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Developing Staff Education Regarding Colorectal Cancer Screening Practice Guidelines

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This is to certify that the doctoral study by

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has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

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Abstract

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by

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Abstract

Colorectal rectal cancer (CRC) is the 3rd most common cancer in men, the 2nd most common cancer in women, and the 4th leading cause of cancer death. Lack of screening or delayed screening for CRC is the major cause of undiagnosed cancers that become malignant and eventually become fatal. Nurses at the project site are not in compliance with CRC screening guidelines due to inadequate knowledge of the screening guidelines recommended by the American Cancer Society, which creates a gap in practice. The purpose of this project was to develop staff education on CRC screening guidelines. The practice focused question addressed if evidence-based education regarding CRC screening could be an effective means for nurse education, according to a panel of local experts. A pre-test evaluation of knowledge regarding CRC screening was administered to nursing staff from the site. The John Hopkins evidence-based practice model guided the development of the staff education program, using the results of the pre-test, evidence-based practice literature and guidelines. The project team, consisting of a physician and medical support staff, evaluated the education program, plan for delivery, and plan for evaluation of learning through an anonymous Likert-style evaluation survey. The 3 team members also completed program evaluation surveys, and 100% agreed or strongly agreed that the program objectives were met. The project was limited to planning only and the education program materials, along with plans for later implementation and evaluation of learning through pre- and post-tests, were handed over to the project site for delivery at a later date. The CRC screening education will become part of the yearly staff competencies, leading to appropriate screening of the site's patient population. This education project has the potential to promote positive social change by saving lives and improving the quality of those lives.

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Dedication

This project is dedicated to my late father, Mr. Phillip Ibhafidon Onofua who passed away after a brief illness. Daddy, you were my inspiration, hero and support. I miss you dearly. Continue to rest in God's bosom my darling father till we meet to part no more.

Acknowledgments

I will like to acknowledge the almighty God for his grace and mercies. I like to acknowledge the support of my family throughout this doctoral program. Finally, I want to acknowledge my chair, Dr. C Tailor for her tremendous guidance and patience. Honestly, I could not have gone this far without her support. Thank you, Dr. T

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Section 1: Nature of the Project

Introduction

Colorectal cancer (CRC) is also known as cancer of the colon and/or rectum. Globally, CRC is the third most common cancer in men, the second most common cancer in women, and the fourth leading cause of cancer death (Siegel, Miller, & Jemal, 2017). According to the American Cancer Society (ACS, 2018), CRC is one of the most preventable cancers, yet it is also the second leading cause of cancer mortality. For this reason, regular screening is recommended by the ACS to prevent CRC.

The problem at the project site was that the nursing staff did not adhere to CRC screening guidelines. Therefore, an educational program on CRC screening guidelines at this site was required. The purpose of this project was to develop staff education regarding CRC screening guidelines. This project may create positive social change through improved collaboration and communication among the project site staff, improved tone for future organizational change, and improved health for the patients they serve.

Problem Statement

The local nursing practice problem at the project site was inadequate nursing knowledge on CRC screening guidelines. At this facility, CRC screening was not initiated by the nursing or other medical staff. Instead, medical staff noted that patients are referred by health insurance companies for screening or treatment. Upon incidental findings of colorectal polyps or cancers, these patients are then referred to the project facility who, in turn, refer patients to the gastrointestinal specialists for treatments and surveillance. However, the ACS screening guidelines state that CRC screenings should be initiated by the primary healthcare providers in

adults at age 50 and above (American Cancer Society, 2018). The screenings can be initiated during doctor's visits or by automated telephone or mail reminders. Simonson (2017) posited that nurses are instrumental in colorectal educational intervention. Thus, they play important roles in CRC prevention, as they are directly involved in patient care and patient education. Nurses can be effective in initiating CRC screenings at point of care if they are knowledgeable of current screening guidelines.

This educational project is important because it will improve nurses' knowledge so that they are equipped to educate patients on the importance of CRC screening. According to Swartz, Eberth, Josey, and Strayer (2017), the United States Preventive Services Task Force (USPSTF) clearly emphasizes that healthcare providers should stress the convincing evidence that CRC screening can help save lives. With improved knowledge, nurses can communicate this information to patients and might influence their decisions on whether to participate in CRC screenings.

Purpose

The purpose of this project was to develop staff education regarding CRC screening guidelines. The educational project addresses inadequate knowledge of staff on CRC screening at the project site. The guiding practice-focused question was, "Would evidence based education regarding colorectal cancer screening be an effective means for nurse education, according to a panel of local experts?" This doctoral project is important because it improved nursing knowledge, which can improve and protect patients' lives.

Nature of the Project

An initial draft of an education program regarding CRC screening was developed using published literature as the primary source of evidence. A team of local experts were assembled, and their input served as an additional source of evidence during the project development. A pretest evaluation of knowledge regarding CRC screening was administered to nursing staff from the site and the results were used to help guide the development of the education program. The project was limited to planning only and at the conclusion of the project, the work product deliverables were handed over to the project site for implementation and delivery later. The deliverables included the education program materials along with plans for later implementation and evaluation of learning through pre- and posttests. Project evaluation data were collected from the planning team regarding their satisfaction with the planning process, work products, and student leadership. The project evaluation form can be found in Appendix A. Appropriate ethics approval at the site was received through Walden's Institutional Review Board (IRB).

The purpose of this project was to develop staff education regarding CRC screening guidelines. This educational project bridged the gap-in-practice: noncompliance with CRC cancer screening guidelines due to inadequate nursing knowledge. According to Knudsen et al. (2016), CRC screening has been shown to reduce mortality from CRC as well as incidence. With increased nurses' knowledge, they can be initiating and facilitating CRC screening. Increased nurses' positive engagement in initiating CRC screening is required to reach acceptable levels in screening rates.

