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Improving Influenza Vaccination Rates Through Nursing Journal Clubs

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Abstract

The objective of this CNL Internship Project is to improve patient compliance with the flu vaccine for the 2015 fiscal year. Currently the project is set at a teaching hospital in Northern California on the Abdominal Transplant Unit. Participants include six staff nurses who care for End Stage Renal Disease (ESRD), End Stage Liver Disease (ESLD) and abdominal transplant patients. To address the barriers to vaccination, specifically patients' fear of adverse effects, nursing journal clubs (NJC) were implemented on the unit to educate nurses about the current research on flu vaccination for this patient population. As the facilitator, the CNL encouraged discussion on clinical research and reviewed steps to critically appraise journal articles. Results showed an increase in nurses' knowledge of the most current research on flu vaccination, an increase in their ability to critique clinical research, an increase in understanding of the rationale for implementing evidence-based practice (EBP), and an increase in the nurses' confidence in implementing EBP at the bedside. In conclusion, nursing journal clubs are an effective teaching method to educate, empower, and encourage nurses to implement EBP and improve patient outcomes.

Statement of the Problem

Influenza (“flu”) is a contagious viral infection of the respiratory system that is commonly spread in the United States every year between October and May. Healthy individuals infected with the flu often recover without serious complications, however the flu can become a serious illness and lead to death, especially among high-risk groups such as adults 65 years of age and older and people with pre-existing medical conditions. According to the Centers for Disease Control and Prevention (CDC) (2010), there was an average of 3,300 to 49,000 influenza-related deaths annually between 1976 and 2007. Since the flu significantly contributes to morbidity and mortality in the United States, the CDC recommends annual flu vaccinations to prevent the flu and its complications.

The current recommendations for routine annual flu vaccination include all individuals 6 months and older who do not have any contraindications (CDC, 2014). This includes people at high-risk for developing flu-related complications such as abdominal transplant patients. According to Martin, Torabi, & Gabardi (2012), abdominal transplant patients are at a higher risk of infection than healthier individuals. In addition, infections in solid organ transplant patients lead to more serious complications such as viral pneumonia, secondary bacterial pneumonia, bacterial superinfection, involvement of the central nervous system, and myocarditis (Martin et al, 2012). Vaccination is vital in preventing influenza infection, complications and death in abdominal transplant recipients.

Currently studies show that the effectiveness of the flu vaccine is lower in organ transplant recipients compared to healthy individuals, especially in patients less than 6 months after transplantation, due to the immunosuppression caused by the anti-rejection medications (Beck et al., 2012; Birdwell et al., 2009). However, abdominal transplant recipients should still

receive the influenza vaccination. Despite a lower antibody response to the influenza vaccination, cirrhotic patients and liver transplant recipients still developed an antibody response that was protective against the influenza infection (Gaeta et al., 2009; Song et al. 2007). In addition, flu vaccination has been found to be safe in abdominal transplant recipients as shown by the lack of vaccine-related adverse events and changes in baseline values (Gaeta et al., 2009). The risks of flu infection and the support for vaccination of abdominal transplant patients are evident, but the vaccination rates continue to be low for this high-risk patient population (Harris et al, 2009).

Rationale

Currently, the clinical setting is at a large urban teaching hospital in Northern California on the Abdominal Transplant Unit. On the unit there is an average of 36-40 beds. The top five patient diagnoses on the unit are ESRD, ESLD, hypertension, diabetes and hyperlipidemia. The age of this patient population ranges between 19-83 years of age with the majority between ages 51-65 years of age. Patients admitted on the unit are surgical patients receiving a transplant or medical patients experiencing complications from their chronic diseases.

