

UC Davis

UC Davis Previously Published Works

Title

Barriers and Facilitators to Colorectal Cancer Screening in Vietnamese Americans: A Qualitative Analysis

Permalink

<https://escholarship.org/uc/item/5mq2k86x>

Journal

Journal of Cancer Education, 29(4)

ISSN

0885-8195

Authors

Kimura, Amanda
Sin, Mo-Kyung
Spigner, Clarence
et al.

Publication Date

2014-12-01

DOI

10.1007/s13187-014-0646-6

Peer reviewed



Published in final edited form as:

J Cancer Educ. 2014 December ; 29(4): 728–734. doi:10.1007/s13187-014-0646-6.

Barriers and Facilitators to Colorectal Cancer Screening in Vietnamese Americans: A Qualitative Analysis

Amanda Kimura, MPH¹, Mo-Kyung Sin, DSN, RN², Clarence Spigner, DrPH³, Anh Tran, and Shin-Ping Tu, MD, MPH^{3,4}

¹Department of Medicine, University of Washington, 325 9th Avenue Seattle, WA 98104

²College of Nursing, Seattle University, 901 12th Avenue Seattle, WA 98122

³Department of Health Services, University of Washington, 1959 NE Pacific Street Seattle, WA 98195

⁴Department of Medicine, Virginia Commonwealth University, 1201 East Marshall Street, VA 23298

Abstract

Background—Vietnamese Americans are the fourth largest Asian ethnic group in the United States. Colorectal cancer (CRC) ranks as one of the most common cancers in Vietnamese Americans. However, CRC screening rates remain low among Vietnamese Americans, with 40% of women and 60% of men reporting never having a sigmoidoscopy, colonoscopy, or Fecal Occult Blood Test.

Methods—We partnered with a Federally Qualified Health Center (FQHC) in Seattle, Washington, to conduct focus groups as part of a process evaluation. Using interpreters, we recruited and conducted three focus groups comprised of 6 women screened for CRC, 6 women not screened for CRC, and 7 men screened for CRC, which made up a total of 19 FQHC patients of Vietnamese descent between 50 and 79 years old. Three team members analyzed transcripts using open coding and axial coding. Major themes were categorized into barriers and facilitators to CRC screening.

Results—Barriers include lack of health problems, having comorbidities, challenges with medical terminology, and concerns with the colonoscopy. Participants singled out the risk of perforation as a fear they have towards colonoscopy procedures. Facilitators include knowledge about CRC and CRC screening, access to sources of information and social networks, and physician recommendation.

Conclusion—Our focus groups elicited information that adds to the literature and has not been previously captured through published surveys. Findings from this study can be used to develop more culturally appropriate CRC screening interventions and improve upon existing CRC screening programs for the Vietnamese American population.

Corresponding author: Shin-Ping Tu, MD, MPH, McGlothlin Medical Education Center, 12th Floor, Room 210, 1201 East Marshall Street, P.O. Box 980070, Richmond, VA 23298-0070, Telephone: 804-828-6634, sptu@vcu.edu.

Conflict of Interest

The authors declare that they have no conflict of interest.

Introduction

Colorectal cancer (CRC) has the fourth highest estimated incidence and second highest mortality rates in the United States in both genders [43]. If CRC is detected early through screening, chances of survival for at least five years is 90% [1]. The United States Preventive Services Task Force (USPSTF) recommends CRC screening for the average risk population between 50 and 75 years old using high sensitivity Fecal Occult Blood Test (FOBT), sigmoidoscopy and FOBT, or colonoscopy [48].

Asian Americans are the fastest growing racial group in the United States, increasing by 46% between the 2000 and 2010 U.S. Census. [18, 19] Among Asian American and Pacific Islanders (AAPIs), CRC ranks as one of the most common cancers, and the third highest cause of cancer mortality rate for both genders [43]. Among certain AAPI ethnic groups, CRC incidence is actually increasing [10]. However, AAPIs have lower reported rates of being up-to-date with CRC screenings than non-Hispanic whites [23, 26, 25, 20]. As of 2012, screening rates for whites are at 59.8%, compared to 46.9% for Asian Americans [4]. AAPIs with particularly low screening rates tend to be recent immigrants, poor, and uninsured [52]. Reported barriers to any type of CRC screening adherence include low educational attainment, lack of health insurance, and limited English proficiency [26].

Vietnamese Americans are the fourth largest Asian ethnic group in the United States [18] and the third largest Asian ethnic group in Washington state as well as in metropolitan Seattle [44, 40]. Vietnamese Americans have the fourth highest proportion of people living in poverty among Asian ethnic groups and tend to speak primarily Vietnamese in the household instead of English [31, 33].

