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Colorectal Cancer Educational Program in a Community Senior Center

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Abstract

Colorectal cancer (CRC) is a preventable cancer but prevention can only occur through screening. Screenings are recommended for those 50 to 75 years of age, however rates remain low with 25.6 percent having never been screened and 7.1 percent not up-to-date. The U.S. Preventive Services Task Force (USPSTF) recommends strategies such as education to increase screening rates. Education may be used to inform and motivate individuals to be screened. Research supports the use of educational activities in a community setting to increase CRC knowledge and increase CRC screening rates. A group educational program using the Centers for Disease Control's (CDC) *Screen for Life:* National Colorectal Cancer Action Campaign materials was conducted in a community senior center. This project was in partial fulfillment of the requirements for the degree of Doctor of Nursing Practice at Eastern Kentucky University. The purpose of the project was to increase knowledge about CRC. The *Screen for Life* Campaign quiz was utilized to assess change in knowledge using a pre-test/post-test design. A convenience sample of nine seniors participated in the educational program and completed the assessment. There was a significant increase in mean scores from pre- to post- test ($p < .007$). This project supports the use of education to increase CRC knowledge.

Keywords: Colorectal Cancer (CRC), Health Belief Model (HBM)), Johns Hopkins Nursing EBP (JHNEBP), Center for Disease Control's (CDC) *Screen for Life*: National Colorectal Cancer Action Campaign

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Appendices: For additional information about this project please contact Cathy Catlett at catlett.cathy@gmail.com

Colorectal Cancer Educational Program in a Community Senior Center

Background and Significance

Colorectal cancer (CRC) is the second leading cancer related death in the U.S. and equally affects men and women (Centers for Disease Control and Prevention [CDC], 2019a). The CDC reports it is the third most common type of cancer (CDC, 2019d). Colorectal cancer occurs at higher rates in individuals over 50 years of age. Cancer may be prevented by discovering and removing precancerous polyps during screening (CDC, 2019a). Additionally, screening may find cancer at an early stage leading to early treatment and a possible cure. The U.S. Preventive Services Task Force (USPSTF, 2019) recommends screening for CRC to start at 50 years of age and continue until 75 years of age. Screenings for adults aged 76 to 85 years is decided on an individual basis considering overall health and screening history. Screenings include four methods of stool-based tests and four methods of direct visualization tests. The decision as to what type of screening should be patient specific with guidance from a provider.

Screening, starting at the age of 50, is the most effective method to reduce the risk of CRC (CDC, 2019a). While CRC screening rates increased from 66.2 percent in 2014 to 67.3 percent in 2016, one quarter of adults aged 50 to 75 years have never been screened (CDC, 2016). A goal of Healthy People 2020 is to improve the overall health of older adults (Office of Disease Prevention and Health Promotion, 2019). Increasing the screening rates of older adults through preventive services including screening for CRC is one of the Healthy People 2020 objectives. Under the Patient Protection and Affordable Care Act of 2010 (Medicare.gov., n.d.), Medicare covers preventive services, such as CRC screenings. The USPSTF (2019) proposes implementing strategies for informed decision making so individuals will complete a recommended screening. A CRC educational intervention was reported to increase screening

rates in 19 studies in a systematic review and meta-analysis conducted by Dougherty et al. (2018). Effective strategies to increase screening rates include patient navigation, reminder systems, reducing barriers, and providing one-on-one or group education. Providing information about CRC, benefits of screening, and types of screening methods may be used in a group setting to motivate individuals to get screened (Alizaga, Holm-Hansen, Kelly, & Atella, 2012).

Evidence-based Intervention

The Doctor of Nursing Practice (DNP) project was to implement an educational offering to willing members who participate in activities within a community senior center. The intervention was based on guidelines from the CDC's (2017a), *Screen for Life*: National Colorectal Cancer Action Campaign. The group educational session focused on the importance of CRC screening, age recommendations for screening, risk factors, and the different types of screening tests.

Purpose of the Project

The purpose of this DNP project was to increase CRC screening knowledge in an elderly population.

