International Journal of Research in Nursing 1 (2): 29-38, 2010
ISSN 1949-0194

Feasibility Study: Colorectal Cancer Related Educational Program for Korean Americans

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Abstract: Problem statement: The purpose of this study was to assess feasibility and acceptability of Colorectal Cancer (CRC) related educational program, specifically designed to promote Fecal Occult Blood Test (FOBT) completion for Korean Americans aged 50 years and older. **Approach:** Focus group discussion (N = 9) guided by semi-structured questions was conducted to understand the demand for CRC education and to obtain feedback on overall content, language and delivery media for a preliminary version of the educational program. A single group pilot study (N = 85) was conducted to assess the acceptability of animated PowerPoint slides with culturally appropriate pictures, graphics and words to convey CRC and early screening practice and to review the Korean-language version questionnaire items for its clarity, understandability, readability and burden of over survey completion. **Results:** Focus group participants postulated several themes and expressed strong desire to learn more about CRC through the face-to-face educational program. The educational program was feasible with 100% response rate for study participation. Acceptability was established by process questions related to the educational program in terms of cultural appropriateness of the content, participants' responses to the content and intent to change health behavior. The mean acceptability score was 3.5 (SD = 0.41); range was 2.75-4, indicating that participants found the education highly acceptable. The Korean-language version questionnaire items were clearly written, easy to read and understand and it took about 25 min to complete. There were no additional comments on the questionnaire items. **Conclusion:** The focus group discussion enabled us to add culturally appropriate language and content to the education, underscoring the importance of formative work prior to intervention testing. The educational program is feasible and acceptable as evidenced by ease of recruitment (100%), attendance (100%) and high acceptability score of the educational contents.

Key words: Colorectal cancer, Korean Americans, culturally competent, educational program, Fecal Occult Blood Test (FOBT), Institutional Review Board (IRB), Precede-Proceed Model (PPM), Health Belief Model (HBM), culturally appropriate

INTRODUCTION

The 1.3 million Koreans in the U.S. represent the fifth-largest immigrant Asian subpopulation. Of those, 75% are foreign-born and 33% are aged 50 years and older (55% female and 45% male) (U.S. Bureau of Census, 1983). Because of ethnic homogeneity, Korean Americans (KAs) often share common knowledge, beliefs and attitudes about promoting their well-being and tend to remain heavily attached to traditional Korean ways of thinking and lifestyle, which are often reinforced by their close ties with Korean friends, neighbors and churches (Hurh and Kim, 1984; Min, 1992). Thus, many KAs may have low levels of acculturation and may be less familiar with the health care system in the U.S (Lee *et al*., 2000; Shin *et al*., 2000).

Colorectal cancer (CRC) is the second-most common cancer among KAs and KAs have 56% higher incidence rates than Koreans in their native country (Gomez *et al*., 2003; Kwong *et al*., 2005; Lee *et al*., 2007). Overall, CRC incidence rates have decreased steadily for the last two decades in the U.S. (ACS, 1998) and yet there was a 70% increase in rates for KA men and 78% for KA women (Gomez *et al*., 2003;

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Kwong *et al*., 2005; Lee *et al*., 2007). KAs have the second-highest five-year mortality rates for CRC among Asian subgroups, only behind Chinese Americans (Chien *et al*., 2005). KAs also presented with more advanced stage CRC; they were more likely than Caucasians to have stage III/IV distal CRC at diagnosis (Lin *et al*., 2002). The more advanced the stage of CRC at diagnosis, the less favorable the survival rate. When CRC is detected at an early, localized stage, the five-year relative survival rate is 90-93%, but if the cancer advances to late stage, the five-year survival rates drop to 59-68% (metastasis to adjacent organs/lymph nodes) and to 8% (distant metastasis) (ACS, 1998). As the five-year survival rate is directly related to advanced stage at diagnosis, it calls attention to the need for increasing early detection through recommended regular screening among KAs.

CRC screening guidelines: Current screening guidelines recommend starting CRC screening at age 50 for both genders, with: (1) annual fecal occult blood test (FOBT); (2) flexible sigmoidoscopy every five years; (3) annual FOBT plus flexible sigmoidoscopy every five years; (4) double-contrast barium enema every five years; or (5) colonoscopy every 10 years (ACS, 1998). Although these screening recommendations have been in place for many years, low compliance rates with recommended guidelines continue to be of great concern to health care providers, particularly for disadvantaged minority populations in the U.S., such as our study population, KA men and women (Kim *et al*., 1998; Maxwell *et al*., 2000; Lin, 2002; Jo *et al*., 2008; Juon *et al*., 2003; Wong *et al*., 2005).

