

2017

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Citation: Pilot Scholars Version (Modified MLA Style)

Woods, Nicole, "Understanding the Importance of Patient Engagement through Case Study Learning" (2017). *Nursing Graduate Publications and Presentations*. 21.

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Understanding the Importance of Patient Engagement through Case Study Learning: Nurse

Educator Scholarly Project Manuscript

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Understanding the Importance of Patient Engagement through Case Study Learning

Current heart failure guidelines place equivalent emphasis on heart failure management via medication therapy and self-care monitoring. Heart failure self-care is complex. Nurses in the acute care setting often provide education on symptom recognition and responses (Albert, Cohen, Liu, Best, Aspinwall, & Pratt, 2015; Rasmusson, Flattery, & Bass, 2015). This scholarly project aims to fill the current gaps in education focusing upon students' ability to adapt guidelines and facilitate education to meet specific patient needs.

Background

Heart Failure (HF) is a complex clinical syndrome resulting from various structural impairments of the heart (Yancy et al., 2013). The most common symptoms of HF (dyspnea, activity intolerance, and fluid retention) combine to have a detrimental impact on a patient's quality of life. As the US population continues to age and treatments of heart failure continue to improve, the prevalence of HF is expected to continue to increase.

Many clinicians believe the high mortality rate of HF is related to the need for enhanced patient engagement and understanding of HF self-care, including daily monitoring of weight and dietary fluid and sodium intake, medication adherence, and various lifestyle modifications. HF has the highest rate of 30-day hospital readmissions (Glogowska, Simmonds, McLacblan, Cramer, Sanders, & Purdy, 2015; Glogowska, Simmonds, McLacblan, Cramer, Sanders, & Purdy, 2015; White & Hill, 2014; Yancy et al., 2013). Hospital readmissions impact not only the patient but also their families due to increased stress and loss of wages, and the healthcare system due to the costs and limited space (White & Hill, 2014).

The 2013 American College of Cardiology (ACC) Heart Failure Guidelines (Yancy et al., 2013) recommend patient education on self-care and care coordination in addition to appropriate

medication management and monitoring of HF to reduce HF hospital admission rates.

Individuals living with HF must be able to understand how to measure and interpret weight fluctuations, recognize and monitor HF symptoms, adhere to a complex medication regimen, and contact providers appropriately (Glogowska, et al., 2015; Yancy et al., 2013).

For patients admitted to acute care settings for either newly diagnosed HF or HF exacerbation, nursing staff are often responsible for aspects of patient education. Current literature shows nurses in the acute care setting have received different levels of education on HF self-care in their undergraduate nursing programs and no application of this knowledge in providing adequate patient education (Albert et al., 2015; Rasmusson et al., 2015). Since nurse-led patient education on HF medications, diet, and activity has been shown to reduce all-cause hospitalization rates, improved HF education must be implemented for all acute care nurses.

The following education project focuses upon educating nursing students to better engage with clients with HF regarding topics of self-care. The education session will be integrated into an undergraduate advanced medical surgical course at a private university nursing program.

Literature Review

Learning Theories

Transformative learning theory and cooperative learning theory are effective with adult learners, and they serve as the theoretical backbone of this learning module (Christie, Carey, Robertson, & Grainger, 2015; Fazio-Griffith & Ballard, 2016). Transformative learning theory provides a framework for how adult learners change their beliefs, values, and perspectives by thinking in a more global inclusive view (Cranton, 2012; Fazio-Griffith & Ballard, 2016; Kear, 2013). A key component to transformative learning theory is challenging the learner's current

values and perspectives using critical assessment, the experiences of others, and explorations of options to plan a new course of action.

Cooperative learning theory supports the use of discussion in small groups to work together to explore new topics to gain more in-depth learning and insight (O’Neal, McClellan, & Jarosinski, 2016; Parra, Gutierrez, & Aldana, 2015). Adult learners present to the learning environment with individual frames of reference or beliefs on how they should behave. Since these frames are developed throughout the lifetime from both personal experiences and social exposure, it is difficult to change an individual’s frame of reference. Thus, cooperative learning theory guides the development of active learning strategies to engage learners in co-creating new knowledge.

