

A Faculty and BSN Student Care Delivery Model for Patients with Diabetes.

Presented

By

Patty M. Orr, EdD, MSN, BSN

Shondell V. Hickson, DNP, APN, ACNS-BC, FNP-BC

Kempa French, MSN, APN, FNP-BC

Disclosure Statement

Patty Orr- Director School of Nursing- APSU

Kempa French- Associate Professor - APSU

Shondell V. Hickson- Assistant Professor- APSU

There are no conflict of interest or commercial sponsorship associated with this presentation

Objectives

- Evaluate whether a faculty NP and student nurse partnership care delivery model can improve patient outcomes measured by a decreased HbA1c
- Determine whether this partnership can support a teaching and learning environment that involves competency development and promotes evidence based practice.
- Evaluate the data collected from a 6 month study and apply it as an opportunity for quality improvement tactics/interventions.

What was the study about?

- The purpose of the study was to determine 2 questions:
 1. Whether a faculty NP and student nurse partnership can provide primary care and disease specific interventions that significantly impact the improvement of the disease with evidence-based outcomes?
 2. Whether the partnership can provide a teaching/ learning environment where students can develop competencies in providing patient-centered care, work as an effective member of an interdisciplinary nursing team employing evidence-based practice and using the data collected to report outcomes and apply quality improvement tactics

Introduction

The study was conceived and developed based on literature reviews from the Institute of Medicine (IOM) that recommended developing innovative systems of care delivery that offers the opportunity for improvement in the quality and safety for recipients of health care.



Strategies incorporated from the IOM

The study incorporated two central strategies proposed by the IOM which are:

1. The use of systems for care delivery
2. Improving patients' knowledge about their treatment plans (Hurtado, Swift, & Corrigan, 2001; Kohn, Corrigan, & Donaldson, 2000).

School of nursing integration

The Institute of Medicine (IOM) recommended that nursing education programs “prepare and enable nurses to lead change to advance health” (Institute of Medicine, 2011, p. S-12)

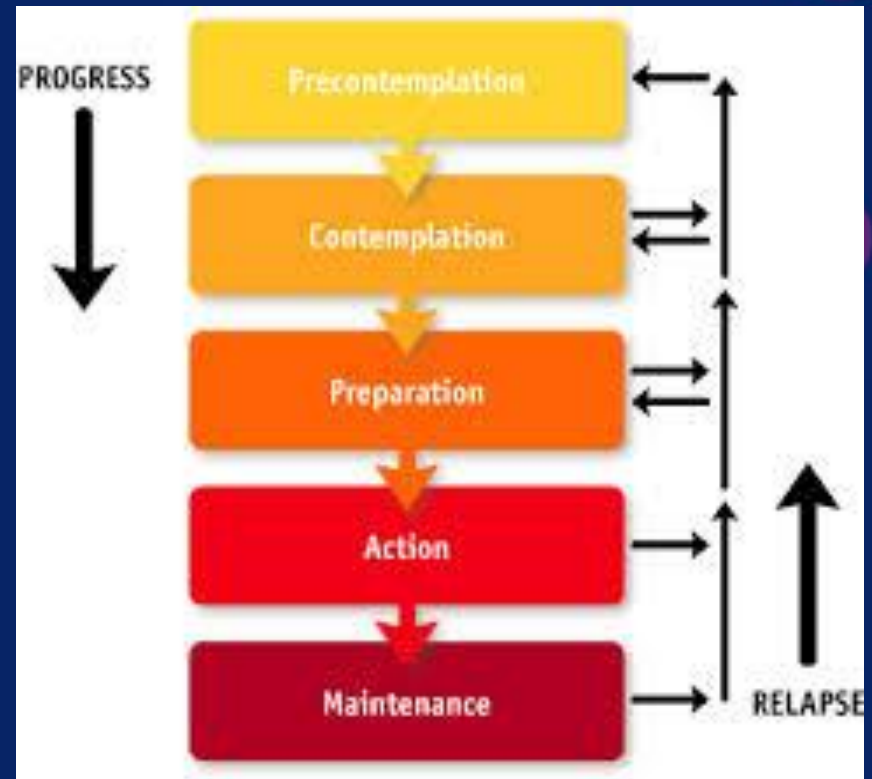


School of nursing strategy

Guided by the IOM, the study provided a model of care delivery that transformed practice and education by providing a planned educational experience for BSN students who intervene as team members to provide affordable, quality, patient-centered, evidence-based care to an underserved population.

Framework

The students integrated Prochaska & DiClemente's stages of change model and interviewing techniques to promote and motivate change



Faculty NP and students collaboration

The student/teacher learning partnership, tests a model of health care delivery that offered innovation in clinical nursing education and subsequent student evaluation of clinical performance.

BSN students learned evidence-based practice for managing and coordinating care for certain chronic diseases, effectively influencing changes in patient behavior and assisting patients in taking responsibility for self-care interventions that promote improvement in patient health status.