Because the nation's racially and culturally diverse ethnic subgroups are expected to be the majority of the total U.S. population (51.1%) by the early part of the next century, the U.S. government has made health promotion and disease prevention for minorities a national priority U.S. Department of Health and Human Services, 2010. The specific goal related to CRC in Healthy People 2010 (HP2010) is to decrease CRC mortality by 34% and increase CRC screening rates by 50% for all men and women aged 50 years and older. For KAs, CRC screening rates remain suboptimal: only 23% of KAs ever had FOBT, 38% had endoscopy and 49% had any type of CRC screening test; for Caucasians, those rates were respectively 58%, 57% and 75%. In addition, only 12% of KAs were up to date for FOBT, 34% for endoscopy and 41% for any type of CRC screening, giving KAs the lowest CRC screening rates among ethnic minority subpopulations in the U.S. (Kim *et al*., 1998; Maxwell *et al*., 2000; Jo *et al*., 2008; Juon *et al*., 2003; Wong *et al*., 2005) As most KAs aged 50 years and older have not followed recommended annual FOBT guidelines, there is an absolute need to develop and implement culturally sensitive and theory-based interventions for KAs to decrease colorectal cancer disparities.

Purpose: To address this gap, our theory-based intervention consists of culturally sensitive CRC-related education and free take-home FOBT kit with Korean instructions and was designed to promote FOBT completion among KA men and women aged 50 years and older. The purpose of this article is to report findings from two formative phases of our research project approved by University Institutional Review Board (IRB): A preliminary draft version of culturally sensitive, theory-based CRC-related educational program and Korean version questionnaire, specifically designed for the proposed intervention. As the initial phase of developing an intervention, this article addressed four key areas of focus for our feasible study including Acceptability, Demand, Implementation and Practicality (Bowen *et al*., 2009). We specifically answered to four questions as possible outcomes of our feasibility study as follow:

- To what extent is a CRC-related educational program and questionnaire accepted as suitable, satisfying and attractive to KA participants in the educational program? (Acceptability)
- To what extent is a CRC-related educational program likely to be demanded by KAs? (Demand)
- To what extent can a CRC-related educational program and questionnaire be successfully delivered to KA participants in the community setting? (Implementation)
- To what extent can a CRC-related educational program and questionnaire be carried out by KA men and women aged 50 years and older using existing means and resources? (Practicality)

Theory-based CRC-related educational components: Since cultural norms, values and beliefs are known to influence individual health behavior, such as FOBT completion among minority immigrant men and women in the U.S. (Powe, 1995; Gorin, 2005; Greiner *et al*., 2005; Teng *et al*., 2006), the integration of the core constructs of the Precede-Proceed Model (PPM), the Health Belief Model (HBM) and Korean culture-specific variables (gender role, modesty, fatalism and preventive health orientation) provided the theoretical basis for formulating culturally sensitive CRC-related educational content to promote FOBT completion among KAs.

The PPM emphasizes that individual determinants of health behavior are influenced by predisposing

factors (antecedents that provide a rationale for change), enabling factors (external resources that facilitate behavior change) and reinforcing factors (external resources that maintain behavior change (Glanz *et al*., 2002). Predisposing factors may be conceptualized as knowledge, health-related beliefs (susceptibility, seriousness, benefits, barriers, fear and self-efficacy, drawn from another well-tested health behavior change framework, the HBM) and Korean traditional culture-related beliefs and enabling factors (provider recommendation, education and social support) (Glanz *et al*., 2002). In this pilot study, reinforcing factors were not addressed as there was no opportunity to assess repeat screening status. Applying the HBM to FOBT completion, it is theorized that for a person to complete an FOBT, she/he must believe she/he is susceptible to CRC (perceived susceptibility), that CRC is serious enough for her/him to take action (perceived seriousness), that there is a benefit to completing FOBT (perceived benefits) and that the obstacles to completing FOBT (perceived barriers) are outweighed by perceived benefits. In addition, a person must possess knowledge (about CRC and recommended FOBT completion) and self-efficacy (perceived confidence in one's ability to complete FOBT) (Menon *et al*., 2007; 2003; Gipsh *et al*., 2004; Greenwald, 2006; Ueland *et al*., 2006).