Currently Healthy People 2020 has set an objective to increase flu vaccination rates of high-risk adults aged 18 years and older at a target of 90% (Department of Health and Human Services [HHS], 2014). According to the CDC, if the Healthy 2020 objectives were met, over 4.4 million illnesses, 1.8 million medical-related illnesses, and 30,000 hospitalizations could be prevented (CDC, 2013). The financial cost of flu infections is significant. An ER visit for an influenza-related upper respiratory infection costs approximately \$683.00 and a hospital stay costs \$8408.00 each day. In comparison, the cost of an influenza vaccine is approximately \$70.00 (Office of Statewide Health Planning & Development [OSHPD], 2014). Based on the

cost-benefit analysis, flu vaccination can lead to net cost savings of \$9,021.00 per patient (Appendix A). Despite the recommendations and evidence showing improved patient outcomes and cost-effectiveness from vaccinating abdominal transplant patients, the hospital's influenza vaccination rate for the 2013 fiscal year was below average at 74% (Centers for Medicare & Medicaid Services [CMS], 2014).

Based on the microsystem assessment, one of the reasons vaccination rates remain low on the abdominal transplant unit is due to patient refusals. Some of the main factors affecting the patient's decision to obtain a flu vaccination include the fear of developing side effects from the vaccine and the fear of contracting the flu (Mayo & Cobler, 2004). Physicians and nurses are responsible for educating patients about the flu vaccine, however, the teaching method has been ineffective as evident by the persistent number of patient refusals on the unit. Lack of time and provider attitudes towards the flu vaccine are additional factors that may be hindering patient education and higher flu vaccination rates on the unit. Since hospitalization provides an opportunity to vaccinate high-risk patients, it is imperative that the unit addresses these barriers to improve the influenza vaccination rates and to meet the core quality measures by the Joint Commission and CMS.

Action Plan

To improve patient compliance with influenza vaccination a nursing journal club will be implemented on the unit. A nursing journal club is an interactive teaching method to provide the nursing staff with the most current clinical research and to promote EBP (Patel, Denigris, & Chabot, 2011). Through active discussions and appraisals of clinical research, nursing journal clubs lead to greater awareness, increased knowledge and skills, and improved staff attitudes toward research (Rogers, 2009). By empowering staff with the knowledge to read, critique, and

implement EBP, this can lead to improved patient outcomes, decrease medical errors and mortality rates, and reduce healthcare costs for both the patient and healthcare organization (Patel et al., 2011).

The goal of introducing a nursing journal club on the Abdominal Transplant Unit is to reduce the number of patients refusing the flu vaccine and to improve flu vaccination compliance for this high-risk population in the 2015 fiscal year. To attain this goal, the project will have two objectives. The first objective is to equip nurses with the knowledge to address patients' fears and to educate patients about the flu vaccine by providing nurses with current research articles on the topic of flu vaccination for ESRD, ESLD and transplant patients. The second objective is to improve nurses' attitude towards reading and implementing EBP by reviewing steps to critique research articles and organizing an open discussion on the applicability of the literature to their microsystem.

For this project nursing journal clubs will be developed and implemented on the Abdominal Transplant Unit over a four-month period. Each nursing journal club will be held one-on-one with a nurse for 20-30 minutes. This nursing journal club project was developed using the process described in Patel et al. (2011). To develop the action plan for implementing nursing journal clubs on the unit, Lippitt's Theory of Change was used as a framework. A detailed illustration of the action plan can be found in Appendix B.

Methodology

According to Lippitt's Theory of Change, planned change is a change that develops from an awareness of a problem and the desire to make an improvement in the system with the help of a change agent (Lippitt, Watson, & Westley, 1958). The change agent is a professional who

implements and leads the change process. For this project the Clinical Nurse Leader (CNL) will serve as the change agent.

A CNL is a master's prepared advanced nurse generalist and is trained with the knowledge and skills to serve as the change agent. A CNL is trained to manage the client care outcomes of all the patients in a microsystem (American Association of Colleges of Nursing [AACN], 2013). They have the knowledge of illnesses, disease management, and health assessment. In addition, the CNL is educated in nursing research, epidemiology, healthcare informatics, healthcare systems leadership, financial resource management, healthcare policy, and ethics. With their knowledge and skills, the CNL can serve as an outcomes manager who leads quality improvement initiatives and communicates with the health care team (Stavrianopoulos, 2012). The CNL can also analyze performance measures and promote the implementation of EBP on the unit to improve patient safety and quality (AACN, 2013).