Theoretical Framework

Understanding attitudes and personal beliefs of individuals about health promotion decisions is helpful in developing health screening programs. The Health Belief Model (HBM) was developed in the 1950's by Hachbaum, Kegeles, Leventhal, and Rosenstock to explain health prevention behaviors (Rosenstock, 1974). Constructs of the HBM include: (a) perceived susceptibility; (b) perceived severity; (c) perceived benefits; (d) perceived barriers; and (e) cues to action. The theory was later expanded by adding the self-efficacy component (Rosenstock, Strecher, & Becker, 1988). The HBM proposes that for an individual to participate in a health

promoting behavior, such as CRC screening, they must believe there is a risk of developing CRC (perceived susceptibility) and that CRC is a serious condition (perceived severity) that could affect their health (Rosenstock, 1974). The individual would believe that taking action, by undergoing CRC screening is beneficial (perceived benefit) and they would need to evaluate and overcome obstacles (perceived barriers), such as the screening cost, inconvenience, and/or pain. Learning about risk factors of CRC, the seriousness of CRC, and the type of screenings available may help an individual to decide (cue to action) to be screened. The individual then must be confident (self-efficacy) in their ability to complete the screening (Rosenstock, et al., 1988).

The HBM can be used in planning activities to educate individuals about CRC to influence the likelihood of participating in screening. The theory can be used by focusing on the benefits of screening as a component of an educational program. The HBM was used by Hughes, Watanabe-Galloway, Schnell, and Soliman (2015) in understanding low CRC screening rates in rural Nebraska areas. They developed a questionnaire based on the HBM to identify factors associated with screening. They reported the participants perceived cost, embarrassment, and unpleasantness as barriers to receiving a colonoscopy. Identifying and understanding perceived barriers and helping patients overcome these is important when implementing a health promotion event.

Review of the Literature

A literature search was conducted using the Cochrane Library, PubMed, Cumulative Index of Nursing and Allied Health Literature (CINAHL) databases to identify research that supports education as an intervention to increase rates of CRC screening. Multiple searches were conducted using key terms, including colorectal screening, CRC screening rates, CRC education, CRC risk awareness, and CRC risk assessment. Twenty-two studies were found including four

systematic reviews and meta-analyses within the past five years. Five primary quantitative studies were evaluated with education as an intervention.

Briant et al. (2015) conducted a randomized control trial (RCT) to assess methods for increasing knowledge about CRC at health fairs. The study included participants (N = 273) at six health fairs over four months. The participants were randomly assigned to receive educational material provided at a table (n = 139) or tour an inflatable colon (n = 134). Knowledge of CRC was measured using a 12-item pre- and post-questionnaire. There was a higher percent in correct answers of increased awareness using the inflatable colon compared to table material (33 % vs 15%). However, the difference between the groups was not significant ($p = 0.17$). Knowledge of risk factors was higher in the inflatable colon group compared to the tabling group (7% vs 2%), but was not statistically significant ($p = 0.09$). Follow-up phone calls were made for one month to assess retained knowledge. Significant improvement was not found in either group. This study has value to the proposed intervention of education, as the researchers concluded education is important in increasing awareness of CRC and overall CRC knowledge in a community setting.

A descriptive study conducted by Crookes, Njoku, Rodriquez, Mendez, and Jandorf (2014) used education and peer testimony as interventions to increase CRC screening rates. There were 66 educational programs in 10 churches and senior centers. The sessions consisted of lecture style classes conducted by a health educator. The participants (N = 668) were over the age of 50 years and completed a 16-item pre- and post-test about CRC. The pre- and post-test was comprised of true/false questions about rates of CRC, risk factors, screening methods, and symptoms. The outcomes were measured by percentage of correct responses. There was an increase in knowledge from pre-test ($M = 57.75$, $SD = 24.57$) to post-test ($M = 74.98$, $SD = 22.87$); $t(560) = 18.67$; $p = 0.000$ (two-tailed). The mean knowledge score increase was 17.22,

95% CI, 15.41 to 19.04. Program evaluation was conducted including asking about impact of the education on commitment to get screened. Sixty-eight percent of the participants who had never been screened reported an intent to screen within the next 12 months. This study supports the use of education when conducting a program in a community setting similar to the one proposed at the senior center.

