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Program Evaluation of Faith Community Nursing Cardiovascular Education Intervention

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Introduction

Cardiovascular disease remains the leading cause of death in the United States (U.S.) (Ahmad & Anderson, 2021). In 2020, heart disease and stroke were responsible for one third of these deaths, with annual direct care costs of greater than $200 billion (Centers for Disease Control and Prevention [CDC], 2021a). Prevention and control of cardiovascular disease are high priority national and local issues due to the prevalence and scope of the problems. In the ethnically diverse city of Philadelphia, cardiovascular morbidity and mortality are a concern in all demographics, with a disproportionate burden on the Black community (Department of Public Health-City of Philadelphia, 2019).

While government agencies and healthcare providers have struggled to implement programs which improve lifestyle factors contributing to cardiovascular disease, faith communities have been more successful. Resource accessibility, community fellowship, and sense of trust in the religious agency contribute to this success. Faith Community Nurses (FCNs) have been essential in development and deployment of programs to tackle local health challenges (Blankenship, et al., 2021).

Background

A FCN-driven health outreach committee at a diverse Philadelphia church identified cardiovascular disease as its top health priority and conducted a program based on Million Hearts® materials to target the problem. The Million Hearts® initiative is jointly led by the CDC and the Centers for Medicare and Medicaid, begun in 2012 with the goal of preventing one million heart attacks and strokes in five years. Current goals include optimizing cardiovascular care, keeping people healthy, and focusing on priority populations including African Americans (CDC, 2020). Million Hearts® resources focus on risk-factor modification tools that are both provider and patient-driven, targeting this national initiative at individual practices and community sites. The Ohio State University created the Million Hearts® Fellowship program, which educates healthcare professionals and laypersons on screening and modification of cardiovascular risk in community settings (Gawlik & Melnyk, 2015). Cooper and Zimmerman's (2017) evidence-based intervention used these materials in collaboration with FCNs in existing faith communities to improve patient lifestyle satisfaction and decrease blood pressure.

Purpose Statement

The primary goal of this project was to improve knowledge of cardiovascular disease and subsequently increase readiness to change lifestyle behaviors. A secondary aim was to evaluate the overall program methodology as an exemplar for future health outreach activities.

Theoretical Framework

The FCNs anecdotally noted that barriers to health promotion exist at both an individual and a larger community level. It is important to address barriers when planning effective community educational programs which encourage behavioral change. The Transtheoretical Model of Behavior Change (TTM) addresses this issue (Prochaska et al., 2009). TTM delineates six stages of change that one must move through for change to be lasting: (1) precontemplation, (2) contemplation, (3) preparation, (4) action, (5) maintenance, and (6) termination. These stages

of change have since been widely used in a broad range of applications to health behaviors (Prochaska et al., 2009). TTM asserts that barriers must be addressed at each of these stages of change in order to motivate the patient to the desired action. In conjunction with the Million Hearts® screenings, TTM helped address barriers by providing a framework in which to assess individual needs, while still directing general content to a larger group. Utilizing the behavior change framework offered by the TTM, the FCNs evaluated effectiveness of the cardiovascular risk education program by measuring readiness to change behavior prior to the intervention and after completion of the group session and individual coaching.

Methods

Design

The program was adapted from the evidenced-based research project conducted by Cooper and Zimmerman (2017). The Drexel University Institutional Review Board granted a quality improvement/program evaluation determination status, exempting further oversight. A pretest-posttest model was used to evaluate outcomes of knowledge and readiness to change. Grant funding was provided by Faith Community Nurse Network of the Greater Twin Cities (Faith Community Nurse Network, 2022). Funding provided for blood pressure monitors, FCN team shirts, giveaway prizes, and a $20 gift card to participants who completed all components of the program.

Setting and Participants

The intervention took place in an urban Philadelphia church. Two group sessions were convened at this location. Participants were invited from both the congregation and the broader local geographic community. Invitation was extended via announcement during church services, church website, outdoor church signboard, flyers distributed both at church and in the neighborhood, and by word of mouth. All participants (N=17) were English-speaking and ranged in age from 34 to 81 years, including 14 women and three men. Ethnicity was reflective of the congregation: eight Black, six White, two Asian, and one Latino.

Program Components

In preparation for the program the FCNs completed the Million Hearts® Fellowship Training modules via Ohio State University website (Gawlik & Melnyk, 2015). These five modules include introduction to Million Hearts®, biometric assessment and interpretation, triage protocol, and effective counseling. Trainees register on the Ohio State University website to gain free access. Completion of these modules, including the post-module evaluation survey takes approximately two hours.

The program consisted of two group educational meetings. The initial educational session was led by the FCN team leader. Objectives of the educational presentation were to (1) define the scope and consequences of cardiovascular disease, (2) identify prominent cardiovascular risk factors specific to members of the local faith community, and (3) discuss strategies for managing risk factors. Management strategies focused on healthy diet, appropriate physical activity, and stress management. The presentation made use of projected audiovisual content based on Million Hearts® materials (CDC, 2020). A virtual prize wheel was utilized as a method of participant engagement during the presentation (Wheel Spinner, 2022). Prizes included incentive items that were pertinent to presentation topics, such as quinoa and avocado oil. Time was allotted for participant questions and interactions at the conclusion of the presentation.