Student focus

Students supported the faculty NP plan of care by:

- assisting patients to actively contribute to their success by adhering to the plan of care
- Follow-up support with ongoing disease management interventions integrated with culturally competent care assisting patient population to actively participate and receive evidence-based care.
- Follow-up calls, review of outcome goals, assisting the patient to practice self-care, and patient selection of healthy foods at the grocery store – shows an overall drop in HbA1c

Locating a site

The study took place at a local clinic in the southeastern U.S.



Who was eligible to participate?

- Anyone seeking care at the clinic for type 2 DM
- 18 years and older
- HbA1c > 7
- Working telephone
- Able to participate in 3 scheduled appointments
- Must voluntarily sign an informed consent

Type 2 Diabetic?

Participants will receive, at no cost, study-related:

- HbA1c Lab test to you and post study
- Nutritional education
- Exercise education
- Bi-weekly telephone & follow-up calls

If you are interested in this study please contact:
Theuda H. Hickman 931-920-3000

Consider a Clinical Study to evaluate the effects of Nutrition, Exercise and Bi-weekly telephone follow-up calls for patients with type 2 diabetes.

I am currently enrolling adults for a clinical study who:

- ✓ Have type 2 diabetes
- ✓ Have HbA1C 7 or greater
- ✓ Able to participate in an individualized ADA diet and exercise programs
- ✓ Have a working telephone

THERE WILL BE NO COMPENSATION FOR TIME OR TRAVEL.
Medical insurance is not needed to participate

If you are interested in participating in this study, please notify the receptionist for information

Patient Population

The study population consisted primarily of minorities from diverse background and included effective strategies and tactics for culturally competent care that resulted in improved outcomes for an underserved population. Prior diversity training helped assure that faculty and students accept patients' beliefs and values while providing care for the diverse and underserved study population.

Who paid for the labs and the 3 scheduled appointments?

All patients costs associated with the study were covered by the:

- Clarksville
Montgomery County
Health Foundation &
Astra-Zeneca grant



The Plan

- Recruited 40 patients, goal was to recruit 30
- De-identified patients and secured data
- Recruited exercise physiologist and certified diabetic educator
- Reviewed labs to ensure that pre-HbA1c was on file and less than 6 months
- Ensured that patient demographic data was current
- Scheduled 3 appointments for participants

Scheduled Appointment number 1

Meet with the principal investigator:

- Clinical counselling session with the NP
- Medications review
- Laboratory results
- Action planning



Scheduled appointment number 2

Exercise counselling session with exercise physiologist Timothy Leszack PhD



Nutrition education with Certified Diabetic Educator Dawn Crow



When did the students started the phone calls?

The students started the bi-monthly telephone reinforcement calls after the completion of the second scheduled appointment using a telephonic script.



Telephone Script

Appendix D

Telephone intervention script

- ✓ **Introduction**
Hello Mr. or Mrs. (Patient Name)
My name is (Name)
- ✓ **I am the principal investigator calling from Matthew Walker clinic as follow up to your clinical counseling session with the nurse practitioner.**
If no answer, document telephone attempt, no answer
If answering machine, do not leave any information. Give information about attempted phone call to Matthew Walker Triage nurse so that if the person calls back, a message can be relayed about attempted contact.
- ✓ **Is this a good time to talk?**
If no, ask may we call you later that day or is another time of day more convenient, then thank the person and document phone call to the patient, telephone appointment for (time) arranged
If yes, state Thank you. We will only take a few minutes of your time.
- ✓ **Client ID:** Just to make sure that I am talking to the right person, would you mind telling me your full name and birth date?
- ✓ **Treatment Plan Follow-up**
You are being cared for by Mr. or Mrs. (NP name) for (Diabetes)
The Nurse Practitioner wanted you to work on healthy eating, adding regular activity and your action plan that was developed on your last visit.
Can you tell me about your action plan?
- ✓ **What is your main concern today? Regarding healthy eating and/or exercise**
- ✓ **(Then go to the specific followup area for further followup)**
 - ✓ **Exercise Follow-up**
Define exercise guidelines
Your body needs active movement for 30 minutes 5 days a week to keep your heart pumping well and help you lose weight.
 - ✓ Tell me how many times a week do you exercise?
 - ✓ What are some of the benefits that you have noticed when you exercise regularly?
 - ✓ What are some problems that you have when you try to work out regularly?
 - ✓ Do you like working out by yourself or with someone else?
 - ✓ **Interventions**
 - ✓ **Time-** walk 10 minutes after each meal, do 10 leg raises each time a commercial comes on, when a commercial comes on get up and walk around your living room
 - ✓ **If can't work out 5 days,** would they be willing to start out with 3 days a week, which 3 days are the best for you
 - ✓ **Physical Limitations-** water aerobics for severe arthritis
 - ✓ **Working out due to safety/ weather-** Mall walking, (Check out free exercise tapes from library)
 - ✓ **Keep an activity log-** reward yourself with non-food treat for meeting weekly exercise goal
- ✓ **Nutrition Follow-up**
Define heart healthy diet

Scheduled appointment number 3

Meeting with the principal investigator for the following:

- Post HbGA1c lab draw and a generalized knowledge review of their nutrition and exercise plan.
- Participants also received 1 final post-study telephone call to discuss their post-HbGA1c level 1 week after labs were drawn and recommendation for follow-up with their PCP for continued management of their DM.