Significance

Nurses, the medical director, the medical support staff, and the administrative assistant are the stakeholders that were involved in this project. Stakeholders were represented in a team of experts who met to review and discuss the educational program because stakeholders strongly influence project success. As a result of their participation in this project, stakeholders stated they were positively impacted because it gave them a sense of ownership of the project and they were proud of the project's positive outcomes. Stakeholders learned how to mitigate problems during the life of the project and will apply this knowledge gained to future projects. Apart from the project's impact on stakeholders, it also contributed to nursing practice because it improves nursing knowledge of CRC screening guidelines. This improved knowledge may empower nurses to comply with CRC screening guidelines and improve their nursing practice, since nurses play important roles in patient care.

This project is transferable to similar practice areas in health promotion and disease prevention. Such areas are cervical cancer, prostate cancer, and breast cancer screening. If transferred to other areas of cancer screening, this project may positively impact social change at the practicum facility and the community it serves.

The primary implication for positive social change at my practicum site was improved collaboration. Nursing staff learned to work better collaboratively and learned to solve future clinical problems that may arise. This practice change also may create social change in the community it serves. This project may lead to increased participation in CRC screening in the community and better quality of life for people at risk of CRC. This is because CRC can be diagnosed early and treated before the cancer becomes malignant. With better quality of life,

people in the community do not have to manage cancer in advanced stages with hospitalizations that are often required.

Summary

This educational project on staff education of CRC screening guidelines addressed nurses' inadequate knowledge of the guidelines and bridged the identified gap in practice. The sources of evidence relevant to the project were obtained. Stakeholders were fully engaged from start to finish; The project may positively impact nursing and create positive social change both in the facility and in the community it serves.

In Section 2, the background and context of my project is outlined reflecting the concepts, models or theories that are applied to the final project. I also address the project relevance to nursing practice and role of the DNP student and project team. Last, I explain the local background and context of the project.

Section 2: Background and Context

Introduction

The practice problem at my DNP nursing project site was that colorectal cancer screening guidelines are not initiated by the nursing staff. The practice focused question therefore was, would evidence based education regarding colorectal cancer screening be an effective means for nurse education, according to a panel of local experts? The purpose of this project was to develop staff education regarding CRC screening guidelines. In this section, John Hopkins Nursing Evidence-based Practice model (JHNEBP) is described and the rationale for its use in this project is explained. The relevance of staff education of colorectal cancer screening guidelines to nursing is explained. A brief description of the local background and setting of this project is provided. The roles of the DNP student and project team is also explained.

Concepts, Models, and Theories

The JHNEBP model was applied in this project. According to Berkowitz et al. (2017), the JHNEBP is a powerful, problem-solving approach to clinical practices, and is accompanied by user-friendly tools to guide individual or group use. Berkowitz et al, 2017 posit that the JHNEBP model was jointly developed by nurses from the Johns Hopkins Hospital and School of Nursing (Berkowitz et al, 2017). It is being implemented at various hospitals and has gained national recognition (Berkowitz, el al, 2017). The goal of the JHNEBP model is to ensure that the latest research findings and best practices are quickly and appropriately incorporated into patient care (Berkowitz et al. 2017).

My rationale for using the JHNEBP model was that this model is designed specifically to meet the needs of the practicing nurse and uses a three-step process called PET: practice

question, evidence, and translation (Berkowitz et al, 2017). The "P," which stands for practice in the JHNEBP model, involves recruiting the team, developing and refining questions, defining the scope of questions, identifying stakeholders, and scheduling team meetings (JHNEBP, 2000). The "E" stands for evidence and "T" stands for translation of evidence into practice (JHNEBP, 2017).

The JHNEBP model was jointly developed by nurses from the Johns Hopkins Hospital and School of Nursing and its goal was to ensure that the latest research findings and best practices are quickly and appropriately incorporated into patient care (JHNEBP, 2000). A team of Hopkins nursing researchers developed this model in 2002 and launched pilot testing in 2003 with Hopkins Hospital nurses in the Post-Anesthesia Care Unit (PACU) and other areas (JHNEBP, 2017). In 2004, the model was introduced to a larger Hopkins audience (JHNEBM, 2000). The auspicious outcomes of these multiple iterations of model design and implementation offer encouraging evidence for the translation of this approach in the chosen clinical context.

Literature Review

Here, case examples of JHNEBP implementation as found in the medical literature will be elaborated upon and analyzed to further demonstrate the empirically-verified promise that this model has for affecting desired outcomes. Friesen, Brady, Milligan, and Christensen (2016) used the JHNEBP model for their study to evaluate a structured evidence-based practice (EBP) education for nurses in a hospital system (Friesen et al., 2016). Friesen et al educational project for registered nurses (RN) was centered on translating research supporting inpatient care outcomes in providing evidence-based care. Nurses from five units in five hospitals were included in this educational project (Friesen et al, 2016). Eighty-three RNs completed the pre

intervention surveys (Friesen et al, 2016). A total of 57 RNs completed the post intervention surveys (Friesen et al, 2016). Data were obtained from 24 participants (Friesen et al, 2016).

Statistical analysis indicated positive movement toward EBP in participants and qualitative analysis revealed perceived successes, which indicated that nurses at all levels of practice require education to foster EBP sustainment (Friesen et al, 2016). Nurses' education supported professional development and clinical application of evidence at the point of care and a process was needed to implement EBP in the hospital setting (Friesen et al, 2016)). Nurses can be most effective when the hospital's protocols and policies integrate the latest research findings into nursing practice.