Skinner et al. (2015) evaluated the use of risk assessment and tailored CRC printed information to increase screening rates of patients in a primary care setting. The RCT included patients (N = 1,012) within three primary care offices. The participants were randomized into three groups. Group one (n = 329) completed a CRC risk assessment and were given tailored information about individual risk factors and CRC screening. Group two (n = 322) completed the risk assessment and were not given tailored information. Group three (n = 361) was the control group and did not receive a risk assessment or any information but received standard care. A chart review was conducted 12 months after the intervention to assess those who received CRC screening. Screening rates were three times higher for those in groups one and two, who used the risk assessment and received any type of information compared to the no-contact control group for all ages (47% vs. 16%, $p < 0.0001$). Screening rates for those over the age of 50 years in group one and two, who completed a risk assessment was higher for the tailored group compared to the non-tailored group (53% vs. 44%: $p = 0.23$). There may be benefit in identifying risk factors to increase screening rates.

Salimzadeh, Eftekhar, Majdzadeh, Montazeri and Delavari (2014) used concepts of the preventive health model in an intervention to increase CRC screening rates. A RCT was conducted among participants (N=360) of 12 health clubs. The control group (n =143) did not receive any CRC education and the intervention group (n = 170) received theory-based CRC

education, along with a reminder phone call. The intervention group had a higher rate of screening (31%) completion compared to the control group (2.8%) after four months (OR=15.9, 95% CI = 5.57, 45.53). An 8-item true/false questionnaire was used to assess knowledge (Cronbach's alpha = 0.81) about CRC risk factors and screening tests. There was not a significant difference (p's > 0.05) in the intervention compared to control group at baseline. There was a significant difference (p's = < 0.001) in knowledge between the intervention group and the control group after the educational session at follow-up. A questionnaire was used to assess the preventive health model constructs including self-efficacy (alpha = 0.86), perceived susceptibility (alpha = 0.80), worries of test and cancer (alpha = 0.78), efficacy of screening (alpha = 0.50), social support (alpha = 0.70), and intent to screen (alpha = 0.77). The theory-based intervention significantly increased self-efficacy, perceived susceptibility, efficacy of screening, social support and intent to screen (p's < 0.001). The results revealed the participants in the intervention group were 16 times more likely to undergo screening tests compared to the control group. An educational program based on a behavioral theory can expand CRC knowledge and ultimately lead to increased rates of screening.

Sohler, Jerant, and Franks (2015) conducted a RCT examining factors of the Expanded Health Belief Model (EHBM) and the association of these factors with CRC screening. The participants (N = 1,101) were patients in primary care clinics at five sites. Participants were arranged by ethnicity and language then grouped using a random number generator (Jerant et al., 2014). Participants completed a baseline questionnaire and an EHBM tailored program prior to their primary care provider visit. The results of the one-year follow-up found 250 participants (22.7%) completed a CRC screening. The researchers reported an increase in CRC screening related to self-efficacy (OR = 1.32, p = 0.001), readiness (OR = 2072, p < 0.001), and discussion

with a provider (OR = 1.59, p = 0.009). Education, specifically based on a health theory can be used in screening promotion events.

Synthesis of the Literature

There were similarities in the studies but also some distinct differences. The purpose of all the studies was to increase CRC screening rates. The setting for the studies by Skinner et al. (2015) and Sohler et al. (2015) was in primary care offices and the other three studies were in a community setting. Sohler et al. (2015) sample included participant's age 50 to 75 years and so did Skinner et al. (2015). However, Skinner et al. (2015) included separate findings for participants aged 24 to 49 years with extensive risk factors. Briant et al. (2015) included all ages in their sample. Only two of the studies (Crookes et al., 2014; Salimzadeh et al., 2014) sample population included individuals aged 50 years old and greater. It is important to consider the age of the participants because those not in the recommended screening age may impact the study, as in the case of Briant et al. (2015), where participants did not retain the knowledge.

Health insurance is important to consider when attempting increasing CRC screening rates because cost can be a factor in not getting screened. In one study (Briant et al., 2015), less than half the participants had health insurance. The other studies had higher rates of 80 to 100 percent of the participants reported having health insurance (Crookes et al., 2014; Salimzadeh, et al., 2014; Skinner et al., 2015; Sohler et al., 2015).