For Korean traditional culture-specific variables, we incorporated modesty, fatalism and preventive health orientation into our educational components considering the traditional Korean cultural norms/virtues of men and women (gender role), fatalistic view of life events (fatalism) and health illness concept (preventive health orientation) that may influence FOBT completion regardless of their birthplace (U.S. or Korea) due to ethnic homogeneity (Lee *et al*., 2000; Shin *et al*., 2000; Im and Lipson, 1997; Kendall, 1988; Yu and Phillips, 1983; Kim and Hum, 1988; Park and Cho, 1995; Park, 1987; Sohn and Harada, 2005). Among Koreans, each gender has a distinct status and role within society: A man should be the head of the household, provider and ruler, as authority rests only with the men to preserve the familial institution (Park and Cho, 1995). Under this belief, talking about issues related to health problems has long been considered a weakness that damages male power among Korean men and they tend to regard health problems as trivial matters. Consequently, they may feel shame when discussing the possibility of developing CRC or may be hesitant to collect a stool specimen for FOBT completion.

For Korean women, their roles are expanded, as they are placed in two different social situations involving employment per the American role and traditional Korean female roles (Yu and Phillips, 1983; Kim and Hum, 1988; Park and Cho, 1995). Obedience, benevolence and submission to her husband and devotion to serve her family members and significant others are considered virtues of women in Korea. Women's primary roles are to be caregivers with the expectation of sacrificing themselves for all others (Im and Lipson, 1997). Consequently, their own health becomes the lowest priority and health-related issues such as having FOBT for early CRC screening tend to be regarded as trivial by not only women but also by their family members. In addition, suppression of emotional expression is also a virtue of women. Under this cultural norm, women are socially prohibited from discussing bodily experiences such as menstrual health, gastrointestinal ailments, breast-related health, or menopause (Im and Lipson, 1997; Yu and Phillips, 1983; Kim and Hum, 1988; Park and Cho, 1995). Thus, KA women may feel shy when discussing CRC screening and FOBT completion.

Koreans traditionally believe that mystical and supernatural powers are behind all events in daily life and that a person becomes ill due to fate, temporary separation of soul and body, or past sins (Kendall, 1988). Under this predetermined fatalistic view of life events, most Koreans would not participate in FOBT completion because screening would not prevent the person from developing CRC; whether the person finds out about having CRC in an early or later stage would not matter because the person is meant to die from CRC as a predetermined fate of fortune regardless of the many different options for treatment. In Korean traditional health and illness concepts, problems in body and/or mind are caused by an imbalance between "yin (negative) and yang (positive)" forces from long-lasting anger, or negative attitudes or thinking, rather than other clinically known CRC risk factors (Kendall, 1988; Park, 1987; Sohn and Harada, 2005). Under these health-related beliefs, each person is responsible for having a clean mind and body to prevent diseases (i.e., cancer or hypertension). Under personal responsibility for one's own health and illness, a person knows best about own body and bodily function, when to seek medical assistance, or what needs to be done for own body. Thus, they are accustomed to taking health care-related action only when symptoms are present, or they delay seeking professional care or treatment until they cannot tolerate symptoms anymore. Most Koreans lack preventive health orientation and do not engage in cancer prevention and/or early screening practices (Kim *et al*., 1998; Maxwell *et al*., 2000; Jo *et al*., 2008; Juon *et al*., 2003; Sohn and Harada, 2005).

Table 1: Educational components

Constructs	Contents
Knowledge	CRC facts/figures, risk factors, treatment options, FOBT instructions, and recommended CRC screening guidelines
Perceived susceptibility	Increased risk for CRC among KAs aged 50 years and older; KAs' CRC screening rates/FOBT completion rate
Perceived seriousness	Positive outcomes of early CRC screening (less worry, peace of mind, detecting cancer early when there is increased chance of survival,
Perceived benefits	treatment being less intensive and burdensome for early-stage polyps versus late-stage diagnosis; Discuss the meaning of false-positive and
Perceived fear	false-negative test results and follow-up care)
Perceived barriers	Discuss known obstacles (inconvenience, too busy, no reason to do it, do not know the procedure) and strategies to overcome these obstacles through interactive discussion
Perceived self-efficacy	Review all necessary steps for collecting stool specimens and mailing out the specimen pads to designated laboratories
Korean cultural beliefs (Gender role, Modesty, Fatalism, Preventive health orientation)	Review and discuss each cultural belief within the context of FOBT completion: discuss how they perceive traditional cultural beliefs, degrees/reasons of changes as immigrants, strategies to overcome the difficulty of FOBT completion with these traditional beliefs (i.e., "you may feel shame about collecting stool specimen or talking about CRC, but your 2 min of feeling of shyness can save your family from the sorrow of losing you.")