The JHNEBP model served as a guiding tool from the inception to the dissemination of my project. The goal of the JHNEBP model was to ensure that the latest research findings and best practices are quickly and appropriately incorporated into patient care, which is in alignment with my educational project for nurses at my DNP nursing project site.

Relevance to Nursing

This project is relevant to nursing because as healthcare providers, nurses are involved in health promotion and disease prevention. Marshall (2018) asserted that nurses counsel patients about the various ways that screening is done, for example, colonoscopy, stool testing, or gene testing. According to Benito et al. (2017), cancer screening nurses act as links between the patients and the primary care team. Theses nurses provide information, explain that information, and resolve patients' concerns. Homan, Steward, and Armer (2015) noted that nurses are instrumental in colorectal educational intervention and serve as an exemplar of partnerships. Partnerships created will lead to innovative planning, implementation, and desirable outcomes

(Homan et al, 2017). Thus, understanding and working to resolve the barriers to proper CRC screening and the partnerships resulting from CRC screening improvement offer many downstream benefits.

One of the barriers affecting CRC screening was inadequate knowledge among nurses on screening guidelines (Triantafillidis, Vagianos, Gikas, Korontzi, Papalois, 2017). Enhancing staff knowledge about CRC guidelines should be considered a primary intervention in the efforts to promote CRC screening and prevention of CRC.

Since nurse practitioners (NPs) provide primary care services they should remain informed about current colorectal cancer screening guidelines, which has been associated with improved health outcomes (Slyne, Gautam, & King, 2017). Slyne et al. (2017) posited that in full licensure states, NPs are permitted to practice independently and autonomously and are required to provide evidence-based care that is grounded in current guidelines for colorectal cancer screening. CRC screening has well-established preventive screening guidelines that nurses can follow (Slyne et al, 2017).

Strategies and standard practices that have been used to address this gap in practice in the past include use of simulated learning in nursing education that promotes learner-centered active learning, and extended orientation/transition to practice (Raney, Morgan, Christmas, Sterling, and Walker 2019). It is a technique (not a technology) to replace and amplify real experiences with that evoke aspects of the real world in a fully interactive fashion. Simulation-based training techniques, tools, and strategies can be applied in designing structured learning experiences, as well as be used as a measurement tool linked to targeted teamwork competencies and learning objectives (Raney et al, 2019). Thus, the lessons learned from this effort to improve CRC

screening practice can be applied in a number of similar screening contexts with benefits for various aspects of nursing practice.

Local Background and Context

This problem was being examined because there was a gap-in practice in colorectal cancer screening guidelines at my project site. This project site is an outpatient primary/urgent care setting that serves a community with a population of 33,145 (United States Census Bureau, 2016). The population demographics are mainly low to middle income people with mainly high school to college educations. At this facility, an average of 40 patients is seen daily for routine physical examinations, urgent medical problems, and follow-ups. However, CRC screening was not being initiated according to CRC screening guidelines during these visits, which justifies my practice focused question, "Would evidence based education regarding colorectal cancer screening be an effective means for nurse education, according to a panel of local experts?" This topic was examined because the ACS screening guidelines and the USPSTF recommend that adults age 50 to 75 be screened for CRC (American Cancer Society (ACS), 2017). The guidelines also recommend that the decision to be screened after age 75 should be made on an individual basis (ACS, 2017). People at high risk of developing CRC should discuss with their doctors about when to begin screening, which test is right for them, and how often to get tested.

Role of the DNP Student

As the DNP student, my role at my project site was that of leadership: facilitating, communicating, interacting to enhance team roles, and at the same time, preparing educational materials for practice change. A 2011 Institute of Medicine study asserts that everyone from the bedside to the boardroom must engage colleagues, subordinates, and executives so that together

they can identify and achieve common goals (IOM, 2011). Achieving common goals involves engaging one's team and providing the opportunity to share its expertise and insights in relation to the project. Coordinating, collaborating and communicating with the team and allowing it to share its experiences regarding planning, implementation, and dissemination. The study also discusses the importance of giving team members timelines to provide feedback on the responsibilities they were given, and reminders to keep them on track.

What's more, my professional role was grounded in the DNP positional statement found in the "Essentials of Doctoral Education for Advanced Nursing Practice: Interprofessional Collaboration for Improving Patient and Population Health Outcomes, Clinical Prevention and Population Health for Improving the Nation's Health and Advanced Nursing Practice" text.

My motivation for this doctoral project is personal. I am grateful for the professional role played by my nurse practitioner, who initiated and scheduled my colonoscopy. I do not have a family history of CRC but polyps were discovered, removed, and sent to pathology. I was fortunate that the polyps were not cancerous, so I am now motivated to educate nurses on CRC screening guidelines so that they can initiate testing in the communities they serve. Since my colonoscopy, I have spread the message to all my friends and family to get screened for CRC.

A potential limitation is that this acquired knowledge may not be sustained long term, as nurses may not be capable of following CRC screening guidelines due to their workloads. To address this potential barrier and sustain this change in practice after implementation and completion of the project, I sought approval from the medical director to include CRC screening guidelines as a part of nurses' yearly educational competencies. Yearly reviews of these CRC

guidelines will keep them updated on changes that may be made to the guidelines by the American Cancer Society.

Roles of the Project Team

The medical administrative assistant, and the medical director contributed evidence to address the practice-focused question. These people were chosen due to their professional experiences and respect from co-workers. These participants are relevant to the practice-focused question because they are responsible for the daily operations of the facility and have administrative and clinical experiences that are needed for the project.