Increased screening rates were reported in three studies (Salimzadeh et al., 2014; Skinner et al., 2015; Sohler et al., 2015). A strength to two studies is screening rates were confirmed by a medical record review (Skinner et al., 2015; Sohler et al., 2015). Whereas, a weakness to one study is the screening rates were self-reported (Salimzadeh et al., 2014). Intent to screen was

reported in one study (Crookes et al., 2014). An increase in knowledge about CRC was reported in three studies (Briant et al., 2015; Crookes et al., 2014; Salimzadeh et al., 2014).

All the studies included risk factors either in educational material or by including a risk assessment (Briant et al., 2015; Crookes et al., 2014; Salimzadeh et al., 2014; Skinner et al., 2015; Sohler et al., 2015). Education about CRC was included in all five studies with some type of printed material. Print material was used as back up, or as additional material for the participants to take with them if some computer programs were used.

Crookes et al., (2014) was the only study to conduct a program evaluation to determine the impact of the program in influencing individuals to commit to screen. Influence of healthcare professionals as a factor in screening rates was reported in two studies (Skinner et al., 2015; Sohler et al., 2015). Three studies used a health promotion theory in understanding factors related to health behavior decisions (Salimzadeh et al., 2014; Skinner et al., 2015; Sohler et al., 2015).

Agency Description

Setting

The educational event took place in a county government sponsored community senior center that provides activities and services, including educational programs. Members of the center must reside within the county limits, be age 60 years or older, or the spouse of a person age 60 years, and physically able to participate in activities without supervision or assistance (Division of Aging & Disability Services, 2018). The community center is a 33,000 square foot building with two designated classrooms, fitness rooms, art rooms, a dining room, a library, and an outdoor patio. The hours of operation are Monday through Friday 8 am to 5 pm.

Target Population

The average daily attendance at the center was 299 members in 2018. The age of the participants for 2018 was 1.1% ages 50-59 years, 39.5% ages 60-69 years, 40.3% ages 70-79 years, 11.1% ages 80-84 years, and 7.6% ages 85 years and older. The target population included senior center members age 50 years and older.

Congruence of DNP Project

According to the center's 2018 annual report, education was one of the most frequently listed reasons by the members for joining (Division of Aging & Disability Services, 2018). The project was congruent with the senior center meeting the goal of providing educational offerings promoting health. According to a center staff activity planner (A. Patrick, personal communication, April 18, 2019), the center had not sponsored a CRC awareness event and supported the project. Assessment can identify needs of the community and ways to improve educational programs. The center supported evaluating the program for its impact, as well, as value to the participants. Program evaluation can help determine the success of the event and impact on commitment to get screened by the participants (Alizaga et al., 2012). Participants were asked if the education was helpful to assess value and asked about intent to screen to determine the impact.

Stakeholders

Stakeholders include the senior center members, senior center staff, healthcare professionals, and government agencies. The senior center members participating in the program may benefit from the free education. The ultimate outcome is individual screening and the ultimate output would be removal of polyps and/or early detection of cancer. Medicare is stakeholder for payment of preventive CRC screenings (Medicare.gov, n.d.) and increased

screenings would increase Medicare costs. However, there would be costs savings compared to cost of cancer treatment.

Project Design

The project design was a one-group pre-test/post-test comparison of CRC screening knowledge. The *Screen for Life* Campaign quiz (CDC, 2017b) was utilized to assess change in knowledge. Descriptive statistics were obtained upon recruitment of participants including prior screening history utilizing the Behavioral Risk Factor Surveillance System (BRFSS) survey (CDC, 2019b). A post-program survey was completed utilizing evaluation questions from the National Colorectal Cancer Roundtable evaluation toolkit (Alizaga et al., 2012) designed to measure program effectiveness.

Project Methods

Description of Evidence-based Intervention

A face-to-face group CRC awareness program took place in a county government sponsored community senior center. The educational session content was presented by the project leader based on the CDC's *Screen for Life* Campaign materials (CDC, 2019c). The educational program described CRC symptoms, risk factors, and the importance of screening. Additionally, specifics about when to obtain screening and types of screening tests was provided.