Ethnic specific data from 13 Surveillance, Epidemiology, End Results (SEER) registries show CRC to be the second and fourth most common cancer in Vietnamese American women and men, respectively [12]. Screening rates for Vietnamese Americans tend to be lower than in non-Hispanic whites [50, 33]. In one study set in California and Texas, Vietnamese American participants reported screening rates of 48% for FOBT, 20% for sigmoidoscopy, and 26% for colonoscopy [32]. Recent data from the 2009 California Health Interview Survey shows CRC screening rates among Vietnamese American men and women at 52% and 61%, respectively, compared to 84% and 82% of non-Hispanic white men and women [53].

Little qualitative information has been published on factors associated with CRC screening among the Vietnamese American population. Using focus groups for research studies has produced rich and complex data that would otherwise remain hidden through dynamic interactions among the focus group participants [2, 17, 39, 28]. Previous studies on AAPIs and CRC using focus groups have been used [50, 34, 41, 46] to inform subsequent research and interventions.

Our study intended to collect information using four focus groups from Vietnamese men and women who have and have not been screened. We conducted these focus groups as part of a process evaluation of an intervention carried out at a Federally Qualified Health Center (FQHC) to promote CRC screening among their Vietnamese patients using medical

assistants and educational materials. For two years, the research team trained medical assistants on CRC and CRC screening, and medical assistants offered educational materials to their eligible patients. The Reach, Efficacy, Adoption, Implementation, and Maintenance (RE-AIM) model was used to evaluate the intervention process in the original study. [11]. This paper intends to identify barriers to address and facilitators to apply to promote CRC screening.

Methods

All study procedures were approved by University of Washington's Institutional Review Board. Using convenience and snowball sampling methods, we recruited FQHC patients of Vietnamese descent who were between 50 and 79 years old. We extended the maximum age beyond the USPSTF recommended age of 75 to 79 to account for participants who qualified for screening during the start of the intervention in 2009. Recruitment flyers were posted in the clinic, and clinic staff assisted with distributing flyers and informing eligible patients about the study. Potential participants were invited to provide their contact information at the clinic. Participants who had verbally consented were asked to invite eligible family and friends to contact research staff. Using interpreters, we contacted potential participants via telephone at times of their convenience. Interpreters described the study purpose and procedures, determined the patients' eligibility, ascertained verbal consent, and scheduled them with the appropriate focus group.

We developed our semi-structured focus group guide (Table 1) using the CRC screening intervention and had modified it iteratively based on responses received through our data collection period. Questions included if participants had seen the CRC pamphlet or not; how the CRC DVD was made available to them or not, what made them continue screening or not, what would help facilitate them getting CRC screening, and what prevented them from getting CRC screening.

All focus groups were conducted at the FQHC. To encourage discussion among participants we convened focus groups by gender and screening status. We obtained written informed consent in the Vietnamese language from each participant, who then completed a demographic form consisting of six items, including age, marital status, and years of education. The lead moderator explained the purpose of the study and ground rules (e.g., speaking one by one, turning off cell phones, and keeping names confidential) and with the co-moderator, conducted the focus groups with two bilingual Vietnamese interpreters. The moderators invited participants to share any CRC related screening experiences, and based on the participants' responses, they asked questions and probed for more detailed responses. All focus group sessions were audiorecorded and lasted approximately 90 minutes each. Participants received \$20 gift cards at the end of each session.

Research staff transcribed the English portions of the focus group audiorecordings verbatim. A bilingual Vietnamese research team member also checked the lexical equivalence of the interpreted discussions via the audiorecordings. We used an inductive and iterative process for our qualitative analysis and achieved saturation [29, 2]. Three research members representing the disciplines of public health and nursing reviewed the transcripts and

performed open coding [5], going through the transcripts line by line independently to identify trends and themes from participants' phrases, statements, and quotes. We then discussed and came to consensus on the codes that emerged from the data. Using Atlas.ti version 6, we organized the data and developed a preliminary codebook. Axial coding [5] was then used to connect the themes to each other under the major categories of "barriers" and "facilitators." The decision to categorize these themes into either barriers or facilitators to CRC screening emerged from the participant responses when asked what helped or prevented them from being screened, as well as other discussions during the focus group. The codebook was refined to reflect these relationships.

Results

Nineteen Vietnamese patients participated in the three focus groups, which were comprised of six women who had been screened for CRC, six women who had not been screened for CRC, and seven men who had been screened for CRC. We did not succeed in recruiting men who had not screened for CRC. Table 2 shows the demographic information of the focus group participants. The majority of participants were 71 years old or older, were born in Vietnam, and had lived in the United States for more than ten years, and had received ten or more years of education.