Project team members were selected because they have specialized skills that are required to complete project tasks. The team assisted in planning and developing the educational program. They were presented with background information on the project at the first meeting, discussed, and incorporated their feedback into project planning, implementation, and dissemination. They received specifications about the expected deliverables, which include the education materials, a plan for the implementation of the education, and short/long term evaluation methods for final approval. The team was the key source of information for staff members' expressed needs and expectations of the project. Team members, in collaboration with the DNP student, arrived to a mutually agreeable timeline to review and provide feedback on the project. Team members met biweekly to discuss the projects and provide feedback on the progress made at different stages of the project. The feedback was then reviewed with the DNP student, and necessary corrections were made before adoption.

Summary

This DNP nurse educational project on CRC screening guidelines used the JHNEBP model. Increased use of simulated learning in nursing education that promotes learner-centered active learning, extended orientation and transition to Practice Programs for new graduates, dedicated education units, and academic service partnerships have been used in the past to address this gap in practice. My role as a DNP student in this project was to provide leadership and involve stakeholders for the improvement of CRC screening practice. The project team, which consisted of staff members whose opinions are well respected, assisted in project planning, implementation, and dissemination. My sources of evidence and individuals who contributed their knowledge and expertise to address my chosen problem are mentioned in section three.

Section 3 restated the practice focused question and provided evidence for the doctoral project. An analysis, synthesis, and summary can be found in this section as well.

Section 3: Collection and Analysis of Evidence

Introduction

The problem at my DNP nursing project site was that CRC screening guidelines were not incorporated in practice due to inadequate nurse knowledge. Therefore, the purpose of this project was to develop staff education regarding CRC screening guidelines. The ACS and the USPSTF recommends that adults age 50 to 75 be screened for colorectal cancer (Centers for Disease Control and Prevention, 2017). The decision to be screened after age 75 should be made on an individual basis (American Cancer Society, 2017).

This project site is in a city with a population of low to middle income individuals with an average of high school to college education. The facility is an urgent care/primary care center that provides yearly physical exams, follow-ups, and treats urgent medical conditions.

In this section, the practice-focused question is restated and my sources of evidence and evidence generated for this doctoral project are discussed. An analysis and synthesis of the systems used for recording, tracking, organizing, and analyzing the evidence is described. Also, the procedures I used to assure the integrity of the evidence are outlined

Practice-Focused Question

The local problem at this project site was that CRC screening is not being initiated by nurses. Patients were directed to this facility for CRC screening referrals. This gap in practice concerning nonadherence due to inadequate staff knowledge of CRC screening guidelines was addressed. This led to the practice focus question: “Would evidence based education regarding colorectal cancer screening be an effective means for nurse education, according to a panel of local experts?”

Developing staff education regarding CRC screening guidelines aligns with the practice question. If nurses complete the screening according to guidelines, they will assist in detecting CRCs earlier when the cancer is more easily treated. This project bridged the identified gap in practice concerning inadequate knowledge of colorectal cancer screening guidelines. It will increase nurses' knowledge when implemented and ultimately result in change in practice which will improve patients' quality of life.

Sources of Evidence

The literature and input from my team were the sources of evidence for developing the education. An additional source of evidence were the results of the evaluation from the team at the completion of the project and pretest results which revealed that nurses who participated had inadequate knowledge of CRC screening guidelines. The results of the pretests were examined in collaboration with the project team and a consensus was reached to focus nurses' education on all three sections of the educational materials on colorectal screening guidelines found in Appendix B. My project was complete when the education, plan for delivery, and plan for evaluation of learning was developed and handed over to the facility.

Literature

An educational intervention for nurse practitioners was demonstrated to increase CRC screening awareness and staff knowledge (Slyne et al., 2017). In their study, opt-in emails were sent to potential participants and consents were obtained from those who responded, and baseline surveys were given prior to delivery of the educational intervention (Slyne et al., 2017).

The survey used to examine nurse practitioners' cancer screening recommendations and practice was obtained from the National Cancer Institute's (NCI) website and was developed by

the NCI in collaboration with the Agency for Healthcare Research and Quality and the CDC (Slyne et al, 2017) and also assessed knowledge and attitudes regarding current colorectal cancer screening guidelines.

According to Slyne,et al, 2017, descriptive analyses were used to characterize sample demographics and the significant level of the analysis was set at 0.1 or less. Aggregate pre intervention, immediate post intervention, and 90-day post intervention survey scores indicated a significant difference between the preintervention and postintervention scores ($p = 0.09$) (Slyne et al, 2017). The scores demonstrated that nurse practitioners were able to better recall the current colorectal cancer screening guidelines after intervention (Slyne et al, 2017). The result of the study demonstrated that staff education can improve staff knowledge of CRC screening guidelines. Add synthesis and summary throughout this section. I have turned it into one paragraph because (a) the original paragraphs were not complete paragraphs and (b) it appears the entire section is about the same study. Add analysis to balance out the use of cited information from the literature with your own synthesis and summary. Add information to connect back to your study and explain why this particular literature pertains to your work.

Evidence Generated for the Doctoral Project

The initial education program draft, as developed from the literature, was presented to the planning team during team meetings. The planning team consisted of individuals at the facility that are knowledgeable about colorectal cancer screening guidelines and have participated in previous educational projects at the facility. Three individuals contributed evidence to address my practice focused question. These individuals include the nurse practitioners, medical support assistants, and the medical administrative assistant. They

were selected by the medical administrative assistant based on previous experiences on similar educational projects and their tenure and experience on the job. These participants are relevant to the practice focused question because of their experiences and participation in past projects at the facility.