Teaching Strategies, Learning Activities, and Evaluation

By combining transformative learning theory with cooperative learning theory, adult learners are given the opportunity to challenge pre-existing frames of reference through self-reflection and case study discussions in small groups. This learning module not only aims to improve learners’ understanding of HF self-care and patient compliance, but it also encourages students to think about their thinking. Nursing students who know how to think make better clinical judgments and master skills better than those who have only memorized facts (Lin, 2013).

Qualitative data collected in pre- and post-test surveys supported this project’s focus on students’ ways of thinking. The pre-intervention questionnaire not only provided baseline data but assisted students in identifying their current frames of thinking prior to the learning activity. Quantitative measures compared students’ perspectives on learning and teaching effectiveness.

Educational Resources

Implementation of the teaching session required both internal and external resources. Internal resources included guidance of both course and program advisors and faculty preceptor time to develop learning tools and project methods. Additionally, classroom space and time along with a computer and projector were made available by the university. Educational thread analysis of HF within the university curriculum ensured that content delivery was congruent with course outcomes, current curriculum standards, and student learning needs.

Methods

Learning Outcomes

The purpose of this learning module was to facilitate student understanding about the importance of engaging patients in self-care strategies. Such facilitation was accomplished through case study learning and reflection in the group setting. Three learning outcomes were developed to achieve the purpose: 1) students will be able to summarize how symptom perception, self-care management, and self-care understanding relate to heart failure self-care; 2) students will examine how personal beliefs on patient non-compliance have been transformed by enhanced understanding of the theory of heart failure self-care; and 3) students will integrate concepts of heart failure self-care with prior knowledge of pharmacology, pathophysiology, and physical assessment to provide educational recommendations for a patient presented in a case study. Prior to project implementation, an institutional review board (IRB) application was submitted and approved by the university IRB Committee.

On completing the case study exercise, students met the session objectives above. To complete in-class case study activities, students needed to understand HF pathophysiology and management including pharmacology and patient self-care. Next, students compared the activities of self-care from two differing perspectives: difficulty and importance. Students

practiced thinking about a chronic condition, in this lesson heart failure, as it affects a patient, in order to integrate concepts of heart failure self-care with prior knowledge of pharmacology, pathophysiology, and physical assessment. Comparing self-care activities based upon difficulty and importance pushed students to reflect upon their views regarding patient compliance, achieving the first unit outcome.

Teaching Strategies and Learning Activities

The teaching was completed in two segments. Prior to the in-class learning activity, students completed an initial evaluation via an anonymous pre-test (see Appendix D). This pre-test activity provided baseline information on students' knowledge and ability to recall information from prior classes to be synthesized in classroom discussion. In addition to objective questions asking for information recall, two reflection questions were used with a time limit of three minutes to obtain student views regarding education related to HF self-care activities.

The teaching session began with a review of chronic illness trajectory, management, and concepts core to the HF self-care theory. A broad patient scenario (see Appendix B) was then provided to each student along with two sets of eight cards with evidence-guided HF self-care activities (see Appendix C). Students were asked to review the patient scenario, prioritize one set of self-care activity concept cards from most important to least important. Then arrange the other set of cards from easiest to most difficult to incorporate into their lives for their patient in the provided scenario. Five minutes was provided for this individual activity. This individual activity achieved the second learning outcome.

Following this individual activity, students formed small groups of three students each to discuss different patient scenarios. Students compared and discussed potential differences in prioritization between scenarios for 15 minutes. The self-care activity cards were purposefully

difficult to prioritize, and the “correctness” of the order would vary from patient to patient based upon acuity of illness and personal health habits and preferences. The learning in this activity was achieved through conversation with colleagues and through reflection on individual biases and knowledge based upon cooperative learning theory (O’Neal, McClellan, & Jarosinski, 2016; Para, Gutierrez, & Aldana, 2015).

During the small group discussion, the session instructor checked in with each group and asked questions to facilitate learning as needed and to incorporate prior course knowledge into the activity. The session instructor asked further questions regarding pharmacology, care planning, and family centered nursing to support the integration of concepts of HF self-care with prior knowledge of pharmacology, pathophysiology, and physical assessment to achieve outcome three. Question topics included the safety of titration of medications for individuals with poor follow-up, the value of weights taken on different scales in different locations, and low-cost monitoring of HF symptoms.