Seven themes emerged from the three focus groups. A list of the seven major themes and relevant quotes from participants can be found in Table 3. Four themes categorized as barriers include having experienced a relative lack of health problems, having comorbidities, challenges with medical terminology, and concerns about colonoscopy complications. Three themes deemed to be reflective of facilitators include knowledge about CRC and CRC screening, physician recommendation, and the influence of social networks.

Lack of Health Problems

The perceived lack of health problems prevented Vietnamese women from seeking CRC screening. A Vietnamese woman who has not had a colonoscopy expressed, "And I feel that I am absolutely normal. I have no symptoms of having any problems with my digestive system or having any stomach aches. My stomach is good. Condition is good."

Having Comorbidities

Vietnamese men cited diabetes as a specific condition that can make colonoscopy screening more difficult for them because of the preparations. Participants with diabetes mellitus expressed difficulty with not eating for twenty four hours prior to the procedure. One man expressed, "Before we have the colonoscopy, they all ask us to not eat for awhile. There's no sugar or level of sugar in my blood [so it is] very low...I don't know if I can handle it." Another man stated, "...As for me, I have diabetes so staying away from food for a day, I couldn't help myself and that night I had milk. So in the following morning...they said that because I had milk, I could not go on with my test."

Challenges with Medical Terminology

Challenges with understanding the medical terminology were found among focus group participants (See Table 3, 1C). Both Vietnamese male and female participants tended to confuse FOBT with stool tests for parasites, using the two tests interchangeably when describing their experiences. Furthermore, participants frequently used “nurse” when referring to who would offer CRC screening materials to them as part of the intervention study. Upon further inquiry, a male participant provided the following description: “[The person who showed me this information] is that person who took me in and take my blood pressure.” The role in charge of this task at the clinic was not the nurse, but the medical assistant. The interpreters confirmed that the Vietnamese language has no equivalent for “medical assistant.”

Concerns regarding Colonoscopy

Participants also noted that the preparation needed before colonoscopy and the risk of perforations during the procedure as barriers to getting screened. Participants expressed nervousness when faced with drinking the solution needed to prepare for colonoscopy. A male participant stated, “For most of us, we hesitate when we saw a big bottle of solution. If we have a pill, then that would be better. Most of us just really kind of get nervous when we saw a big bottle of solution that we have to take.”

Both Vietnamese male and female participants expressed fear of perforations during colonoscopy. Even participants who have been screened conveyed their concerns about the risk of perforations, after hearing the experience of someone who experienced such a complication. As one man stated, “The other things that people are afraid of are the risk of having their intestine being punctured, their colon being punctured...Because my younger sister, that had happened to her.”

Knowledge about CRC and CRC screening

Knowledge about CRC and CRC screening helped both genders decide to get screened. With awareness of the recommended age range, participants were more motivated to get screened. Materials from the CRC screening intervention increased awareness and motivated participants to get screened. After watching the DVD, a participant expressed, “It give me the strength and not only just me, but other people too to make the decision to go in to [get] tested.”

Physician Recommendation

Participants across gender and screening status mentioned physician recommendation as an important facilitator to getting screened. The respect and trust participants have for the physician, seen as the “most important person” within the clinic reassured participants to get screened for CRC. Trust in the physician overrode concerns that participants may have had, such as the aforementioned fear of perforations. A female participant who had expressed concerns about perforations also stated, “So I recommend everyone to be calm during the procedures and because the doctors know what they’re doing and they swear to take care of their patients so we all need to be calm and let them do their job.”

Access to Sources of information and Social Networks

Hearing about experiences with CRC from within their social network, which can include family and friends, had motivated participants to get screened (See Table 3, 2C). The participants' introduction to CRC is through word of mouth and experiences of people in their networks, particularly the experiences of family and friends. For instance, a female participant said that she knew "a lady who is just barely 40 years old and she died after a few months of finding out she has colon cancer." They also heard about procedures related to CRC screening from their friends, with one woman stating that she heard from friends "that now they don't give the liquid anymore" for colonoscopy.

Discussion

This is the one of the few qualitative studies where a thematic analysis identified barriers and facilitators to CRC screening among Vietnamese American immigrants. Our findings are consistent with findings from previous quantitative studies on CRC screening in Vietnamese Americans [50, 32, 26]. Lack of symptoms [50, 32, 35, 42], difficult preparation for colonoscopy [50, 32, 24, 14, 13], knowledge about CRC and CRC screening [50, 32, 26], and physician recommendation [50, 32, 26, 22, 27] have been well-documented throughout the literature among Vietnamese Americans and other minority groups.