Using Lippitt's theory of change, the CNL will implement the nursing journal club in seven phases. First, to identify the problem, the CNL will conduct a microsystem assessment and analyze the data on the flu vaccination rates to determine if current interventions are effective. In the second phase the CNL assesses the client's motivation and capacity to change by conducting interviews with the key stakeholders on the unit, such as the patients, nurses, and managers. In this phase, the CNL is also establishing the change relationship with the key stakeholders on the unit. After diagnosing the problem and establishing a working relationship with the key stakeholders, the CNL reflects on their own skills, expertise, knowledge and ability to serve as a change agent in the project. In the next phase, the CNL initiates the discussion of the project and sets the objectives. In phase five the CNL identifies their role in the project. For this project the CNL will serve as the facilitator of the nursing journal clubs. In phase six the CNL works with

the nurses to meet the objectives and to maintain the change. Lastly, after the change has been initiated, implemented and maintained, the CNL ends the working relationship as the change agent and allows the nurses on the unit to continue the implementation of the nursing journal clubs (Lipitt et al., 1958).

Evaluation/ Expected Results

To evaluate the effectiveness of the nursing journal clubs, the CNL will administer a pre-test and a post-test questionnaire to identify the impact of the nursing journal clubs on the nurses' knowledge and attitudes towards appraising clinical research and implementing EBP (Appendix C). The Likert scale will be used to measure the responses. To assess the impact on patient outcomes, the CNL will be analyzing the flu vaccination rates monthly and measuring the number of patients who continue to refuse the flu vaccination.

During the two-week implementation, six nurses participated in the nursing journal club. In the pre-test, 33% of the nurse agreed and felt that they were well informed about the most current clinical research on the flu vaccine, while another 33% disagreed. 83% agreed and believed they were able to evaluate research critically and 60% agreed that they understood the rationale for implementing evidence-based practice regarding the flu vaccine. Lastly, 50% agreed and felt confident in implementing evidence based practice at the bedside. In the post-test, 66% strongly agreed that they were well-informed about the most current clinical research, 50% strongly agreed and 50% agreed that they were able to evaluate research critically. In addition 50% strongly agreed and 50% agreed that they understood the rationale for implementing EBP and felt confident in implementing EBP at the bedside. The results from the pre-test and post-test can be found in Appendices D, E and F.

Overall there was a 66% increase in nurses who strongly agreed that they were well informed about the most current clinical research. There was a 50% increase in nurses who strongly agreed that they were able to evaluate research critically, 33% increase in nurses who strongly agreed that they understood the rationale for implementing EBP, and a 33% increase in nurses who strongly agreed that they felt confident in implementing EBP at the bedside. Based on the results from the pre-test and post-test, the flu vaccination rates are expected to increase and the number of patients refusing the flu vaccine are expected to decrease over time.

Conclusion

The purpose of this project was to improve patient flu vaccine compliance on the Abdominal Transplant Unit for the 2015 fiscal year. To improve quality outcomes, it is imperative to educate nurses on how to address patients' fears of adverse events after flu vaccination. Nursing journal clubs is an effective tool to overcome this barrier. By implementing a nursing journal club on the unit focused on the topic of flu vaccination for ESLD, ESRD, and transplant patients, nurses increased their knowledge about the most current clinical research, increased their ability to evaluate research critically, increased their understanding of the rationale for implementing EBP and increased their confidence in implementing EBP at the bedside. With an increased awareness and knowledge of research, it is expected that nurses will be more likely to implement the evidence-based research on flu vaccine into practice and subsequently increase the number of patients receiving the flu vaccine.

To maintain change and sustain nursing journal clubs in the future, there are several recommendations. First, there needs to be alternative methods to encourage nurses to participate in the nursing journal club. Management should offer incentives to nurses who participate, such as one continuing education credit that can go towards their license renewal or including it is a

continuing education requirement for the clinical ladder system (Patel et al., 2011). Management should also provide more support for nurses to participate in the nursing journal clubs by providing break nurses to cover for the participants. Second, to promote discussion of EBP among the nurses, nursing journal clubs should be held in larger groups. A group size of less than 16 would be ideal to promote an interactive nursing journal club (Harris et al., 2011). Lastly, to promote and maintain change over time, nursing journal clubs should be held more regularly. Frequent meetings every month or every other month allow nurses more opportunities to read, critique, discuss, and implement EBP.