Implementation Framework

The Johns Hopkins Nursing EBP (JHNEBP) model was used as the implementation framework for this project. The model consists of three phases including the practice question, evidence, and translation (Dearholt & Dang, 2012). The JHNEBP process is comprised of 18-steps occurring within these three phases. The first phase involves forming a team and developing a question. The question is to include the population or problem, the intervention,

comparison to other interventions, and expected outcomes (PICO). Additional steps to the first phase address defining the scope of the problem, assigning project leadership, and planning team meetings. Searching, appraising, summarizing, determining the strength of the evidence, and making recommendation for change are process steps in the second phase. There are eight steps to the translation phase. First, the team decides if the change is feasible and appropriate for the setting. Once the team decides it is a good fit then an action plan is to be created. Support and obtaining resources is next, then implementation of the plan. After implementation the project is evaluated based on the identified outcomes. The outcomes are to be reported to the stakeholders. The team would then review the process and identify lessons learns and determine if additional action is needed. The final step is to disseminate the findings within the organization and consider external communication, such as publication or presentations.

Procedures

Institutional Review Board Approval

The project was approved by Eastern Kentucky University's (EKU) Institutional Review Board (IRB). The senior center agreed to defer IRB approval from the academic institution for oversight of the project.

Measures and Instruments

The BRFSS survey was used to obtain demographic characteristics including prior CRC screening history (CDC, 2019b). The participants completed the 5-item demographic survey (Appendix A) identifying age and ethnicity (White, black or African-American, Hispanic, Latino, or Spanish origin, American Indian or Alaska Native, or multiracial), as these are predisposing factors of CRC. Additionally, information including gender, level of education (less than high school, high school graduate, some college or college graduate), and health insurance coverage

(Medicare, private insurance, Medicaid or other) was obtained. The 5-item BRFSS CRC screening questionnaire (Appendix B) was used to identify those not up-to-date with screening recommendations. The questions identified time of completion of last blood stool test, sigmoidoscopy, or colonoscopy indicating received, not received, or unsure. The CDC (2019b) reports numerous studies have examined the validity and reliability of the BRFSS. Pierannunzi, Hu, and Balluz (2013) conducted a systematic review assessing reliability and validity of the BRFSS. They reported moderate to substantial reliability to the CRC testing questions. The BRFSS is available on the CDC website, is public domain, and may be reproduced without permission (CDC, 2019b).

Knowledge was assessed using the *Screen for Life* Campaign quiz and these materials are available for public use (CDC, 2019c). The 9-item multiple-choice quiz (Appendix C) contains two CRC statistical questions, two CRC symptom questions, four screening questions, and one insurance coverage question.

The National Colorectal Cancer Roundtable evaluation toolkit (Alizaga et al., 2012) is designed to assist in program evaluation and provides sample questions to assess effectiveness. The tools may be adapted to fit the need of the program and are available for public use. Value and impact of the program was assessed using a 2-item yes/no post-program survey (Appendix D). To evaluate the value of the program, participants were asked “I feel the information on colorectal cancer screening I received from the healthcare professional today was helpful.” To evaluate the impact of the program, participants were asked “The information I received today during the program with the healthcare professional convinced me to get screened for colorectal cancer.”

Implementation

The CRC Awareness Program was advertised in the center's monthly newsletter and was available on-line and paper copies were mailed to each member in the usual manner. The event was a one-day session similar to other sponsored health promotion events at the center. Recruitment began as members signed-in for the educational program. If a member expressed interest in the project they were given the cover letter (Appendix F), a writing instrument, and a de-identifying numbered pre-quiz from a folder containing all the questionnaires individually marked with the corresponding de-identifying number. The participants were informed individual identifiers were not to be collected and that participation was voluntary. The members who decided to participate completed the pre-quiz thereby implying consent. The project leader gave each participant the matching pre-numbered folder as the completed pre-quizzes were collected.

Once all the pre-quizzes were collected, the educational session was presented by the project planner. The presentation was scripted from information on the *Screen for Life* fact sheet (Appendix G) and displayed using PowerPoint on a projection screen. The participants were instructed to refer to the *Screen for Life* fact sheet handout in their folder during the presentation. The folder also contained a True/False reminder postcard (Appendix H) with four questions and answers about colorectal cancer and informs screening begins at age 50.

