evidence that community approaches improves outcomes and should be the standard of care

Conclusions

- Students of the health care professional can serve the community while applying their “classroom” knowledge of chronic disease management
- Move4Health is a student-run education and exercise program for female patients with Type 2 diabetes that can be replicated by other students

Move4Health Summary

- Feasible based upon a retention rate of 59%
- Effected several self-efficacy and physiological parameters associated with improved outcomes
- A student-run Type 2 diabetes intervention that can be replicated by other students

Future Directions

- New study underway. Increased focus on outcomes, especially self-efficacy.
- Analyzing data from a student focus group about
  - Participation in a student run community education program
  - Relation to career direction, professional development, and chronic disease management

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