As an advanced generalist, the CNL is equipped to assess and implement evidence-based research in a microsystem to improve patient outcomes and the delivery of care. In their role as a team leader and coordinator, the CNL can integrate care laterally between management and staff and facilitate the process of change. With their knowledge and skills, CNLs is an asset to implement change and to improve the continuously changing healthcare system.

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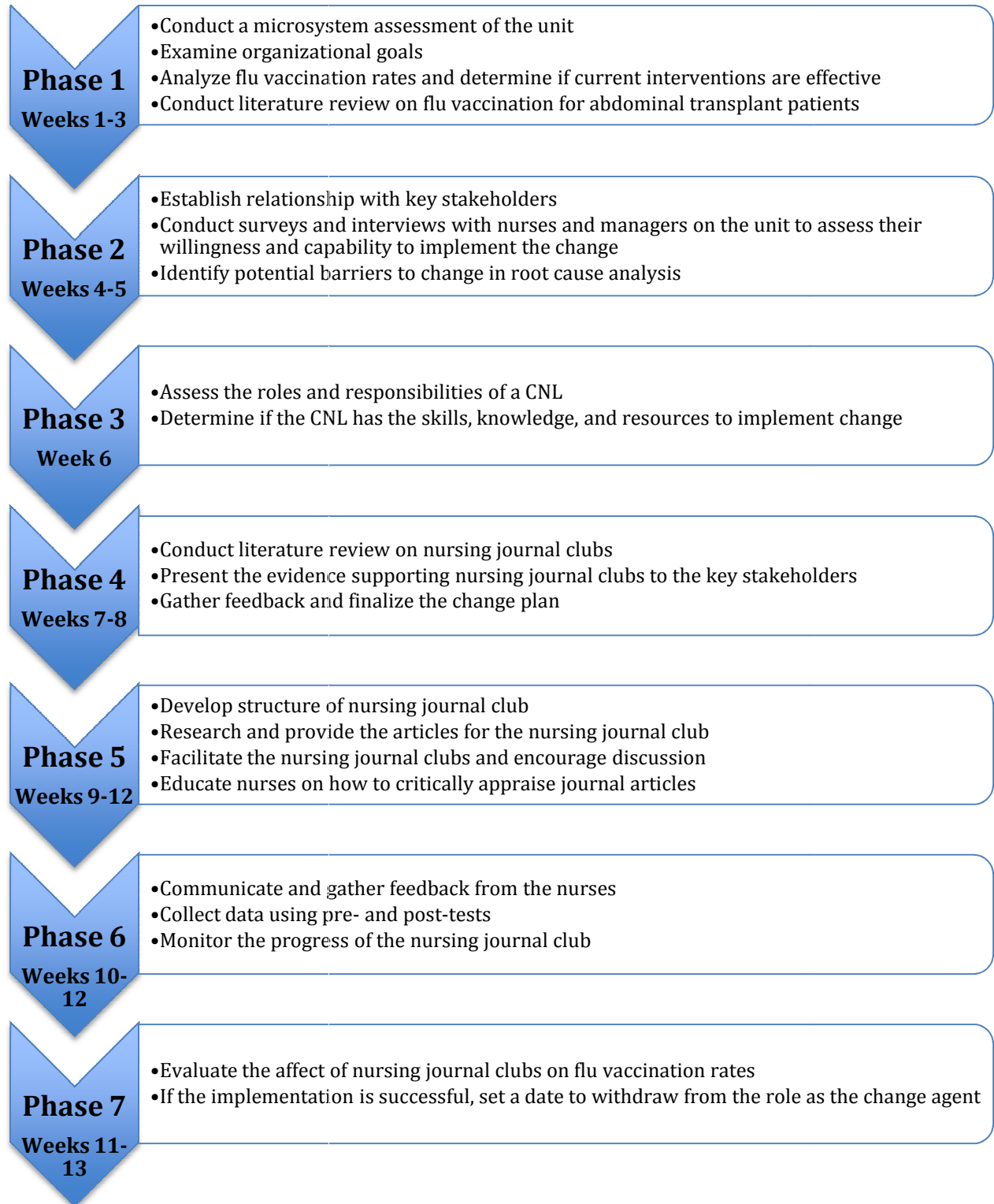
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Appendix A
Cost-Benefit Analysis