After the educational session, the participants were instructed to complete the demographic data survey, colorectal cancer screening history survey, post-quiz and post-program survey. The project leader collected the completed surveys. The participants were informed they could keep the CDC's *Screen for Life* fact sheet and the True/False reminder postcard.

Data Analysis

Data analyses were conducted using IBM SPSS® software version 25. Descriptive statistics were summarized on demographics including screening history. Participants who

marked having a colonoscopy within 10 years were considered up-to-date with screening. A paired *t* test was computed to assess knowledge change comparing mean quiz scores before and after the educational session. The two question yes/no program survey responses assessing value and impact were independently summarized.

Results

Descriptive Statistics

A total of nine participants completed the pre- and post-test assessment. Most of the participants were white (66.7%) females (88.9%). Ages ranged from 66 to 87 years of age (M = 76.8). Most were high school graduates (55.6%) and all had Medicare (100%). (Table 1)

Table 1

Sample Demographic Characteristics (N = 9)

Characteristic	n	percent
Gender		
Male	1	11.1
Female	8	88.9
Age (M, ± SD)	76.5(6.2)	
Race		
White	6	66.7
Black or African American	1	11.1
Other	2	22.2
Health Insurance		
Medicare	9	100
Education Level		
High School Graduate	5	55.6
Some College	1	11.1
College Graduate	3	33.3

Screening History

More than half (55.6%) of the participants did not know or were unsure if they had ever completed a home stool test kit. The remaining participants (44.4%) had never completed a home

stool kit. All but one participant had completed a colonoscopy (88.9%). Four participants (44.4%) completed a colonoscopy within the past 10 years. Two participants (22.2%) within the recommended age recommendations were not up-to-date with CRC screening. One (11.1%) had never been screened and one (11.1%) had a colonoscopy more than ten years ago. Three participants (33.3%) over the recommended screening had a prior colonoscopy but did not recall how long it had been since their last colonoscopy.

Screen for Life **Campaign Quiz Questions**

Individual quiz questions were examined to evaluate knowledge related to CRC statistics, symptoms of CRC, screening specifics, and insurance coverage for screenings. There was an increase in knowledge specific to CRC as the leading cancer killer from 33.3% answering correctly at pre-test compared to 88.9% answering correctly at post-test. Knowledge about at what age to stop getting screened increased from 22.2% at pre-test to 88.9% at post-test. (Table 2)

Table 2

Mean scores pre- and post- Screen for Life Campaign quiz

	Pre (%)	Post (%)
Who gets colon cancer?	100	100
Colorectal cancer is the second leading cancer killer in the U.S.	33.3	88.9
Getting screened for colorectal cancer can help you prevent the disease.	100	100
If you don't have any symptoms, it means you don't have colorectal cancer.	77.8	88.9
Screening is recommended to begin at what age?	66.7	100
At what age can you stop getting screened for colorectal cancer?	22.2	88.9
The only screening test for colorectal cancer is colonoscopy.	66.7	88.9
Which of these are symptoms of colorectal cancer?	88.9	100
Medicare and most insurance plans cover colorectal cancer screening.	100	100

Screen for Life Campaign Quiz Knowledge Change

A paired *t*-test was calculated to determine if there was an increase in mean knowledge scores from pre- program to post-program. There was a significant increase in mean knowledge scores on the pre- quiz (M = 6.67, SD = ± 1.5) compared to the post- quiz (M = 8.78, SD = ± 1.67), t (8) = 3.59, p < .007 (two-tailed). The mean increase was 2.1 with a 95% confidence interval (CI) range from .755 to 3.47. Cohen's D (1.19) indicated a large effect size. (Table 3)

Table 3

Paired t test Pre- and Post-quiz Scores

	M±SD	df	t	p
Pre-quiz	6.67 ± 1.5	8	3.59	<.007
Post-quiz	8.78 ± 1.67			

Effect size was large, d = 1.19.

Post-Program Survey

All nine participants completed the post-program survey. All nine (100%) found the program had value by acknowledging the information was helpful. The nine participants (100%) found the program was impactful related to CRC screening by confirming the program convinced them to get screened.