While one cohort study examining veterans had shown a positive association between comorbidities and screening incidence [51], a systematic review concluded that the impact of comorbidities on CRC screening was inconsistent [15] and reviews of medical records showed no significant association between comorbidity and CRC screening [47, 9]. The mixed results may signify that more research needs to be conducted to explore the association between comorbidities and the uptake of CRC screening.

In our study, male participants reported difficulty following the preparation for their colonoscopy because of diabetes mellitus. They singled out fasting as an especially difficult requirement for colonoscopy. Previous systematic reviews and meta-analyses of epidemiological studies have indicated diabetes mellitus to be a risk factor for CRC [45, 7, 54, 3]. Diabetes mellitus has been associated with inadequate bowel preparation for colonoscopy in prospective, quantitative studies [16, 37]. If colonoscopy preparation hinders diabetic patients from being screened, this may lead to a later diagnosis of CRC among this population. Additional research is needed to explore whether diabetic medication are adjusted to enable diabetic patients' need to safely complete the preparations for colonoscopies.

One study also found that Vietnamese had mistaken FOBT for the ova and parasite stool test, reporting that they got tested at the time of immigration [50]. Descriptions of FOBT beyond "stool test" is needed for immigrant populations to avoid confusion with the ova and parasite stool test, which can potentially overestimate self-reported FOBTs in immigrants from certain parts of the world.

A search on PubMed produced only three studies that discussed the fear of perforation as a potential barrier among non-Hispanic whites, African Americans, and Hispanics [42, 38, 6].

These studies utilized qualitative methods, conducting in-depth individual interviews. Palmer et al noted that the fear of perforation was among one of the reasons African Americans preferred FOBT to colonoscopy [38]. Our focus groups did not elicit a similar preference; however, future studies need to examine this issue given the lower colonoscopy uptake among Asian Americans compared to non-Hispanic whites [8].

Knowledge about CRC and CRC screening as a facilitator has been reported in previous studies on Vietnamese Americans [50, 32, 26]. In particular, Nguyen noted that having heard of colon polyps was positively associated with receipt of CRC screening [32], which was consistent with our focus group participants who had been screened. Our findings support the results of others who encourage the development of educational programs to improve knowledge on CRC and CRC screening in Vietnamese Americans to increase screening rates.

Two prior qualitative studies, using focus groups and in-depth interviews, respectively, suggest that social networks may be more influential than physician recommendation [41, 21], as participants were unable to remember what they talked about with their physician. However, that was not found in our study. In fact, the majority of screened participants clearly remembered how their physicians approached the discussion of CRC screening and discussed how physician recommendation overrode any fears they had of being screened.

We found that both men and women relied on their family and friends to learn about CRC, and that the CRC-related experiences, such as a family member diagnosed and treated for CRC, faced by their social network motivated them to be screened. The literature has shown the strong influence of social networks on Vietnamese patients' decision to be screened for CRC [41, 36]. Our study is consistent with Walsh et al's findings that those who knew someone with CRC were more likely to be screened [50]. Other studies focusing on Vietnamese Americans and other Asian ethnic groups showed social support as a facilitator for cancer screenings.[30, 26] However, these studies only focus on women. In our focus groups, men also found testimonials from family and friends motivating. Developing programs that encourages the sharing of CRC experiences among family and friends may serve as a motivator for CRC screening.

We faced several limitations with our study. Male Vietnamese patients who had not been screened proved hard to reach, and we were unsuccessful in recruiting them. Even after we changed our recruitment methods to snowball sampling, we still could not recruit any men who had not been screened. In a different study conducted with urban Hispanics, researchers managed to recruit males who had not been screened [49]. This may suggest that to overcome cultural differences, other more effective recruitment strategies are needed. As men in this population are less likely to be screened [47], we may have missed other barriers and facilitators to CRC screening.

Furthermore, participants' screening status was based on self-report. While medical records are the gold standard of screening status, this was not feasible for the scope of our focus groups. We used interpreters to translate from Vietnamese to English and vice versa between the focus group moderator and the participants, which may have led to losing

culturally-related meaning in translation. Ideally the focus group moderator would be bilingual in order to preserve the nuance of the native language used.

Conclusion

This study is one of the few qualitative studies that examine the barriers and facilitators to CRC screening in Vietnamese Americans. Our focus groups elicited information that adds to the literature and has not been previously captured other through published studies. These findings can be used to develop more culturally appropriate studies and improve upon current CRC screening programs for Vietnamese Americans and other similar immigrant populations.