Evaluation & Management Services	Average Charge
Emergency Room Visit, Level 1-2 (low to moderate severity)	\$683.00
Hospital Room Per Day	\$8408.00
Pharmacy	Average Charge
Influenza Vaccine	\$167.00
Cost Savings	\$ 9021.00

Appendix B
Nursing Journal Club Action Plan Using Lippitt’s Change Theory



Appendix C

Questionnaire

1. I am well informed about the most current clinical research.

Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
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2. I am able to evaluate research critically.

Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
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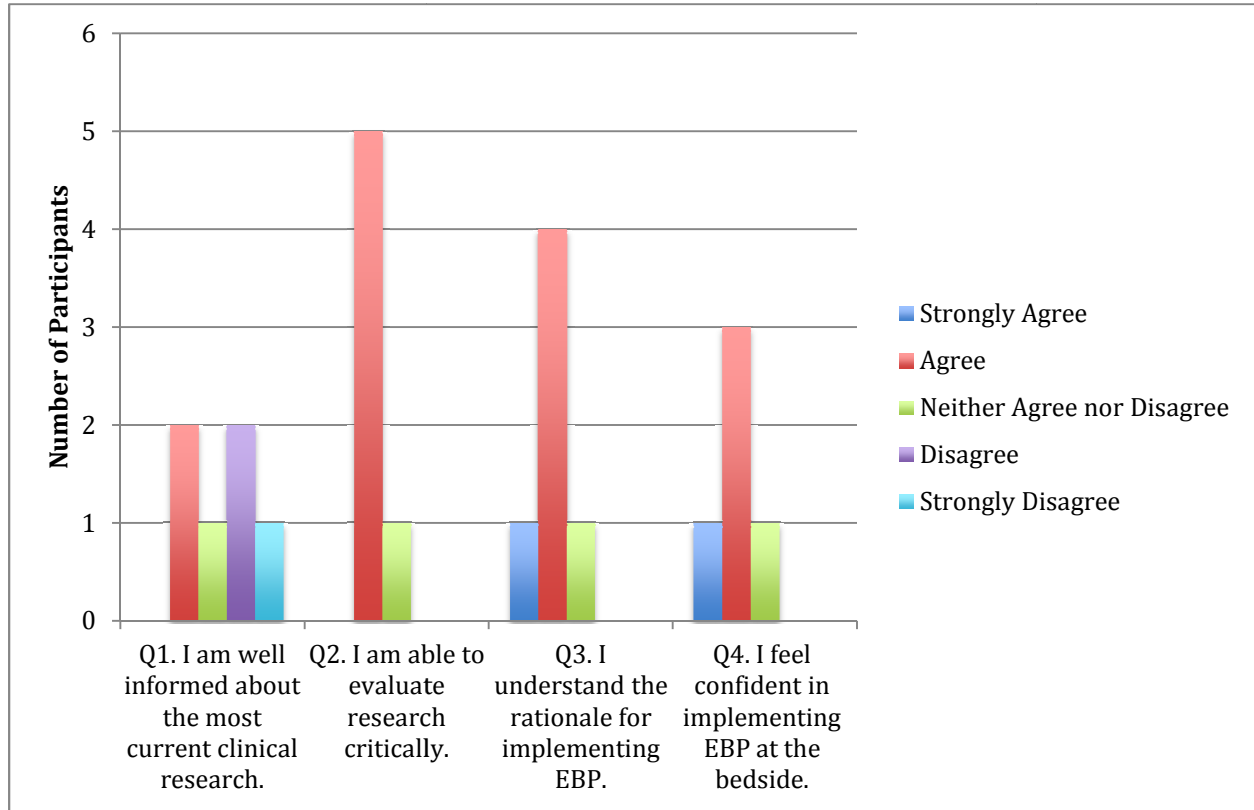
3. I understand the rationale for implementing evidence-based practice.

Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
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4. I feel confident in implementing evidence-based practice at the bedside.

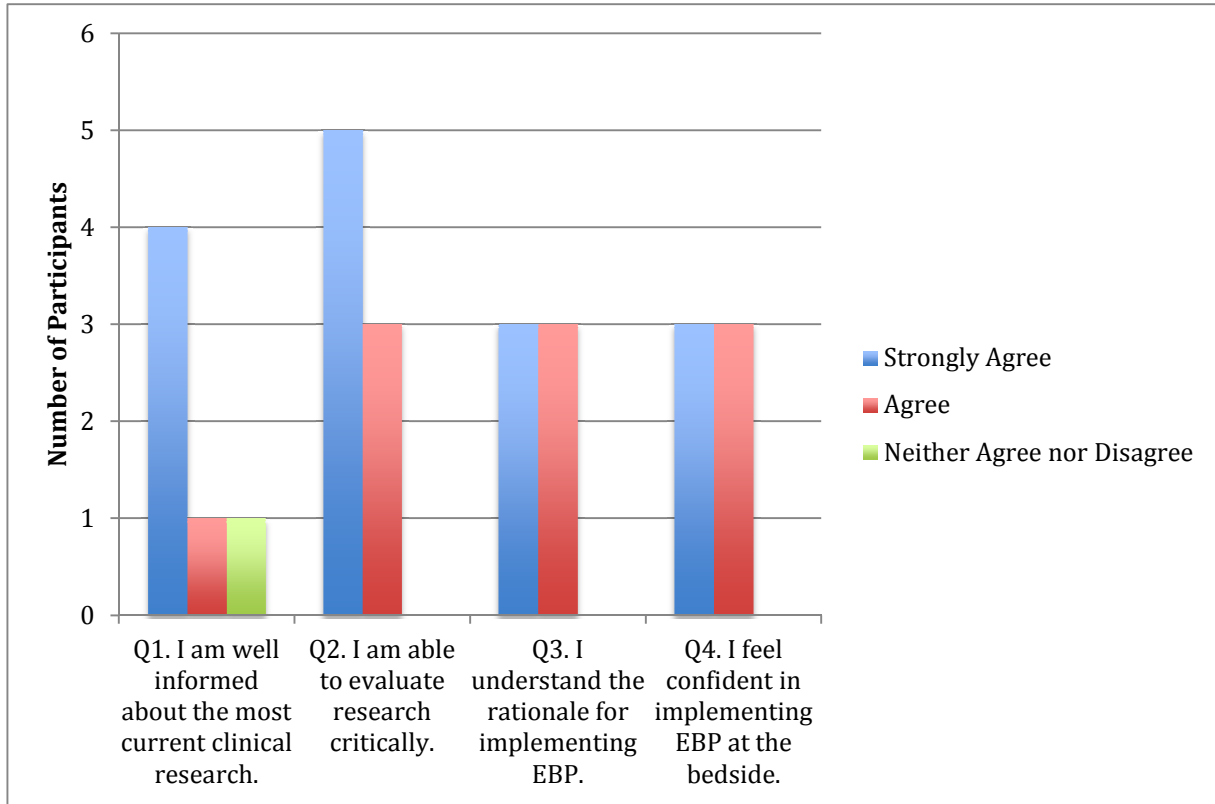
Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
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Pre-test Results



Appendix E

Post-test Results



Appendix F

Comparison of Pre-and Post-test Results

	Pre-test (N=6)	Post-test (N=6)
Q1 (%)		
Strongly Agree	0	66
Agree	33	17
Neither Agree nor Disagree	17	17
Disagree	33	0
Strongly Disagree	17	0
Q2 (%)		
Strongly Agree	0	50
Agree	83	50
Neither Agree nor Disagree	17	0
Disagree	0	0
Strongly Disagree	0	0
Q3 (%)		
Strongly Agree	17	50
Agree	66	50
Neither Agree nor Disagree	17	0
Disagree	0	0
Strongly Disagree	0	0
Q4 (%)		
Strongly Agree	17	50
Agree	50	50
Neither Agree nor Disagree	33	0
Disagree	0	0
Strongly Disagree	0	0