We incorporated the cultural beliefs described above into our theory-based education (Table 1). The educational program was semi-structured, presented as animated PowerPoint slides with culturally appropriate pictures, graphics and words to convey the CRC-related knowledge, CRC-related beliefs and Korean cultural beliefs for FOBT completion.

CRC and screening-related questionnaire: The CRC-related questionnaire was drafted by adapting the breast cancer screening-related questionnaire specifically developed for and already tested in two completed studies with KA women, (Kim and Menon, 2009; Kim *et al*., 2010) rewording and incorporating several questions and statements related to CRC and screening from the existing literature (Menon *et al*., 2007; 2003; Rawl *et al*., 2000; 2005) and incorporating contents from focus group discussions for this study. All subscales had good internal consistency (Cronbach's alpha = 0.73-0.83) (Menon *et al*., 2007; 2003; Rawl *et al*., 2000; 2005). A total of 143 question items is consisted of demographics (12 items), acculturation (16 items) (Suinn *et al*., 1995), knowledge (13 items), perceived susceptibility (5 items), perceived seriousness (11 items), perceived benefits (7 items), perceived barriers (18 items), perceived fear (8 items), perceived self-efficacy (10 items), modesty (7 items) (Teng *et al*., 2006; Tang *et al*., 2000), fatalism (13 items) (Powe, 1995), preventive health orientation (11 items) (Tang *et al*., 2000) and acceptability of educational program (12 items) (Wilkie *et al*., 2003). The English version of this draft questionnaire was translated into Korean, using the committee translation method (Prieto, 1992). One author, a Korean-speaking bilingual research assistant and two bilingual KA community facilitators for previous breast cancer projects performed independent direct translations from English to Korean. The translators then met to reconcile differences and agreed on an integrated version.

MATERIALS AND METHODS

Focus group discussion:

Sample and setting: A total of nine KA women were recruited from the KA community with flyers and word-of-mouth. Eligibility criteria were (1) KAs aged 50 years or older; (2) no FOBT within last 12 months; and (3) no personal history of any type of cancer. We conducted a women's-only group trying to be sensitive to cultural issues of modesty and embarrassment talking about intimate health-related issues. The first author, who is Korean American and bilingual, conducted the focus group discussion with nine women in the KA community center conference room. All women signed two copies of Korean-written informed consent for their participation and audio-taping of their discussion. Semi-structured questions guided the discussion and participants were shown a preliminary version of the PowerPoint slides for feedback on overall content, language and delivery media. The discussion lasted about 2 hrs.

Data analysis: The audio-recorded discussion was transcribed verbatim and coding categories based on the proposed theoretical framework that reflect the areas of content discussed were derived from the transcripts. Response rate was 100%, meaning that all women who were approached agreed to participate and were present for the group discussion.

Table 2: Focus group participants (N = 9)

	Total % (n)
Age, mean (SD)	72 (6.7)
60-70	22 (2)
71-80	56 (5)
81-90	22 (2)
Marital status (%)	
Married	78 (7)
Not married	22 (2)
Education (%)	
< High school	22 (2)
> High school	78 (7)
Years in U.S. (%)	
15-25 yrs	22 (2)
25-35 yrs	78 (7)
Working hours (%)	
40+ hrs/week	22 (2)
< 40 hrs/week	22 (2)
Retired	56 (5)
Annual Income (%)	
< $10,000	33 (3)
$10,000-$24, 999	45 (4)
$25,000-$39, 999	22 (2)
Insurance (Yes, %)	89 (8)
Private/HMO	25 (2)
Medicare/Medicaid	75 (6)
Primary Care Provider (Yes, %)	100 (9)
KA physician	100 (9)
Never had CRC screening (%)	67 (6)
Had “stool” test (%)	33 (3)

Findings:

Sample characteristics: Sociodemographic backgrounds are summarized in Table 2. The mean age was 72 (range 61-86); 78% were married and had graduated high school and/or college; 22% worked full-time for pay; average length of U.S. residency was 27 years (range 15-35 years); 45% had annual income of $10,000-$24,999; 89% health insurance; and 100% had a primary source of care (all Korean-speaking male physicians). Sixty-seven percent never had any type of CRC screening test in their lifetime and only three women (33%) had “stool test” as a part of general physical examination while they visited Korea about 3-5 years previously.