Acknowledgments

We would like to thank Huyen Martin, Loan Nguyen-Phan, International Community Health Services, the Executive Team, the Management Team, and all the staff who contributed to this collaborative research. This work was supported by grant R01 CA 124397 from the National Cancer Institute. The National Cancer Institute played no role in the design of the work or the interpretation or presentation of it made here.

References

1. American Cancer Society. [Accessed September 23 2011] Cancer Facts and Figures. 2011. <http://www.cancer.org/Research/CancerFactsFigures/index>
2. Bernard, HR.; Ryan, GW. Analyzing Qualitative Data: Systematic Approaches. Thousand Oaks: Sage Publications, Inc; 2010.
3. Berster JM, Goke B. Type 2 diabetes mellitus as risk factor for colorectal cancer. Arch Physiol Biochem. 2008; 114(1):84–98. 792979165 [pii]. 10.1080/13813450802008455 [PubMed: 18465362]
4. Centers for Disease Control and Prevention. Colorectal (Colon) Cancer. 2012. http://www.cdc.gov/cancer/colorectal/what_cdc_is_doing/success/ca2.htm. Accessed
5. Corbin, J.; Strauss, A. Basics of Qualitative Research. Thousand Oaks: Sage Publications, Inc; 2008. 3 Aufl
6. Denberg TD, Melhado TV, Coombes JM, Beaty BL, Berman K, Byers TE, Marcus AC, Steiner JF, Ahnen DJ. Predictors of nonadherence to screening colonoscopy. J Gen Intern Med. 2005; 20(11): 989–995. JG1164 [pii]. 10.1111/j.1525-1497.2005.00164.x [PubMed: 16307622]
7. Deng L, Gui Z, Zhao L, Wang J, Shen L. Diabetes mellitus and the incidence of colorectal cancer: an updated systematic review and meta-analysis. Dig Dis Sci. 2012; 57(6):1576–1585.10.1007/s10620-012-2055-1 [PubMed: 22350783]
8. Fenton JJ, Tancredi DJ, Green P, Franks P, Baldwin LM. Persistent racial and ethnic disparities in up-to-date colorectal cancer testing in medicare enrollees. J Am Geriatr Soc. 2009; 57(3):412–418. [PubMed: 19175435]
9. Garman KS, Jeffreys A, Coffman C, Fisher DA. Colorectal cancer screening, comorbidity, and follow-up in elderly patients. Am J Med Sci. 2006; 332(4):159–163. 00000441-200610000-00001 [pii]. [PubMed: 17031239]
10. Giddings BH, Kwong SL, Parikh-Patel A, Bates JH, Snipes KP. Going against the tide: increasing incidence of colorectal cancer among Koreans, Filipinos, and South Asians in California, 1988–2007. Cancer causes & control : CCC. 2012; 23(5):691–702.10.1007/s10552-012-9937-6 [PubMed: 22460700]
11. Glasgow RE, Vogt TM, Boles SM. Evaluating the public health impact of health promotion interventions: the RE-AIM framework. Am J Public Health. 1999; 89(9):1322–1327. [PubMed: 10474547]

