Influences of a Church-Based Intervention on Falls Risk Among Seniors

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ABSTRACT

Background and Objectives: Prior studies illustrate that community-based programs effectively decrease falls risk in older adults and that faith-based programs improve health behaviors. The literature is unclear whether faith-based initiatives reduce seniors' fall risks. To tackle this gap, a long-term partnership led by 10 urban churches, a nearby nursing school, and a medical school developed a study with 3 objectives: determine baseline health concerns associated with falls (eg, depression, polypharmacy), implement a nurse-led, faith-based health education initiative for community-dwelling African American seniors at-risk of hospitalization, and assess pre- to post -program fall frequency.

Methods: The 100 Healthy, At-Risk Families study team implemented 8 monthly educational health sessions promoting self-care and social support. Community nurses led the 60- to 90-minute sessions at each of 10 churches. To collect study data, nurses interviewed enrolled seniors pre- and post-intervention. Descriptive and comparison statistics were analyzed in Excel and Statistical Package for Social Sciences.

Results: Senior data at baseline found high rates of polypharmacy and physical imbalance, and no significant depression or gaps in social support. There was not a statistically significant change pre- to post-program in fall frequency "in prior year."

Conclusions: Study findings reveal insights about African American senior health and fall risks. Church settings may provide a protective, psychosocial buffer for seniors, while polypharmacy and mobility/balance concerns indicate need for continued attention to fall risks. No increase in pre- to post-program falls was encouraging.

INTRODUCTION

Each year 1 in 4 adults aged 65 and older experience at least 1 fall. [1] These falls often limit mobility, lead to greater dependence —including social and financial costs of care—and increase premature death risk.[2-4] High incidence and impact make falls a critically important public health concern.

Studies of senior's fall risk examine factors such as depression, polypharmacy, and physical instability.[3,5,6] Community-based programs have effectively targeted these factors with balance assessments, balance and strength exercises, and education.[7-9] Traditional community initiatives may have difficulty reaching African American seniors.[10] However, church-based programs involving community churches are associated with improved health behaviors among African American seniors, such as improved nutrition, exercise, and cancer screening.[10-15] No available studies focus on church-based initiatives to reduce seniors' fall risks.

The 100 Healthy, At-Risk Families (100 HF) program is a church-based health initiative for African American seniors conducted by a partnership of 10 interdenominational churches, a nearby medical school, and an urban nursing school. A major component of this partnership was to examine the feasibility and influence of church-based health education and support on community-dwelling, African American seniors "at risk" for hospitalization due to multiple chronic diseases. We sought to achieve 3 outcomes: implement a nurse-led, church-based health education initiative for community-dwelling African American seniors at risk of hospitalization, determine a baseline of health concerns, and assess pre- to post-program health outcome changes.

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METHODS

Prior to initiating this study, the Medical College of Wisconsin Institutional Review Board reviewed and approved the study protocol.

Participants

Subjects were community-dwelling seniors, age 50 or over, with multiple chronic diseases and a recent history of hospital, emergency department, or urgent care use. Participants were members of one of 10 partnering churches. These longstanding cross-denominational churches were small to midsized with primarily African American members. All were in areas designated as health profession shortage areas, and none had experience with current or recent initiatives similar to 100 HF. All church pastors were enthusiastic and supportive. Pastors and project staff met about every other month during the 20-month initiative to hear nurses' updates and discuss community health advocacy.

Research team members recruited participants using print advertisements in church bulletins and word of mouth. Enrollment criteria were: (1) age 50 or older, (2) participating church member as determined by pastors, (3) 2 or more chronic illnesses, (4) hospitalization or urgent care use in prior 2 years, (5) able to make their own health care decision, (6) live in their homes or a homelike environment, and (7) displayed the potential to participate and benefit from the intervention as determined by a trained nurse.

Nurse Educators

The 100 HF study team recruited 6 community nurse educators (all registered nurses) who were currently or recently affiliated with one of the participating churches, had expertise in community health education with the African American community, and had adequate time to participate. A majority of the nurse educators were African American. All nurses met with and were approved by the pastor of the parish where they would be conducting the educational and support sessions, which were called "CHESS" sessions—Check Health, Evidence-based Education, Social Support.

Health Education Program

Development of the CHESS sessions began with a literature review to determine priority African American health issues. Study team members and community nurse educators then discussed multiple topics before arriving at 8 that became the main topics for the CHESS sessions. They were (1) Medication Management; (2) How to Talk to Your Doctor and Make the Most Out of Your Appointment; (3) Use It or Lose It, Keep Moving, Increase Physical Activity; (4) Staying Independent in Your Home: Preventing Falls; (5) Managing Stress in Your Life: The Blues, Social Isolation; (6) Eating for Health: Lower Sugar, Lower Salt, More Fruits and Vegetables; (7) Thanks for the Memory…Protecting Your Memory, Tips for Improving Memory; and (8) Managing Chronic Pain. Utilizing a balance between evidence-based sources and community engagement, the study team created a list of health topics based on current literature, discussed the topics with community members, and assembled handouts and worksheets for each topic based on the literature and discussions. These materials were previewed to determine an appropriate literacy level and to consistently check for cultural appropriateness. Materials were compiled and sent to each nurse educator.