FOBT History: All women had never heard about having a regular test for early CRC screening, never heard about FOBT and reported that their doctors had never mentioned it to them. Three women stated that the stool tests they had were a part of a “head-to-toe test” program now offered by many hospitals and/or clinics in Korea as part of “Total Physical Examination” programs. Women who had the stool test thought that it was to check primarily for parasites and health care providers casually mentioned about checking “something else” in the stool. No one told them that their stool was checked for blood that would indicate the possibility of presence of CRC.

Themes: Several themes emerged from the discussion guided by the semi-structured questions asked by the group facilitator.

Knowledge about CRC: Eight women (89%) said they did not know much about CRC. None of the women knew that CRC is the second most common cancer among KAs and KAs have higher incidence rates than Koreans in Korea. All women (n = 9) thought that salty/spicy food, chronic constipation, any food that irritates the colon and stress could cause CRC. None of the women acknowledged that older age (aged 50 years or older), low fruit/vegetable intake, high-fat diet, excessive alcohol consumption, overweight, or smoking may increase the risk of CRC. They identified chronic constipation, lack of appetite, abdominal distention/pain, or “black” stool color as signs/symptoms of CRC. None of the women knew about the recommended CRC screening guidelines, particularly about annual FOBT or the lowest rates of screening rates among KAs.

Perceived risk: Eighty-nine percent (n = 8) perceived themselves as having a lower chance of getting CRC compared to other KA women of the same age. The most commonly identified rationales for low susceptibility to CRC included: “not heard much about person who died with colon cancer" or “no bowel problem.” One woman perceived herself as having a higher chance of getting CRC because she had constipation on and off with no particular reason. One woman rated herself as at average risk because she lived in the U.S. where there are “clean airs, waters and environments.”

Perceived benefits: None of the women knew they needed to have an annual FOBT. Six (67%) said that they thought a one-time test would be enough, as long as the result was negative. However, all women said that testing stool for blood to detect early CRC is a “good thing” to do. The most commonly identified reasons for having FOBT if they have opportunity for FOBT testing included “to have peace of mind,” “to know about my health status,” or “to prepare for my future.”

Perceived barriers: Although all women perceived the benefits of having FOBT, only 67% had any type of CRC screening test. The most commonly mentioned perceived barriers for CRC screening included: “didn’t know it needed to be done periodically,” “bothersome," “don’t know where to go get the test and how to do it," “my doctor has never said anything about it," or “no reason to do it.”

Perceived self-efficacy: All women (n = 9) stated that they definitely could complete FOBT if they could have a free FOBT kit with Korean written instructions.

Modesty: All women (n = 9) stated that they had no problem talking about CRC in front of men because the discussion was not about a body part that is gender-specific and the problem affects both men and women. Married women preferred to have their husbands with them during the education, so they could talk about it together as needed. They also thought this was an excellent opportunity to reinforce the necessary changes for their loved ones' lifestyles. Two widows said that they attend "Silver College," a popular program offered by KA community centers and/or churches for elderly men and women (married or single) and they frequently discussed health issues with men of their age while at "Silver College." Women thought they might be embarrassed to be in class with men if the topic being discussed had sexual overtones; for example, discussing sex organs specific to each gender (breast, uterus, testicle, prostate). All women said that they would feel comfortable doing stool collection for FOBT as long as they could do it on their own at home, but they might feel slightly embarrassed if it had to be done in a doctor's office and/or clinic.

Fatalism: Six women (67%) denied that developing CRC and/or dying from CRC would be predetermined by fate.

Perception of preventive medicine: All women stated that it is important to do something to prevent sickness and described various preventive measures they do for their health (i.e., positive thinking, exercise, laughing, enjoying daily life).

Pilot study:

Design: A single-group, Quasi-experimental study was conducted to assess the feasibility of (1) a CRC educational contents and delivery method (PowerPoint slides) specifically designed to promote FOBT completion among KAs; and (2) a Korean-version questionnaire based on the proposed theoretical model. Since the main purpose of this pilot study was to evaluate feasibility and acceptability of drafted educational contents and survey only, there were no post-education survey and no follow-ups for pilot study participants.