12. Gomez SL, Noone AM, Lichtensztajn DY, Scoppa S, Gibson JT, Liu L, Morris C, et al. Cancer Incidence Trends Among Asian American Populations in the United States, 1990 to 2008. *J Natl Cancer Inst.* 2013 djt157 [pii]. 10.1093/jnci/djt157
13. Goodman MJ, Ogdie A, Kanamori MJ, Canar J, O'Malley AS. Barriers and facilitators of colorectal cancer screening among Mid-Atlantic Latinos: focus group findings. *Ethn Dis.* 2006; 16(1):255–261. [PubMed: 16599380]
14. Green AR, Peters-Lewis A, Percac-Lima S, Betancourt JR, Richter JM, Janairo MP, Gamba GB, Atlas SJ. Barriers to screening colonoscopy for low-income Latino and white patients in an urban community health center. *Journal of general internal medicine.* 2008; 23(6):834–840.10.1007/s11606-008-0572-6 [PubMed: 18350339]
15. Guessous I, Dash C, Lapin P, Doroshenk M, Smith RA, Klabunde CN. Colorectal cancer screening barriers and facilitators in older persons. *Prev Med.* 2010; 50(1–2):3–10. S0091-7435(09)00635-5 [pii]. 10.1016/j.yjmed.2009.12.005 [PubMed: 20006644]
16. Hassan C, Fuccio L, Bruno M, Pagano N, Spada C, Carrara S, Giordanino C, et al. A predictive model identifies patients most likely to have inadequate bowel preparation for colonoscopy. *Clin Gastroenterol Hepatol.* 2012; 10(5):501–506. S1542-3565(12)00016-X [pii]. 10.1016/j.cgh.2011.12.037 [PubMed: 22239959]
17. Ho D. The Focus Group Interview: Rising to the Challenge in Qualitative Research Methodology. *Australian Review of Applied Linguistics.* 2006; 29(1):05.01–05.19.
18. Hoeffel, EM.; Rastogi, S.; Kim, MO.; Shahid, H. 2010 Census Briefs. 2012. The Asian Population: 2010.
19. Hou SI, Sealy DA, Kabiru CW. Closing the disparity gap: cancer screening interventions among Asians—a systematic literature review. *Asian Pacific journal of cancer prevention : APJCP.* 2011; 12(11):3133–3139. [PubMed: 22394003]
20. Inadomi JM, Vijan S, Janz NK, Fagerlin A, Thomas JP, Lin YV, Munoz R, et al. Adherence to colorectal cancer screening: a randomized clinical trial of competing strategies. *Arch Intern Med.* 2012; 172(7):575–582. 172/7/575 [pii]. 10.1001/archinternmed.2012.332 [PubMed: 22493463]
21. Jilcott, Pitts SB.; Lea, CS.; May, CL.; Stowe, C.; Hamill, DJ.; Walker, KT.; Fitzgerald, TL. “Fault-line of an earthquake”: a qualitative examination of barriers and facilitators to colorectal cancer screening in rural, Eastern North Carolina. *J Rural Health.* 2013; 29(1):78–87.10.1111/j.1748-0361.2012.00424.x [PubMed: 23289658]
22. Jones RM, Devers KJ, Kuzel AJ, Woolf SH. Patient-reported barriers to colorectal cancer screening: a mixed-methods analysis. *Am J Prev Med.* 2010; 38(5):508–516. S0749-3797(10)00098-X [pii]. 10.1016/j.amepre.2010.01.021 [PubMed: 20409499]
23. Joseph DA, King JB, Miller JW, Richardson LC. Prevalence of Colorectal Cancer Screening among Adults - Behavioral Risk Factor Surveillance System, United States. 2012; 2010
24. Lau DT, Machizawa S, Demonte W, Cameron KA, Muramatsu N, Henker RD, Chikahisa F, Tanimura M. Colorectal cancer knowledge, attitudes, screening, and intergenerational communication among Japanese American families: an exploratory, community-based participatory study. *J Cross Cult Gerontol.* 2013; 28(1):89–101.10.1007/s10823-012-9184-z [PubMed: 23263883]
25. Lee HY, Lundquist M, Ju E, Luo X, Townsend A. Colorectal cancer screening disparities in Asian Americans and Pacific Islanders: which groups are most vulnerable? *Ethnicity & health.* 2011; 16(6):501–518.10.1080/13557858.2011.575219 [PubMed: 22050536]
26. Ma GX, Wang MQ, Toubbeh J, Tan Y, Shive S, Wu D. Factors Associated with Colorectal Cancer Screening Among Cambodians, Vietnamese, Koreans and Chinese Living in the United States. *North American journal of medicine & science.* 2012; 5(1):1–8. [PubMed: 23243486]
27. Maxwell AE, Bastani R, Crespi CM, Danao LL, Cayetano RT. Behavioral mediators of colorectal cancer screening in a randomized controlled intervention trial. *Prev Med.* 2011; 52(2):167–173. [pii]. 10.1016/j.yjmed.2010.11.007S0091-7435(10)00462-7 [PubMed: 21111754]
28. McLafferty I. Focus group interviews as a data collecting strategy. *J Adv Nurs.* 2004; 48(2):187–194. JAN3186 [pii]. 10.1111/j.1365-2648.2004.03186.x [PubMed: 15369499]
29. Miles, MB.; Huberman, AM. *Qualitative Data Analysis: An Expanded Sourcebook.* Thousand Oaks: Sage Publications, Inc; 1994. 2 Aufl