An additional aspect of the first group meeting was individual risk assessment. Ohio State University Million Hearts® screening assessment consists of biometric measurements of blood pressure and body mass index (BMI). Participants were asked about current diet, activity, and perceived stress level. The FCN discussed individual risk factors uncovered in the screening process and collaborated to identify one or two goals related to healthy diet, exercise, or stress management based on this risk assessment. Printed materials were provided to assist with implementing recommended strategies, and barriers to goal attainment were discussed.

The FCN project leader telephoned each participant at a prearranged weekly time to check on the progress of goals during each of the two weeks following the group session. Discussion included which strategies were working and which were not working. Ongoing barriers were assessed, and advice provided on how to improve the chosen behavior modification.

The second group session was conducted two weeks after the first and provided follow-up content and a time for the group to reflect on progress in individual goal setting. At the conclusion, participants also had opportunity to verbally evaluate the program and provide suggestions for future topics.

Data Collection

During the initial group education session and again at the completion of the second session participants completed two questionnaires: Knowledge and Behavior Change Assessment. Program evaluation surveys were completed at the conclusion. Seventeen participants completed the pretest tools and fifteen returned to the second session and completed the posttests and program evaluation surveys.

An eight-item Behavior Change Assessment tool adapted from Gillespie and Lenz (2011) evaluated readiness to change. The tool asked questions aimed at cardiovascular risk-lowering behaviors on a five-point Likert scale incorporating five of the six stages of change outlined by the Transtheoretical Model of Behavior Change (TTM): precontemplation, contemplation, preparation, action, and maintenance (Prochaska et al., 2009). Knowledge was assessed via an 11-item true/false questionnaire. Program evaluation feedback was obtained using a written Likert-scale (1=Poor to 5=Excellent) survey. A post-program debriefing session with team FCNs provided additional feedback.

Results

Data Analysis

Due to small sample size and skewed distribution of data, Wilcoxon Signed Rank test and McNemar chi square tests were used to evaluate knowledge and readiness to change pretest/posttest scores using SPSS 28 standard software.

Knowledge

Wilcoxon Signed Rank Test for related samples test did not find a statistically significant change in knowledge ($p = 0.82$ at $\alpha = 0.05$). Because the initial scores were relatively high (mean=84%), further analysis was completed using the McNemar chi square analysis to determine if there was a difference in pretest scores <90% and posttest scores >90%, and statistical significance ($p= 0.031$) was found.

Readiness-to-Change

Wilcoxon Signed Rank Test for related samples determined readiness-to-change scores were not significant ($p = 0.932$ at $\alpha = 0.05$). When readiness-to-change scores were evaluated for a cutoff of total score greater than 23, indicating a progression from considering change to planning or implementing change, no significance was found on the McNemar chi square test ($p= 0.625$).

Program Evaluation

Both written and verbal participant program evaluations returned favorable results. On Likert scale (1=Poor to 5=Excellent) mean scores for each question were 4.6 or higher. Written and verbal participant and team feedback comments were clustered for commonalities and uncovered useful information for future program planning. Despite the weak statistical evidence in knowledge and readiness to change scores, the church leadership team expressed high satisfaction with the event.

Discussion

While there was not a strong statistical significance with most outcomes, results trended in an encouraging direction. Pretest scores for both knowledge and readiness to change were both fairly high at baseline. This could indicate that the program was attended by individuals who already had some knowledge and were motivated to change. Anecdotally many participants verbalized that they took away new knowledge in some area and expressed eagerness to try recommended healthy behaviors. Discussion during the group sessions provided topical direction to FCNs for future program planning, as both participant interests and gaps in knowledge were identified. Stress management was a topic of particular interest. Participants conveyed appreciation for discussing management strategies such as mindfulness in the context of their own faith values.

Million Hearts® screening and educational materials were found to be adaptable to the multicultural setting, easy to use, and helpful in quickly identifying cardiovascular risk factors. The project afforded a structural framework within which to organize future programs. Team feedback provided insight into surprising aspects that worked to positive advantage. For example, the recreational meeting space of the facility is situated in the basement level and is not accessible; therefore, the event was held on the first-floor level. While this took extra time for logistical setup, it afforded a surprisingly user-friendly space and the FCNs expressed a desire to use the space in the future.

Limitations

Due to external factors, the project timeframe was limited to four weeks. Literature is clear that more time is necessary to demonstrate true and lasting change in behaviors and biometrics such as blood pressure. Another limitation was language. This local community has significant populations of both Spanish and Indonesian-speaking individuals. Translation assistance could be arranged from within the resources of the local church, and this would be beneficial during future events.

Conclusion

The aims and goals of the project were quite specific to the local agency and were not framed for generalizability. However, several noteworthy findings could be applied to the broader setting of faith-based communities. First, participants enjoyed the in-person nature of the program. This could be leveraged in any faith community to provide health outreach that targets not only physical but also mental and spiritual health needs. Next, the follow-up phase of the project had overall good feedback, indicating that programs that include some type of repeated contact would be beneficial. Last, the time allocated for feedback both on the program topics and on ideas for future programming allowed for lively discussion, clarification of information, and elicitation of participant interests. Feedback from each program can provide direction for subsequent events. The TTM provided a framework for this project, which could be applicable to a broad range of health topics that would benefit from behavior change.

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