Table 3: Pilot Study Participants (N = 85)

	Total % (n)
Gender	
Male	28 (24)
Female	72 (61)
Age, mean (SD)	64.8 (8.8)
Male (n = 24)	63.2 (8.4)
	(Range 50-75 yrs)
Female (n = 61)	65.4 (9.0)
	(Range 50-87 yrs)
Marital status (%)	
Married	74 (63)
Not Married	26 (22)
Education (%)	
≤ High school	46 (39)
> High school	54 (46)
Years in U.S. (%)	
≤ 10 yrs	20 (17)
11-20 yrs	26 (22)
> 21 yrs	54 (46)
Working Hours (%)	
40+ hrs/week	26 (22)
< 40 hrs/week	11 (9)
Retired	48 (41)
Never worked	15 (13)
Annual Income (%)	
< $10,000	34 (29)
$10,000-$24, 999	21 (18)
$25,000-$39, 999	13 (11)
$40,000-$54,000	6 (5)
> $55,000	26 (22)
Insurance (Yes, %)	76 (65)
Private/HMO	40 (26)
Medicare/Medicaid	60 (39)
Primary Care Provider (Yes, %)	76 (65)
KA physician	92 (60)
Non-Korean physician	8 (5)
Ever had FOBT	28 (24)
Male	29 (7)
Female	71 (17)

Sample/setting: A total sample of 85 KAs aged 50 years and older participated in the pilot study. The eligibility criteria were male or female KAs aged 50 years or older, no FOBT within last 12 months and no personal history of any type of cancer. Study participants were recruited in person from one KA community center with flyers, word-of-mouth and announcements at two educational and/or exercise classes specifically for KAs aged 50 years or older at the KA center. One author and/or each class instructor made an announcement and distributed flyers about the pilot study, including a separate educational session for men's and women's groups. All participants attended English class in the morning and exercise class in the afternoon. They expressed their desire to have a pilot study on the same day as their weekly classes. A man or woman willing to participate was given a date and time for a separate educational session (same day, but different time for men or women).

Table 4: Cronbach's coefficient alpha

Variables	Psychometric Information
Perceived risk	4 items (perceived likelihood of developing CRC) Cronbach's alpha (standardized) = 0.77
Perceived seriousness	11 items (perceived degree of CRC as a serious condition) Cronbach's alpha (standardized) = 0.75
Perceived fear	8 items (perceived feeling when thinking about the possibility of getting CRC) Cronbach's alpha (standardized) = 0.90
Perceived barriers	18 items (perceived obstacles that inhibit or prevent from completing FOBT) Cronbach's alpha (standardized) = 0.82
Perceived benefits	7 items (perceived positive outcomes of completing FOBT) Cronbach's alpha (standardized) = 0.65
Perceived self-efficacy	10 items (perceived confidence in ability to follow instructions to complete FOBT) Cronbach's alpha (standardized) = 0.83
Fatalism	13 items (beliefs that CRC is a pre-fixed event in advance by a power beyond any person's control and individuals are hopeless and powerless to change that) Cronbach's alpha (standardized) = 0.89
Modesty	7 items (perceived subjective degree of shyness/feeling of shame in completing FOBT) Cronbach's alpha (standardized) = 0.88
Preventive health orientation	11 items (perceived subjective degree about illness and prevention of disease) Cronbach's alpha (standardized) = 0.72
Demographics	12 items (age, birth place, education, income, marital status)
Knowledge	Questions on cognitive information about CRC and FOBT 13 items It is multidimensional and no Cronbach's alpha is reported.
Acculturation	16 items (perceived changes in social and cultural views that take place as a result of continuous interaction with other cultures different from the Korean traditional culture) Cronbach's alpha = 0.91
Acceptability	12 items (perceived subjective feelings about cultural appropriateness of the education content and the degree to which the education influenced participants' FOBT completion) Cronbach's alpha (standardized) = 0.95

Data collection: All participants signed two copies of Korean written informed consent prior to the educational session. Although the English version of the questionnaire was available, all participants preferred the Korean version. After signed informed consent, each participant was asked to complete the Korean questionnaire, review the proposed questionnaire items for clarity, readability and understandability and write additional comments/feedback. After completing the baseline questionnaire, participants attended a CRC-related educational session and completed an Acceptability Scale for the educational program at the end of the education session.