These participants are relevant to my practice-based question because they are directly involved in patient care and the daily operations of the clinic. They understand preventive medicine the importance of CRC screening. Their educational background, knowledge, and past participation in educational projects at this facility was valuable in this project. The team reviewed some of the results from a pretest evaluation of knowledge regarding CRC screening that was administered to nursing staff from the site, and the results were used to help guide the development of the education program. The resulting feedback from the planning team was incorporated into the education program and presented to the team during a second meeting. The team also assisted with planning for the future implementation of the education, after completion of this project.

Ethical protection of participants in the planning team was ensured by obtaining informed consent, safeguarding privacy, and permitting participants to withdraw participation whenever they wish without penalty. Participants were made aware of the duration of the project, and any risks or benefits that may be present as a result of participation.

The Walden University IRB is responsible for ensuring that all Walden University research complies with the university's ethical standards as well as U.S. federal regulations. Walden’s IRB approval was required before collection of any data, including pilot data. Since Walden University does not accept responsibility for research conducted without the IRB's

approval, it was very important to comply with the policies and procedures related to ethical standards in research. The IRB application was completed and approved before commencement of the project.

Analysis and Synthesis

Computers, Excel spreadsheets, and Microsoft Word are systems I used for recording, tracking, organizing, and analyzing evidence. Computers were used to access the internet for educational information, storage of information retrieved, data processing, presentation of information and communication between the team. It was also useful in documenting, tracking, and organizing my project. My responsibility as a DNP student was to uphold the integrity of the evidence, including approaches to managing outliers. This responsibility started with constant exercise of my judgment, striving to avoid bias consciously or unconsciously. I was aware of my personal potential bias in designing, carrying out, evaluating, and reporting evidence. Data collected from subjects were maintained in a secure location, on a password protected computer hard drive.

Summary

The sources of evidence used to address the practice problem are the ACS colorectal screening guidelines, the UUSPSTF, the CDC's CRC screening guidelines, and other published literature. The planning team's input based on their experience contributed evidence to address my practice-focused question. The deliverables of this project included the education program materials, along with plans for delivery and evaluation of learning later. The team members provided evaluation of the planning process at the completion of the project.

In Section 4, the findings and recommendations of the project is explained. These include the findings and its implications, recommendations, contributions of the doctoral project team, and the strengths and limitations of the project.

Section 4: Findings and Recommendations

Introduction

The local nursing practice problem at my project site was inadequate nursing knowledge on CRC screening guidelines. At this facility, CRC screening was not being initiated by the nursing staff. Patients were referred by health insurance companies for screening or treatment. Upon incidental findings of colorectal polyps or cancers, these patients were referred to my project facility then referred to gastrointestinal specialists for treatments and surveillance. This was not in compliance with the ACS screening guidelines and created a gap in practice. The ACS, 2017 screening guidelines state that CRC screenings should be initiated by healthcare providers for adults at age 50 and above.

The purpose of this educational project was to develop staff education on colorectal cancer screening guidelines as specified by the ACS. The practice focused question was "would evidence based education regarding colorectal cancer screening be an effective means for nurse education, according to a panel of local experts" With an increased awareness of ACS CRC screening guidelines, nurses can better promote CRC screening. The sources of evidence were the literature, input from the project team, and the results of evaluation by the team at completion of the project.

The ACS (year) posited that increased screening correlates with a significant reduction in CRC incidence through the detection and removal of adenomatous polyps and other precancerous lesions. The ACS, 2017, claimed that increased screening also correlates with a reduction in mortality due to incidence reduction and early detection of CRC. According to the

ACA, there is no sure way to prevent CRC. However, screening and surveillance for CRC can reduce the risk.

The literature and input from my team were the sources of evidence for developing the education. An additional source of evidence were the results of the evaluation from the team at the completion of the project and pretest results which revealed that nurses who participated had inadequate knowledge of CRC screening guidelines. Descriptive analyses were used to describe the features of the data collected and provided summaries about the sample size and data included in the table. This included the mean, mode, median, or standard deviation.

Findings and Implications

Educational materials and pretests were retrieved from the CDC and can be found in Appendix D. Results of the online pretests taken by the nurses from the project site are shown in Table 1.

Table 1

Pretest Results

Pretest Questions	Nurse 1	Nurse 2	Nurse 3
Age to begin CRC screening	Knowledgeable	Inadequate knowledge	Competent
Best colorectal screening tests available for an average risk patient	Needs teaching	Inadequate knowledge	Inadequate knowledge
When an average risk patient with normal colonoscopy should be screened next	Inadequate knowledge	Inadequate knowledge	Inadequate knowledge
The age to stop CRC screening	Need more knowledge	Inadequate knowledge	Inadequate knowledge
whether stool blood test using a stool sample collected during a direct rectal exam (DRE) is a good way to screen patients.	Knowledge deficient	Inadequate knowledge	Inadequate knowledge
what patients should know about how to achieve a good bowel prep	Knowledge deficient	Inadequate knowledge	Deficient
medical education pertaining to detailed screening and surveillance guidelines based on personal and family history.	Knowledge deficient	Inadequate knowledge	Deficient

The pretest results revealed that nurses who participated had inadequate knowledge of CRC screening guidelines. In Part 1, only nurse one knew when patients should start screening.

Other nurses had inadequate knowledge on the best colorectal screening tests available for an average risk patient, when an average risk patient with normal colonoscopy should have the next screening, and the age at which to stop CRC screening. In Part 2 of the pretest, all three nurses lacked knowledge on whether stool sample collected during a direct rectal exam (DRE) is a good way to screen patients for CRC. They were also deficient in knowledge about which patients, based on personal and family history, should be educated about how to achieve good bowel preps and other medical education pertaining to detailed screening and surveillance guidelines. The pretest also revealed inadequate knowledge in Part 3 on the elements of high-quality stool testing, selecting an effective test, identifying eligible patients, communicating with patients effectively, high-quality test handling and processing, ensuring high test completion rates and follow-up after abnormal test results.