30. Nguyen-Truong CK, Lee-Lin F, Leo MC, Gedaly-Duff V, Nail LM, Wang PR, Tran T. A community-based participatory research approach to understanding pap testing adherence among Vietnamese American immigrants. *J Obstet Gynecol Neonatal Nurs.* 2012; 41(6):E26–40.10.1111/j.1552-6909.2012.01414.x
31. Nguyen, AT. [Accessed May 1 2013] The Vietnamese Population in the United States: 2010. 2011. http://www.bpsos.org/mainsite/images/DelawareValley/community_profile/us.census.2010.the%20vietnamese%20population_july%202.2011.pdf
32. Nguyen BH, McPhee SJ, Stewart SL, Doan HT. Colorectal cancer screening in Vietnamese Americans. *J Cancer Educ.* 2008; 23(1):37–45. [PubMed: 18444045]
33. Nguyen BH, McPhee SJ, Stewart SL, Doan HT. Effectiveness of a controlled trial to promote colorectal cancer screening in Vietnamese Americans. *American journal of public health.* 2010; 100(5):870–876.10.2105/AJPH.2009.166231 [PubMed: 20299659]
34. Nguyen BH, Vo PH, Doan HT, McPhee SJ. Using focus groups to develop interventions to promote colorectal cancer screening among Vietnamese Americans. *J Cancer Educ.* 2006; 21:80–83. [PubMed: 17020518]
35. Nguyen GT, Barg FK, Armstrong K, Holmes JH, Hornik RC. Cancer and communication in the health care setting: experiences of older Vietnamese immigrants, a qualitative study. *J Gen Intern Med.* 2008; 23(1):45–50.10.1007/s11606-007-0455-2 [PubMed: 18030538]
36. Nguyen GT, Shungu NP, Niederdeppe J, Barg FK, Holmes JH, Armstrong K, Hornik RC. Cancer-related information seeking and scanning behavior of older Vietnamese immigrants. *J Health Commun.* 2010; 15(7):754–768. 929786698 [pii]. 10.1080/10810730.2010.514034 [PubMed: 21104504]
37. Ozturk NA, Gokturk HS, Demir M, Unler GK, Gur G, Yilmaz U. Efficacy and safety of sodium phosphate for colon cleansing in type 2 diabetes mellitus. *South Med J.* 2010; 103(11):1097–1102.10.1097/SMJ.0b013e3181f20b13 [PubMed: 20856180]
38. Palmer RC, Midgette LA, Mullan ID. Colorectal cancer screening preferences among African Americans: which screening test is preferred? *J Cancer Educ.* 2010; 25(4):577–581.10.1007/s13187-010-0081-2 [PubMed: 20229075]
39. Rabiee F. Focus-group interview and data analysis. *Proc Nutr Soc.* 2004; 63(4):655–660. S0029665104000874 [pii]. [PubMed: 15831139]
40. Seattle, City of. [Accessed May 1 2013] Demographics- Population by Race in 2010. 2011. <http://www.seattle.gov/oir/datasheet/demographics.htm>
41. Shaw SJ, Vivian J, Orzech KM, Torres CH, Armin J. Consistency in attitudes across cancer screenings in medically underserved minority populations. *J Cancer Educ.* 2012; 27(1):165–171.10.1007/s13187-011-0285-0 [PubMed: 22105657]
42. Shokar NK, Vernon SW, Weller SC. Cancer and colorectal cancer: knowledge, beliefs, and screening preferences of a diverse patient population. *Fam Med.* 2005; 37(5):341–347. [PubMed: 15883900]
43. Siegel R, Naishadham D, Jemal A. Cancer statistics, 2013. *CA: a cancer journal for clinicians.* 2013; 63(1):11–30.10.3322/caac.21166 [PubMed: 23335087]
44. [Accessed May 1 2013] Snapshot of Asian Pacific Americans in Washington State. 2012. <http://www.capaa.wa.gov/data/washingtonState.shtml>
45. Sun L, Yu S. Diabetes mellitus is an independent risk factor for colorectal cancer. *Dig Dis Sci.* 2012; 57(6):1586–1597.10.1007/s10620-012-2059-x [PubMed: 22302244]
46. Tu SP, Yip MP, Chun A, Choe J, Bastani R, Taylor V. Development of intervention materials for individuals with limited English proficiency: lessons learned from “Colorectal Cancer Screening in Chinese Americans”. *Med Care.* 2008; 46(9 Suppl 1):S51–61.10.1097/MLR.0b013e31817f0cde [PubMed: 18725834]
47. Tu SP, Yip MP, Li L, Chun A, Taylor V, Yasui Y. Continuity of care and colorectal cancer screening by Vietnamese American patients. *Asian Pac J Cancer Prev.* 2010; 11(4):1125–1131. [PubMed: 21133636]
48. US Preventive Services Task Force. Screening for colorectal cancer: U.S. Preventive Services Task Force recommendation statement. *Ann Intern Med.* 2008; 149(9):627–637. [PubMed: 18838716]