Each CHESS session was 60 to 90 minutes long and occurred about monthly from late 2013 to mid-2014. Nurses used evidence-based, semistructured scripts for the 8 health topics. Sessions typically began with an introduction, distribution of handouts, and a 15-minute lecture-discussion. Seniors then discussed the topic, asked questions, and shared personal tips and lessons. Before the session concluded, nurses offered time for seniors to consult with them privately. These "Check Health" opportunities were guided by a brochure-sized "health trifold" developed in collaboration with a local team of family physicians. It contained panels for current medications, contact information for their health support team, and an area to enter "red flags"—conditions or concerns that, if left unchecked, could lead to deterioration in health and a possible need for acute care. Seniors were to keep their "health trifold" in their possession, bring it to health care appointments, and post it at home using a supplied kitchen magnet.

Study Instrument

The preassessment survey (13 pages, approximately 100 items) was developed by the project team. Survey items were adapted from previously validated instruments. Items included history of hospitalization, social support (MOS Social Support Survey),[16] independence in daily activities (Katz Index),[17] history of falls, depression (Geriatric Depression Scale or GDS),[18] spirituality and health (HOPE questions),[19] perception of health care coordination, and risk of falls and hospitalization (Managing Complex Chronic Care).[20] Surveys were checked for clarity and literacy level, then administered by nurses during an oral interview, pre-intervention and a shortened version was administered post-intervention.

Data Analysis

Data analysis used EXCEL and Statistical Package for Social Sciences (SPSS). Completed analyses produced descriptive sta-

tistics (means, sums, and standard deviations) and comparisons using McNemar's test and chi-square tests (significance $P<.05$). We used content analysis for text data.

RESULTS

Among the 84 seniors who began the program, a total of 64 (76%) completed both the pre- and post-assessment. A majority of study respondents were women (75%) and the age of subjects averaged 69 years, with a range of 47 to 94. Among participants, a total of 11% reported life experiences consistent with mild or moderate depression according to the Geriatric Depression Scale, 75% reported arthritis, 46.9% reported use of an assistive device, and 51.6% reported problems with balance. In addition, 100% reported 2 or more "medications I take," 62.8% reported 7 or more and 37.5% reported 10 or more. The most common medication types were cardiovascular medications, vitamins/supplements, and pain medications.

Pre-Post Assessment

The dropoff in participants from 84 at baseline to 64 at post-assessment was due to movement away from area, illness, scheduling conflicts, and death. From pre- to post-program, the difference in social support was not statistically significant [paired t (59) = .74, P = .46]. Also, there was not a statistically significant difference in depression from pre- to post-program [paired t (33) = -1.38, P = .18]. Fall frequency (number of individuals who fell) "in prior year" did not significantly change from 23 (36.5%) to 20 (33.3%). At baseline, there was a statistically significant association between fall frequency and the use of an assistive device (X^2 = 4.5, P = .03), as well as fall frequency and balance problems (X^2 = 7.3, P = .01). Our data showed that fall frequency did not have a statistically significant association with depression (X^2 = .01, P = .91), arthritis (X^2 = .82, P = 36), or poly-pharmacy (X^2 = 1.3, P = 73).

DISCUSSION

This pilot initiative demonstrated the feasibility of a nurse-led, church-based health initiative for seniors who are at risk of falls and related health risks. Key factors for the intervention's success included pastor engagement and a longstanding community-campus partnership. The pastors helped identify intervention participants and promoted the importance of health education. The partnership included nursing and family medicine collaboration with community members.[10] This partnership helped build rapport between research personnel and community members. Baseline data provide rich insights on senior health risks that will inform future studies pertaining to falls and prevention strategies.

Milwaukee County has a higher rate of inpatient hospitalizations due to falls than Wisconsin.[21] Therefore the nonstatistically significant difference in falls frequency in this at-risk population is encouraging by illustrating that a church-based initiative could help stabilize falls risk. Mobility assistive devices and balance were associated with falls at baseline. We found that 75% of seniors reported arthritis at baseline compared to the expected rate of 17% to 50%. This is an important finding requiring follow-up.[22] This result, in addition to the high rate of mobility concerns, calls for increased attention on mobility and movement disorders for falls prevention. Furthermore, the high rate of medication use in this population is a concern as literature associates older adult medication use with falls.[23,24]

This study was challenged with a high rate of noncompleters, and the absence of these subjects at post-assessment was a study limitation. Furthermore, enrollment criteria included hospitalization or urgent care use in the past 2 years. The survey did not specify if the participant used the urgent care for a chronic or acute problem. Therefore, this lack of specification is a limitation to the study. Greater power (eg, from a larger sample) or a more intense intervention focused on 1 factor (eg, poly-pharmacy) may have led to statistically significant results. The study team will continue efforts to prevent falls, and accurately assess and promote steps to limit falls and their impact on senior health.

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