The project team and I met as a group, analyzed the results of the pretests, and came to a consensus on areas of focus in this project. These pretest result findings suggested nurses did not have the knowledge to effectively promote and educate patients about the need for CRC screening. My project site could be negatively affected because CRC screening was not being effectively promoted by staff, resulting in problems with surveillance of patients with advanced cancer.

After incorporating the team's expert input, we revised the initial education draft and developed a final education program plan. The project deliverables, consisting of the final education program, plan for implementation, and plan for evaluation, were sent to the medical director for approval. Upon approval by the medical administrator, a pilot study, which involved implementation of the change and evaluation of results will follow.

Upon completion of the project and development of the final deliverables, the planning team completed a project evaluation (see Appendix B). All members of the team strongly agreed that the project should be implemented and evaluated as planned.

One unanticipated limitation of this project was staff mental and/or physical fatigue. Since the pretest was done after long work hours, nurses reported fatigue and decreased mental focus while taking the pretests. Another unanticipated limitation was attendance; nurses who participated rushed the tests so that they could go home after a long day's work, which may have negatively affected the results of the pretests.

Nurses' education about CRC screening guidelines has enormous implications for individuals in the community they serve. Some individuals may not understand the high incidence rate of CRC or the potential benefits of CRC screening/prevention measures. Per Mahon (2017), 33% of eligible adults in the United States have never been screened. However, the USPSTF, 2015 updated their recommendations in 2016 and clearly emphasize that medical staff should stress the convincing evidence that CRC screening can help save lives. Taking a few minutes to communicate this information to patients can influence their decision to engage in CRC screening. This is especially important in communities where patients in ethnic minority groups tend to have later-stage diagnosis and higher mortality.

This educational project impacted the community it serves by providing improved population health, as evidenced by increased CRC cancer screening rates in the community. This project has changed in the institution's culture by creating awareness of the need for compliance with CRC screening guidelines. It is also true that a systems change has resulted from this project, seeing as the root causes of the practice problem (which are often intractable and

embedded in the networks of cause and effect) have been addressed. This project was an intentional process designed to fundamentally alter structures and move the system to operate in compliance with CRC screening guidelines.

This educational project aimed to empower nurses to promote screening as a result of increased knowledge on screening guidelines. There has been increased participation in CRC screening in the community served by the organization. This increased participation resulted in better patient outcomes and better quality of life as evidenced by a decrease in CRC cancer diagnosis. Slyne, et al, 2017 posits that an educational intervention for nurses increases CRC screening awareness, staff knowledge and patients' outcomes. With proper screening techniques, CRC would be diagnosed early and treated before the cancer becomes malignant. With better quality of life, people in the community will not have to manage cancer in advanced stages with the hospitalizations that are often required.

This education project has promoted Walden's vision of positive social change as it is a deliberate process of creating and applying ideas, strategies, and actions to promote the worth, dignity, and development of individuals, communities, organizations, institutions, cultures, and societies. (Walden University, 2017). For example, consistent screening is consistent with the goal of the organization to promote a culture of health.

Recommendations

The team recommended that the educational program be designed with flexibility in mind and administered either via computer or printed forms depending on staff preferences. It was self-paced and easily accessible by staff outside work hours for convenience. The educational program consists of three parts with pop quizzes in each section of the education materials. The

plan was to focus on areas in which nursing staff exhibited insufficient competency based on the pre-test evaluations. The proposed educational material for the program is the CDC's education for physicians and nurses, retrieved from the CDC website and developed by a group of nationally recognized experts in colorectal cancer screening (among which were primary care clinicians, gastroenterologists, and leaders in public health programs and research). The objective of the course was to have nursing staff to be able to understand and explain the importance of CRC screening and screening options to patients. The staff would also be proficient in identifying the elements of a high-quality stool blood testing and the characteristics of high-quality colonoscopy services.

Part 1 included basic information about colorectal cancer, CRC screening, and factors to consider when and how patients should be screened. It also consisted of detailed screening and surveillance guidelines based on patients' personal and family histories.

Part 2 focused on why stool blood testing should be offered to patients as well as the elements of high-quality stool testing. Such elements are selecting an effective test, identifying eligible patients, and communicating with patients effectively. Other elements of high-quality stool testing include high-quality test handling and processing, ensuring high test completion rates, and following up after abnormal test results.

Part 3 described the role of nurses in delivering high-quality screening. Such roles include pre-procedure risk assessment, guidance on bowel preparation and sedation, interpretation of the endoscopy report, appropriate follow-up for incomplete exams, and the composition of questions to ask the endoscopist in order to be sure he or she is providing high-

quality exams. My DNP projects ended when all deliverables were submitted to the project site for future implementation and evaluation.

The implementation and evaluation methods to be used in the future by the project team were discussed on two different occasions. The doctoral project team and I collaborated during the planning phase to decide how the project would be implemented in the future. The doctoral project team was presented with background information on the project. Next, the project team held a meeting with clinic staff to discuss the best way to implement the project. Taking staff considerations into account, the project was designed to take place during staff down-times or at home: whichever proved most convenient. Staff workload was a major concern in project planning. The project team met again with me to address this and solidify plans for the project's implementation. The team's expert feedback was incorporated into the project planning, implementation, and dissemination. One of the feedback suggestions was to complete each part of the educational project within 2 weeks and allow staff participate at their downtimes. The reason for a timeframe was to alleviate redundancy and ensure that everyone was on task. Another suggestion from the team was to discourage staff from staying at work for longer hours to complete the education because leadership is not willing to pay overtime.