49. Varela A, Jandorf L, Duhamel K. Understanding factors related to Colorectal Cancer (CRC) screening among urban Hispanics: use of focus group methodology. *J Cancer Educ.* 2010; 25(1): 70–75. 10.1007/s13187-009-0015-z [PubMed: 20082178]
50. Walsh JM, Kaplan CP, Nguyen B, Gildengorin G, McPhee SJ, Perez-Stable EJ. Barriers to colorectal cancer screening in Latino and Vietnamese Americans. Compared with non-Latino white Americans. *J Gen Intern Med.* 2004; 19(2):156–166. [PubMed: 15009795]
51. Walter LC, Lindquist K, Nugent S, Schult T, Lee SJ, Casadei MA, Partin MR. Impact of age and comorbidity on colorectal cancer screening among older veterans. *Ann Intern Med.* 2009; 150(7): 465–473. [PubMed: 19349631]
52. Wong ST, Gildengorin G, Nguyen T, Mock J. Disparities in colorectal cancer screening rates among Asian Americans and non-Latino whites. *Cancer.* 2005; 104(12 Suppl):2940–2947. 10.1002/cncr.21521 [PubMed: 16276538]
53. Yi M, Xu J, Liu P, Chang GJ, Du XL, Hu CY, Song Y, et al. Comparative analysis of lifestyle factors, screening test use, and clinicopathologic features in association with survival among Asian Americans with colorectal cancer. *Br J Cancer.* 2013; 108(7):1508–1514. bjc201397 [pii]. 10.1038/bjc.2013.97 [PubMed: 23470470]
54. Yuhara H, Steinmaus C, Cohen SE, Corley DA, Tei Y, Buffler PA. Is diabetes mellitus an independent risk factor for colon cancer and rectal cancer? *Am J Gastroenterol.* 2011; 106(11): 1911–1921. quiz 1922. ajg2011301 [pii]. 10.1038/ajg.2011.301 [PubMed: 21912438]

Table 1

Sample Content of Interview Guide

Question
Have you been offered this pamphlet?
Describe how the DVD ^a was offered to you.
How did you decide to get colorectal cancer screening?
(If screened during intervention phase) What factors have made you continue/not continue to get colorectal cancer screening?
What would help you to get screened for colorectal cancer?
What are barriers that prevented you from getting screened for colorectal cancer?

^aDVD = Digital Versatile Disc

Table 2

Participant Characteristics (N=19)

Variables	N	%
<i>Sex</i>		
Male	7	37
Female	12	63
<i>Age</i>		
50–60	3	16
61–70	6	31
71 +	10	53
<i>Years in U.S.</i>		
Less than 10 years	4	21
10–20 years	12	63
More than 20 years	3	16
<i>Marital status</i>		
Married	13	68
Separated/Divorced/Widowed/Unmarried	6	32
<i>Years of Education</i>		
Less than 10 years	6	32
More than 10 years	13	68

Table 3

Barriers and Facilitators to Colorectal Cancer Screening

	Theme	Participant Quote
1	<i>Barriers</i>	
1A	Lack of Health Problems	"I don't have diabetes, high cholesterol, or high blood pressure. If my stool seems regular...and well that's why I didn't request for a stool test."
1B	Comorbidities	"But for those who have diabetes or have to inject insulin they [are] very afraid or [hesitant] to go through [these] procedures."
1C	Challenges with Medical Terminology	"...I've screened from the stool to find any illnesses concerning the digestive system...My stool was tested and there were bacteria in there and I was given antibiotics but have not been having the colonoscopy yet."
1D	Concerns with Colonoscopy	"For me I think I'm kind of worried about my position during the procedures. If I move in some way, I'm afraid something might be damaged during the procedures. So I'm thinking maybe there's a puncture in the colon."
2	<i>Facilitators</i>	
2A	Knowledge about CRC* and CRC Screening	"As for me, I didn't see anything that I should be afraid of...If I have enough information to understand and also to find out all the symptoms and have this illness, then I don't think there is anything that I should be concerned."
2B	Physician Recommendation	"So if the doctor recommends that...we should not go against his words. He knows what's best to treat us and we as patients should listen to the doctor."
2C	Sources of Information and Social Networks	"...I have a friend who is 50 something years old and found out that that person had colon cancer. And so he had either chemotherapy or radiation therapy and for awhile he had to have a tube right here to deliver stools...No I did not [hear about colon cancer before this friend]. Because seeing my friend like that, I was just terrified. And therefore, I had to ask to have [the colorectal cancer screening] done."

* CRC = Colorectal cancer