Findings: Participant characteristics are summarized in Table 3. Mean age of participants was 64.75 (SD = 8.82); 74% were married; and 54% reported some college or college degree or higher education. There were 24 men (28%) and 61 women (72%). Only 28% had had FOBT in the past. All subscales had adequate to good reliability, with Cronbach's alphas ranging from 0.72-0.95 (Table 4).

RESULTS

Acceptability and demand: Participants expressed their strong desire to learn more about CRC through this opportunity of talking to a "KA nurse-professor in person." For preliminary version of educational components/contents, all participants made similar comments such as: "Excellent program," "need to repeat it," or "should do this for everybody." There were no suggestions for changes to be made.

The PowerPoint educational slides prompted many questions primarily related to CRC facts/figures, risk factors, clinical manifestations and preventive measures. Focus group participants suggested that the group discussion was less beneficial because they did not know enough about CRC to offer their opinion and the educational session would the most valuable for them and the community. Additionally, participants indicated that a pilot study should be conducted without further focus group discussion, which was deemed unnecessary. Participants said that, although they understood the focus group was for "discussion," receiving information about CRC was the main reason they participated in the focus group session. Seven women (78%) stated that most KAs would have the

same level of knowledge as them because this is the first time that anyone in the KA community (in Greater Chicago) had conducted a program for them to learn about CRC. They all expressed their appreciation for the opportunity to learn about CRC and they wished that their spouse or significant others were with them. Based on the data gathered from the focus group discussion, the adapted CRC-related belief measures and the educational components were edited to incorporate the most culturally appropriate words, pictures and graphics related to CRC for KAs. They all had a strong desire to have FOBT in the future if they had easy access to an FOBT kit with Korean instructions.

All 85 pilot study participants (100%) attended the educational session. Acceptability was assessed by process questions related to the educational program in terms of cultural appropriateness of the content, participants' responses to the content and intent to change health behavior (Wilkie *et al*., 2003). The mean acceptability score was 3.5 (SD = 0.41); range was 2.75-4, indicating that participants found the education highly acceptable. There were no additional comments on the Korean-language version questionnaire.

Implementation and practicality: When they were asked for their comments about conducting group discussions with those of different age and gender (i.e., men aged 50 or older), participants suggested that providing education and answers to their questions would be most helpful for these other men or women in general. Since a focus group of men aged over 60 more than likely are the spouses of participants of this group, the discussion would be influenced by the perceptions of the women in the first focus group. In addition, all women disagreed that younger KAs would differ in terms of knowledge level and/or screening practices, basing their judgment on their daily interaction with the younger group through KA churches and/or community center programs. Participants came from varying educational backgrounds and all reported having a usual source of care. Despite these factors, they identified similar barriers to completing FOBT. The majority of participants had limited knowledge about CRC in general/recommended screening guidelines and low perceived risk of CRC. Participant response rate was 100%, meaning that all participants who were approached agreed to participate, expressed positive response when contacted to remind them about the scheduled group discussion or education date/time and were present for the group discussion or pilot study with no missing participant(s).

One educational session (mixed gender) was conducted by the first author in a conference room at the KA community center. Unexpectedly, although we scheduled separate education time for the men- or women-only group, all 24 men requested to be in the same education session with the women. Of those, 20 men accompanied their spouses and 4 men and 19 women specifically requested to be in the same session since they belonged to the same social club, had known each other for many years and attended social programs together. Twenty-three women with no spouses or significant others were given a choice of attending the woman-only group, but they chose to stay in the mixed group, citing prior social ties with them. It seemed there were no gender-specific issues for being in the same educational session.

DISCUSSION

Based on the findings of focus group discussion and pilot study, the educational program and questionnaire were confirmed as feasible and acceptable. The focus group discussion enabled us to add culturally appropriate language and content to the education, underscoring the importance of formative work prior to intervention testing. Based on the pilot study results, the educational contents and delivery methods (PowerPoint slides) were finalized and the finalized educational program will be tested for efficacy in increasing FOBT completion by a randomized, repeated measure, two group experimental design study. The CRC-screening intervention will be compared to an attention-control hypertension/general health intervention for KA men and women aged 50 years and older.

CONCLUSION

The educational program was feasible and acceptable as evidenced by ease of recruitment, attendance and high acceptability score of the educational content.

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