Implementation

The developed project materials (pre-test/post-tests, program evaluation materials, participants program evaluation and the educational presentation instructions) will be handed to the project team for implementation. The project team will then decide on when to start the implementation and the method of implementing this project. They also decide whether to administer it electronically or in print depending on staff preferences. The team has decided that

a score of 80% or more is required to pass the post-test. Upon completion of the program education, post-test will be administered using the same questions as the pre-tests to determine the effectiveness of the education project. If a score of 80% is not achieved, the whole program will be repeated until the required score is achieved. Each staff member will submit a program evaluation after project implementation. The program evaluation can be found in appendix C. Future monitoring of patient records by the administrative team will provide information about the effectiveness of the education to promote CRC screening.

Contributions of the Doctoral Project Team

The project team was the key informant of staff desires and expectations. The team included the nurse practitioner, medical support assistants, and the medical administrative assistant. The project team was responsible for project implementation and evaluation. One team member, the medical administrative assistant, was responsible for developing the project, planning and managing deliverables according to plan. He was also responsible for recruiting project staff. The nurse practitioner was responsible for leading and managing the project team and determining the methodology to use during the project. He was also involved in establishing the project schedule and determining when each phase should start or end. The medical support assistant assigned tasks, kept minutes of meetings, and provided regular updates to the team.

The team provided assistance during the planning and development of this educational program. They were presented with background information on the project at the first meeting, discussed it, and incorporated their feedback into the project's future planning, implementation, and dissemination. They were given deliverables, which included the education materials, a plan

for the implementation and delivery of the education plan, and short/long term evaluation methods for final approval.

Team members in collaboration with the DNP student arrived to a timeline to review and provide feedback on the project. The team members met with the DNP student biweekly to discuss the project and provide feedback on progress made at different stages of the project. Feedback was reviewed, and necessary corrections were made before adoption. Future meetings were scheduled with a consensus of the team and items for future discussions were outlined.

Strengths and Limitations

One of the strengths of this project is its easy accessibility. Due to its easy accessibility, nurses completed the projects at their leisure without fatiguing. Easy accessibility fostered interests in participation among staff

Due to easy accessibility, attendance was not an issue since the course materials were easily accessible online. Staff need not stay long hours at work or claim overtime pay. They will be able to participate at their own pace on their own time, and complete their tasks within the set deadline.

A limitation of this project is that, after completion, staff may not retain the knowledge they acquired long-term. A recommendation is to include this educational course in the organization's yearly nurses' competencies assessment, so that the information acquired may be retained long-term.

Since nurses have very limited time with patients, another limitation is that nurses may not be able to continue to promote CRC screening in this patient population due to high

workloads. A recommendation is to incorporate CRC screening questionnaire in the nurses' assessment checklist so that CRC screening is not neglected.

Summary

Upon completion of the pretest, the identification of knowledge areas that need to be addressed enabled the project team to plan the project effectively. Implementing this project in a manner allowed for easy access, reduced fatigue, and alleviated attendance problems. The plans to disseminate this project to the institution experiencing the practice problem are described in section 5. The audiences and venues that would be appropriate for dissemination of the project to the broader nursing profession are clarified there as well. A self-analysis in the role as practitioner, scholar, and project manage draws a connection between this project experience, present state, and long-term professional goals. Lastly, section 5 also discussed challenges, solutions, and insights gained on the scholarly journey.

Section 5: Dissemination Plan

Introduction

Plans to disseminate the project, appropriate audiences, and venues are clarified in this section. I provide a self-analysis in my role as a practitioner and a scholar, drawing connections between this project experience, present state, and long-term professional goals. At the completion of the project, challenges, solutions, and insights gained on my scholarly journey are described.

Dissemination is essential for uptake of evidence-based practice. This is crucial for the success and sustainability of evidence-based practice in the long term. All dissemination has a purpose to support project development. The purpose of disseminating this project was to promote, raise awareness about, and educate nursing staff on CRC screening guidelines.

An appropriate audience for future dissemination of this educational project is nurses at the Greater Los Angeles Health care system located in Los Angeles, California. Inpatient and outpatient nursing staff at Greater Los Angeles Healthcare system will benefit from this educational program because it will increase their knowledge of CRC screening, thereby promoting screening among the veteran population. I also plan to give a presentation on CRC screening guidelines at the Veterans hospital in West Los Angeles during 2020 Nurses' Week. This presentation is expected to educate nurses in this organization so that they are equipped to promote CRC screening among the veteran population.

Analysis of Self

As a project manager, scholar, and practitioner, my responsibilities included planning the project, defining the purpose of the project, scope, goals and deliverables. I also defined tasks,

managed the project team, allocated resources, and created schedules. I collaborated with the project team in planning project timelines and tracked deliverables. With this project experience, I have acquired more knowledge in coordination, collaboration, and leadership skills. These experiences have improved my organizational skills and have given me the confidence required in organizational leadership. In this project. I have acquired the transformational change required in the DNP essentials by developing advanced competencies for complex practices and leadership roles. My knowledge on how to improve nursing practice and patient outcomes has been enhanced as a result of this project. As a result of my experiences in this project, I now have a passion for improving nursing practice and organizational practices that will improve patients' experiences and outcomes. One of my future projects to improve patients wait times at the laboratory at my place of work. Upon completion of this program, I plan on writing a proposal on improving patients' throughput at the laboratory.

One of my long-term professional goal is to assume a leadership role in nursing. I also want to educate future nurses in organizational and clinical nursing by sharing my clinical experiences and knowledge. My long-term goal is to continue to find areas in nursing practices that need improvement in order to create positive changes in the society served by nurses.