Learner Evaluation Methods and Evaluation of Teaching Effectiveness

A post-test (see Appendix D) was given to students following the in-class session with identical three-minute reflection prompts to compare student responses and assess changes from pre-intervention answers. Students were also asked to rate if they felt their views on patient engagement in self-care had changed. In addition to measuring student learning, the post-test measured teaching effectiveness. The pre-test and post-test were anonymous, and participation in the project did not affect students’ course grades.

Results

Outcomes one and three, both in the cognitive domain, were achieved during the group discussion. The session instructor spoke with each group to ensure that discussion centered

around HF self-care theory and integrated prior nursing knowledge. Outcome two, in the affective domain, was achieved by pre- and post-activity reflection questions regarding patient engagement.

Learner Evaluation Methods

Pre-test data. Prior to the learning activity, students were asked to describe, in a written response on the pre-test survey, the physical picture of an individual with heart failure. Sixteen students (100%) described a patient experiencing an acute exacerbation.

Students were then asked to describe three ways that patients can participate in self-care. Answers were categorized into main themes and then counted to determine frequency. Out of the 16 students, 81.25% of students (n=13) identified diet changes and 50% (n=8) identified physical activity. In addition to patient role, students were asked to list three roles of a nurse in patient self-care. All students provided at least one answer. Two main themes emerged: 31.25% of students (n=5) stated that the nursing role is to encourage and support patients, while 87.5% of students stated that the nurse's role is to provide patients with education.

Post-test data. Following the learning activity, 56.25% of students (n=9) identified monitoring of fluid status and 56.25% of students (n=9) identified taking medications as ways patients can participate in self-care. Twelve of the students (75%) identified developing an individualized patient care plan *with* the patient to be the most important nursing intervention while eight (50%) spoke of the critical nursing role of patient education.

The shift from nurse-centered care planning to patient-centered and individualized care planning shows a change in students' thinking, ultimately achieving the affective learning outcome. An exemplar of this learning is demonstrated by one student's response, "this activity will be great to utilize with patients to see what the patient's goals are and challenges when

developing a care plan”. Although students did not perceive a change in their views regarding patient compliance, the change in addressing patient care plans does indicate a change in thinking.

Evaluation of teaching effectiveness. All students (N=16) completed the teaching effectiveness questions (see Appendix H). They were asked to rate teaching effectiveness questions on a Likert scale (1= strongly agree and 5= strongly disagree) for three questions to evaluate perceived value of activity and effectiveness of teaching strategies. Evaluation of teaching effectiveness data suggest that all students either strongly agreed or agreed that the learning activity provided a valuable learning experience and that the teaching methods encouraged learning.

Discussion

Many students could identify the need to individualize care to meet patient-specific goals. Conversations during the small group activity and larger class discussion identified priority patient self-care behaviors as a mix of challenging and easy changes to provide patients with confidence. A key insight gained from this activity was that students could identify the individualized needs of patients to maintain health. Pre-test data showed a greater understanding of HF evidence-based guidelines but as a very prescriptive method while post-test data showed a stronger understanding of using gradual changes so as to not overwhelm patients. Patient education provided in this individually tailored manner has been shown in the literature to be most beneficial as patients are more likely to incorporate self-care aspects into daily life and reduces readmissions (Glogowska et al., 2015; Ramusson et al., 2015).

Following the activity, verbal comments were made to the researcher regarding the new way of addressing patient care planning by thinking about the patient’s role in an acute condition

to maintain health. A curriculum shift in the way of thinking to encourage patient engagement in addition to patient-centered care may help students to think of patients as partners or drivers in their own health (Rasmusson et al., 2015; White & Hill, 2014).

A review of teaching effectiveness data shows that students responded favorably to short case studies and discussion as a method of learning concepts related to patient engagement in self-care. Students' positive feedback was anticipated based upon prior knowledge of transformational and cooperative learning theories. O'Neal et al. (2016) and Christie, Carey, Robertson, and Grainger (2015) reported that students find increased value in education that challenges their initial beliefs and that encourages growth through meaningful and applicable content.

Recommendations

Nursing education may benefit from future studies using a higher-fidelity simulation technique to present nursing students with patient-care planning scenarios. A higher level of fidelity might have added aspects of communication strategies and true patient engagement into this activity. In addition, asking students to bring a patient scenario to class instead of the instructor providing scenarios could also increase the fidelity of this activity. Students may perceive higher value or gain a greater change in perspective with higher levels of fidelity in the case study activity.