Method of Evaluation

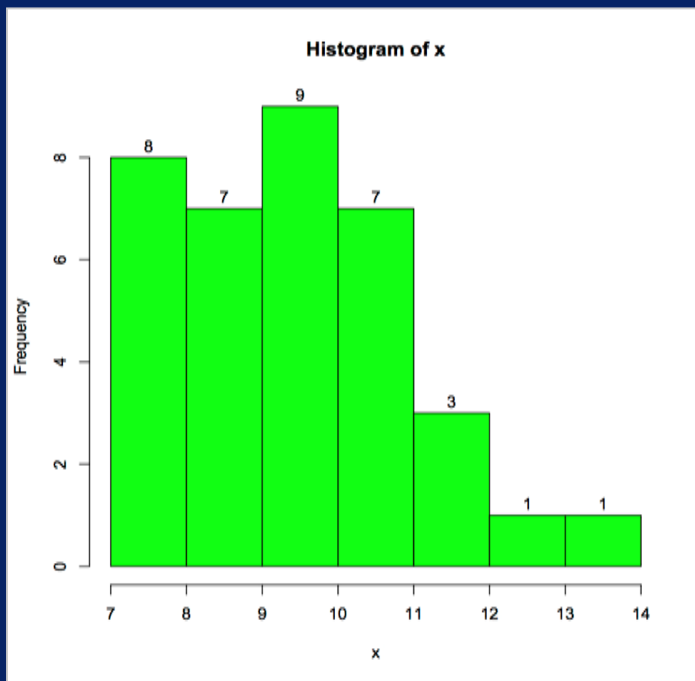
- The design of the study was a quasi-experimental pretest and posttest design.
- At the conclusion of the study the postHbgAlc was compared to the preHbgAlc
- The final clinic appointment with the NP were both formative and summative anecdotal reports of the participant's perception of any improvement

Results

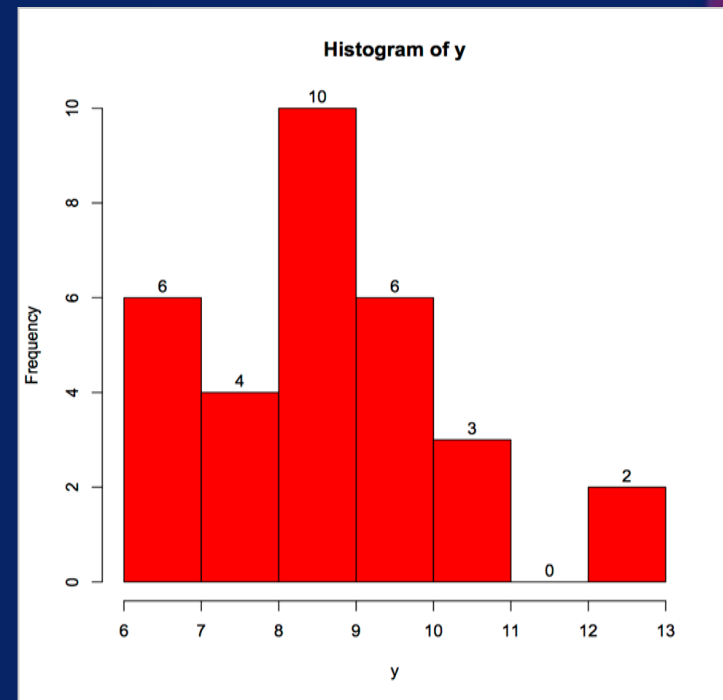
- The initial aggregate data showed an overall decrease in the HbgAlc
- The aggregate preHbgAlc decreased from 9.4% to 8.5%
- The most significant changes occurred with 3 participants who had a decrease in HbgAlc from 11.8% to 7.3%; 11% to 6.8% and 13.1% to 10%

Summary of results

Histogram showing
preHbgAlc



Histogram showing
postHbgAlc



Results continued

The aggregate data was analyzed using the t-test statistics.

The p-value level of significance was $p < 0.05$ indicative that the interventions contributed to the decrease of the HbgA1c

Limitations of study

- Small sample size and location of the clinic
- Study started with 40 patients and ended with 35 patients
- 30 patients received bi-weekly phone calls and 5 received monthly phones for various reasons.
- Some participants family members did not support the nutrition changes recommended by the CDE which lead to compliance issues
- Some participants had to reschedule their appointments d/t transportation issues and other reasons
- Some participants loss weight and was compliant with their medications which could have impacted the postHbgA1c results

Conclusion

- The management of DM requires an interdisciplinary approach
- Individualizing a nutrition and exercise plan based on the patients culture, finances and socio-economic status and physical limitations would ensure compliance
- Be aware of free community resources for uninsured and underinsured patients
- Utilize self-efficacy behavioral modifications for maintenance of the patient current health status

Questions