Discussion

Overall, this was a well-screened group with most of the participants up-to-date with a screening colonoscopy. One participant within the recommended screening age, who had never been screened, marked intent to screen after the program. Most were unaware CRC continues to be a leading cause of cancer related deaths. Additionally, most were unaware at what age to stop getting screened.

Implications

Clinical Practice

Interaction with a healthcare provider has been reported as a contributing factor in obtaining CRC screening (Sohler et al., 2015). Nurses need to allow time to answer questions during educational sessions about screening recommendations. Participants in this project commented they attended the session to have an opportunity to ask questions to a health care professional. Some were seeking specific information about types of preps, and one received a stool DNA kit in the mail and was not sure if she should complete the kit and was unsure if the screening would be paid for by Medicare. The various types of screening methods can be confusing and not knowing if the screening will be paid for may be lead to not getting screened.

Policy

The Affordable Care Act (ACA) aims to increase access to health care including preventive services (Healthcare.gov., n.d.). There continues to be low rates of CRC screening among racial and ethnic minorities (American Cancer Society, 2019). Sabik and Adunlin (2017) conducted a review of the literature to determine the impact of the ACA and the use of preventive services for low-income adults. They reported an increase in CRC screening among Medicare enrolled adults after the ACA was enacted. There is continued discussion about healthcare reform and the impact in contributing to health disparities needs to be considered when changing policies (Green, Coronado, Devoe, & Allison, 2014).

Quality and Safety

The benefits of screening decline after the age of 76 and is important information for this group, considering 59% of the members of the senior center are over 70 years of age. (USPSTF, 2019). The risk of harm outweighs the benefits for the adult 75 years of age and older. Though

screening for those who have never been screened in this age group may be beneficial. Factors such as overall health and determining if the older adult could undergo cancer treatment need to be considered. For these reasons older adults need information and an opportunity to talk to a health care professional.

Education

Continued education is needed for the members of the senior center about preventive care screening recommendations for the older adult. Additional educational programs could include preventive and screening services covered by Medicare since all the participants in this study had Medicare coverage. Medicare covers 24 screenings and preventive services but not all are recommended for every older adult (Medicare.gov., n.d.). Suggested educational programs would be screenings or preventive services recommended for all seniors such as a yearly wellness visit. The focus of the yearly wellness visit is to develop a prevention plan based on a health risk assessment. Components of a wellness visit can include reviewing prescription medications, cognitive impairment assessment, and scheduling appropriate recommended screenings. Nurses need to encourage wellness visits due to the benefits of a customized health promotion plan.

Sustainability

Based on the feedback from the participants, the CRC educational program in the senior center using the CDC's *Screen for Life*: National Colorectal Cancer Action Campaign materials should be continued. These materials contain relevant information about age recommendations. The program influenced the participants, as all marked the information convinced them of the importance of CRC screening. Limitations to the project included low participant turn-out. Due to low turn-out with a one-day program, the plan moving forward is to present the *Screen for Life*

materials in four yearly health fairs. The health fairs will be sponsored by the community State University's bachelor of nursing (BSN) students as part of their clinical experience in the health promotion course. DNP prepared clinical instructors will supervise the students and interact with the senior center members to answer additional questions not covered in the program materials.

Future Scholarship

This project identified lack of knowledge in the older adult about CRC screening recommendations. Educating older adults in the community can continue by expanding the program beyond the senior center. The information could be presented in community health fairs sponsored by the health department at other community centers and churches.

Conclusions

This project supports the use of an educational program to increase CRC knowledge. The educational program not only influenced intent to screen but increased knowledge about the disease and screening recommendations. Evaluation of the program demonstrated the value of the health promotion program in meeting the needs of the members of the community.

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Appendix A

Demographic Data

Appendix B

Colorectal Cancer Screening History Survey

Appendix C

Screen for Life **Campaign Quiz**

Appendix D

Post-program Survey

Appendix E

Implied Consent Cover Letter

Appendix F

Screen for Life Basic Facts on Screening

Screen for Life Basic Facts on Screening

Appendix G

True/False Reminder Postcard