Limitations

Timing of the activity was the largest barrier to this project. This project took place in the last portion of class and in the last class before a weeklong break in the term. One group of students (n=3) chose not to participate in the learning activity, leaving early for the scheduled break. It is possible that a larger sample size might have provided more significant results.

Additionally, students were reluctant to engage in debriefing and group conversation as they were anticipating leaving class to begin break. In the future, a broad course schedule view should be used when determining timing for interactive learning activities.

Students' limited clinical experience also presented a barrier within this activity. As recommended above, linking this activity to patients in the clinical setting during clinical seminar may increase understanding and reasoning.

Lessons Learned

In the future, the teacher will think about the timing when determining sequencing of course activities. Although an activity may be very beneficial, if students are rushing because of an upcoming break or to prepare for a test, this may not be the best time for such an activity. According to Brookfield (2015), there are various reasons for a class to resist a learning activity and the instructor must either address this resistance or change approaches. Learning must still occur in the class session prior to a weeklong break, and students may have benefited from the instructor acknowledging the observed reluctance to learning.

This project provided positive reinforcement for what can be achieved from development of a clear purpose, organization, and adequate preparation. Organization and preparation allowed the learning session to be achieved during the scheduled one hour of class time. All materials were consolidated per group, and the directions given verbally for the activity were also posted via PowerPoint to allow for clarification as needed. Additionally, this activity may have been less effective without prior rapport with students. The session facilitator had been assisting in lecturing for this class and sitting in on all lectures as a Master's candidate. The familiarity and pre-developed mutual respect between instructor and students is important in improving cooperation and attention during course activities.

Conclusion

This project utilized case studies, a low fidelity simulation technique, to increase students understanding of patient engagement related to HF self-care. To achieve this goal, the instructor identified an educational need then looked to teaching theories to guide the module prior to determining session content. At the time, this method felt backward, however it lead to innovation and a student centered focus instead of instructor focused. The results showed a change in student thinking as one would desire based upon the utilization of transformational learning theory. After completion of this project, the benefit of utilizing a theory-based design is clear, and allowed for new innovative methods of teaching to be explored.

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Appendix A
Teaching Plan

Title: Understanding the role of Patient Engagement in Heart Failure Education through Case Study Learning.

Purpose: To demonstrate the importance of engaging patient in self-care strategies through case study learning and reflection in the group setting.

Goal: Students will be able to explain concepts of heart failure self-care and demonstrate how to engage patient in education of plan of care based upon nursing assessment.

Learning Context/Environment: Reflection questions prior to meeting in person. In person session in the classroom setting, NRS421: Adult and Elder Health II, 30-second term senior-level students.

Project Outcomes (knowledge domain level)	Learning Theories to support project focus	Content Outline with key concepts	Teaching strategies & Learning activities for key concepts	Simulation& Debriefing Plans	Session Resources for anticipated class enrollment	Method of Learner Evaluation
<p>By completion of the education unit:</p> <ol style="list-style-type: none"> Students will be able to summarize how symptom perception, self-care management, and self-care understanding relate to heart failure self-care. (Cognitive) Students will examine how personal beliefs on patient non-compliance have been transformed by enhanced understanding of the theory of heart failure self-care. (Affective) Students will integrate concepts of heart failure self-care with prior knowledge 	<p>Cooperative Learning Theory: supports learning through small group activities where students work together to gain deeper insights (O’Neal, McClellan, & Jarosinski, 2016). For this lesson students will be broken into small groups to discuss and compare personal insights, experiences, and views.</p> <p>Transformational Learning Theory: supports the process of self-reflection, group discussion, and repeated self-reflection. This lesson format is based upon</p>	<ul style="list-style-type: none"> Review of heart failure pathophysiology, symptomology, assessment, and self-care plan of care expectations Introduce heart failure self-care theory key terminology <ul style="list-style-type: none"> Maintenance Perception Management Naturalistic decision making theory Common nursing diagnosis for patients with heart failure Class discussion on heart failure self-care and patient engagement to achieve improved health outcomes 	<p>Pre-class: 35 minutes In class: 55 minutes</p> <p>Pre-class content:</p> <ul style="list-style-type: none"> Students will review slides on heart failure pathophysiology and symptomology (15 minutes) Students will read article introducing heart failure self-care theory (15 minutes) Students will complete “3- 	<p>Low-fidelity simulation consisting of case study activity in which students will discuss patient centered care and patient engagement, and offer recommendations of changes to patient education to enhance patient engagement in care.</p> <p>Group and individual reflection to follow case study activity</p>	<p>Physical Space: tables with ability to move to enhance group learning and discussion, chairs, classroom to fit 30 students</p> <p>Equipment: Laptops or iPads for all students to connect to Survey Monkey, computer, overhead projector, internet connection</p> <p>Technology: Online academic platform for pre-class content (Moodle), Survey Monkey to collect, store, and analyze data</p>	<p>Pre-test “3-minute reflection” will provide instructor with idea of student’s current understanding of heart failure.</p> <p>Post-test “3-minute reflection” will provide students with the opportunity to connect concepts of heart failure with patient engagement and compliance. Additionally, students will reflect upon personal</p>