It has been a difficult but rewarding journey in this project. The completion of this project is a bittersweet experience: It is bitter because I will miss my project team who have been very helpful throughout this project. We bonded in coordinating the project and giving ideas on better ways to plan and implement the project. I will miss those informative and inspiring meetings. It is sweet because I was able to accomplish my project goals of creating a change in the organization, nursing staff, and community.

A major challenge I encountered was getting leadership approval for my project. When my project was introduced and discussed with the director of the organization, there was some push-back. However, he allowed nursing staff to take a pretest and was convinced by the results. Well-documented evidence, such as the pre-tests results of staff knowledge of CRC screening, was very helpful in resolving this problem.

Another challenge was finding a suitable time and method for implementing the project since staff have busy schedules and hardly had time for continuing education. Flexibility and easy accessibility of the educational materials were two solutions to this problem. This program was designed to be done electronically or in print, whichever the staff preferred. Staff members were also allowed to do the program at their leisure, which encouraged participation.

Another challenge was overtime pay for time spent during the project after work hours. The organization was willing to pay staff overtime. This challenge was resolved by allowing staff participation online at their leisure, so long as the scheduled deadlines were being met.

The insight gained during this scholarly project is an increased awareness of the responsibilities of a doctorally-prepared nurse scholar in becoming a future nurse leader. I now understand what implementation, planning, and disseminating a project entail. The value of cooperation and buy-in from leadership and the project team cannot be under-estimated. They are essential for the entirety of project planning, implementation and dissemination.

Summary

When nurses are empowered through continuing education to take the lead in educating patients about monitoring their health in areas where early recognition can make the difference between life and death, they can make a difference, not only in the patient and family's life but

also in the organization, community, and nursing profession. Nursing education on CRC screening guidelines will empower nurses to take the lead in promoting screening in this patient population where early diagnosis of CRC can save lives because if detected and treated early, mortality rate from CRC will be decreased. Improved CRC screening knowledge will also improve nursing practice as they stick to guidelines.

The organization will be positively impacted as a result of this educational project because there will be improved patient care and they will draw from this educational experience to fix other areas of practice that are not in compliance with treatment guidelines.

If patients are cancer free, it will positively impact the community because they will spend valuable time with family and friends which could have been spent in treatments and long hospitalizations which comes with this diagnosis. They will hold good paying jobs that will enable raise their families and contribute to the country's economy.

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Appendix A: Pretests and Posttests

PRETESTS: PART 1

1. What is the best CRC screening tests for average risk population?

2. When should an average- risk patient with normal coloscopy be screened?

3. At what age should patients no longer be screened?

PART 2

1. Why is it important to offer stool blood testing as option for screening?

2. Is screening with a standard guaiac-based test like hemoccult 11 a good way to screening for CRC?

3. Is performing a stool blood testing using a stool sample collected during a DRE a good way to screen your patient?

4. Should you recommend an interim stool blood test to an average risk patient who had a normal colonoscopy several years ago?

PART 3

1. Are you receiving adequate report from the endoscopist?

2. Are some endoscopists better than others in finding adenomas?

3. What should you be asking the endoscopies to be sure he or she is providing high quality exam?

Appendix B: Stakeholder/Team Member Evaluation of DNP Project

Problem: Developing staff education on CRC screening guidelines

Purpose:

Goal:

Objective:

Scale: SD=Strongly Disagree D=Disagree U=Uncertain A=Agree SA=Strongly Agree

1=SD 2=D 3=UC 4=A SA=5

Q1 Was the problem made clear to you in the beginning? ___ ___ ___ ___ ___

Q2 Did the DNP student analyze and synthesize the ___ ___ ___ ___ ___

evidence-based literature for the team?

Q3 Was the stated program goal appropriate? ___ ___ ___ ___ ___

Q4 Was the stated project objective met? ___ ___ ___ ___ ___

Q5 How would you rate the DNP student

leadership throughout the process? ___ ___ ___ ___ ___

Q6 Were meeting agendas sent out in a timely manner? ___ ___ ___ ___ ___

Q7 Were meeting minutes submitted in a timely manner? ___ ___ ___ ___ ___`

Q8 Were meetings held to the allotted time frame? ___ ___ ___ ___ ___

Q9 Would you consider the meetings productive? ___ ___ ___ ___ ___

Q10 Do you feel that you had input into the process? ___ ___ ___ ___ ___

Q11 Please comment on areas where you feel the DNP student

Q11 Please comment on areas where you feel the DNP student excelled or might learn from your advice/suggestions:

Appendix C: Program Evaluation by Participants

Educational program has flexibility because it can be administered either via computer or printed forms depending on staff preferences. 100%

The program was self-paced by staff which created interest in participation. 100%

The project's focus is in areas where nursing staff exhibited insufficient knowledge based on the pre-test evaluations. 100%

The stated practice-focused question was appropriate 100%.

The stated program goal was appropriate 100%

The stated project purpose was appropriate 100%

The stated project objectives were met 100%

The implications resulting from the findings in terms of individuals, systems and the institution were beneficial 100%

The project has potential implications to positive social change 100%.

Appendix D: Educational Program Materials

Part 1 • Part 2 • Part 3

Links to the presentations:

To save them on your computer, right-click on the link and select “Save Link As” or “Save Target As.”

Part 1 Cdc-pdf[PDF-1MB]

Part 2 Cdc-pdf[PDF-661KB]

Part 3 Cdc-pdf[PDF-1.2MB]

It may be helpful to print the presentations for reference during and after viewing the videos.