<p>of pharmacology, pathophysiology, and physical assessment to provide educational recommendations to a patient presented in a case study. (Cognitive)</p>	<p>this process of pre-examination, critical assessment and exploring new ways of thinking, then concluding with students planning a new course of action (Cranton, 2012). This process has been shown to change adult learner’s beliefs, values, and perspectives, which may achieve both cognitive and affective outcomes.</p>	<ul style="list-style-type: none"> • Reflection on patient compliance and patient centered care through post-test “3-minute reflection” 	<p>minute reflection” exercise on provided prompt (3 minutes)</p> <p>In class content:</p> <ul style="list-style-type: none"> • Review of heart failure self-care theory terminology and contextual examples (10 minutes) • <u>Case study</u> in groups of four for application of concepts (20 minutes) • Group discussion (20 minutes) • Post-test “3-minute reflection” to reflect upon patient engagement and patient compliance (5 minutes) 		<p>Printing costs: for printed copy of case study</p> <p>Anticipated enrollment: 30 students enrolled in one section of NRS 421: Adult and Elder Health II, Spring term</p>	<p>perceptions and views on these topics.</p> <p>Likert-type scale questionnaire will assess effectiveness of teaching style and presentation of information.</p>
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Appendix B
Case Study Scenarios

Scenario A: 92-year-old female. She has managed her heart failure very well for the past 45 years and she makes her own meals. She has been getting more forgetful lately and her family is concerned about her safety living alone. At today's appointment, her furosemide and isosorbide were increased. After her appointment, she is going to look at an assisted living community with her daughter. She tells you she fears losing her independence.

Scenario B: 57-year-old male recently diagnosed with heart failure, ejection fraction 40%. He travels frequently for work, and when he's out of town he eats out for each meal. He is very involved in his family and "doesn't have time to be sick". His family is his motivation to live a healthy lifestyle.

Scenario C: 48-year-old male, diagnosed with heart failure 10 years ago, ejection fraction 25%. He is chronically homeless, intermittently utilizes IV drugs and smokes a half-pack of cigarettes daily. He was hospitalized with sepsis due to an abscess and has been working with social work to get into temporary housing. He has no family that he would like listed in his medical record as an emergency contact. Today he will be discharging back to the streets with a new medication to reduce his blood pressure.

Appendix C
Heart Failure Self-Care Concepts

Take all medications as ordered

Keep and attend appointments

Check and record weight daily

Check and record blood pressure daily

Decrease sodium in diet

Increase physical activity

Learn heart failure symptoms

Start end of life planning

Appendix F

Table 1

Pre-Session Data

Questions	Response	Frequency
Perspective of Heart Failure Patient	Acute exacerbation	100.0%
	Chronic exacerbation	0.00%
How can a patient participate in self-care?	Change diet (low sodium or fluid restriction)	81.25%
	Physical activity	50.00%
What is the role of a nurse in patient self-care?	Encourage and support	31.25%
	Educate	87.50%

N=16

Appendix G

Table 2

Post-Session Data

Questions	Response	Frequency
How can a patient participate in self-care?	Monitor fluid status	56.25%
	Take medications	56.25%
What is the role of a nurse in patient self-care?	Develop individualized plan	75.00%
	Educate	50.00%

N=16

Appendix H

Table 3

Evaluation of Teaching Effectiveness

Questions	Mean (SD)
The instructor provided a valuable learning experience.	1.94 (0.66)
Teaching strategies encouraged learning.	1.25 (0.43)
This lesson changed my views on patient engagement.	1.25 (0.43)

N=16

1= Strongly agree, 3= Neutral, 5= Strongly disagree