

Barriers to and Facilitators of Colorectal Cancer Screening in Arab Americans:
A Qualitative Study

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Abstract

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A Qualitative Study

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Purpose: To explore the barriers to and facilitators of colorectal cancer screening in Arab Americans as assessed through a qualitative study.

Study Design: A qualitative study utilizing grounded theory conducted among focus groups from the Arab American community.

Methods: We conducted two focus groups, where the first group had six participants and the second one had three participants. All participants were Muslims and males. The majority of participants had primary care physicians and underwent colorectal cancer screening. We used eight open-ended questions and added probes to collect more details. The focus groups'

responses were audio-recorded and the recording was translated verbatim into English and transcribed. We utilized the Grounded Theory to build a conceptual model and two frameworks. A qualitative analysis was performed to evaluate the participants' responses. The data was reviewed and coded based on relevant words, sentences, and phrases. The codes were combined and themes were generated and placed into the categories of either barriers or facilitators.

Results: Themes that emerged out of the qualitative data were placed into two categories: barriers and facilitators. Themes demonstrating barriers to colorectal cancer screening included disbelief in modern medicine, concerns about the procedure, and lack of communication with the physician. Three themes identified as facilitators to colorectal cancer screening included compliance and priority of health, access to healthcare, and awareness.

Recommendation: Our recommendations include increasing the awareness of CRC and its consequences and explaining the health benefits of screening among the Arab American community. We also recommend providing cultural-based training to physicians in order to improve their communication skills with Arab American patients. Physicians should offer Arab American patients different CRCS methods to achieve higher levels of compliance.

TABLE OF CONTENTS

<u>Contents</u>	<u>Page</u>
List of Tables and Figures	6
Introduction	7
Methods	9
Results	11
Discussion	17
Limitations	23
Recommendation	24
References	30
Appendix A	35
Appendix B	36

LIST OF TABLES AND FIGURES

<u>Tables and Figures</u>	<u>Page</u>
Table 1 – Demographics of the study participants	25
Table 2 – Themes of the study results	26
Figure 1 – Conceptual model of colorectal cancer screening	27
Figure 2 – Framework of colorectal cancer screening among Arab Americans	28
Figure 3 – Framework of interventions related to colorectal cancer screening among Arab Americans	29

INTRODUCTION

Colorectal cancer (CRC) is the second leading cause of cancer-related deaths in the US. The Centers for Disease Control and Prevention (CDC) reported that 136,119 people were diagnosed with CRC and 51,813 people died from it in 2013. The incidence rate of CRC decreased significantly in both men and women between 2003 and 2012 by 3.6% and 3.2%, respectively. During the same period, the mortality rate of CRC declined by 2.8% in both men and women.¹ The decline in incidence and mortality rates is attributed to the early detection of CRC through screening modalities.² The US Preventive Services Task Force (USPSTF) recommends that average-risk asymptomatic adults aged 50 to 75 years should be screened for CRC.³ Colorectal cancer screening (CRCS) tests consist of stool-based tests and direct visualization tests. The stool-based screening methods include the high sensitivity guaiac-based fecal occult blood test (FOBT), fecal immunochemical test (FIT), and stool DNA testing. Direct visualization tests involve colonoscopy, flexible sigmoidoscopy, double-contrast barium enema, and computed tomographic colonography (CTC).

Although there is strong evidence supporting the benefits of CRCS, the screening rates for either FOBT or endoscopy in 2010 reached only 59.1%.⁴ Multiple programs and interventions were developed and studied to increase CRCS rates in the US. However, multiple factors affect CRCS rates and some of them are modifiable including socioeconomic status (SES), education level, health insurance status, and family income. Health disparities in CRCS are present at different levels, especially race and ethnicity.⁵ Researchers examined race/ethnicity disparities in CRCS locally and nationally through qualitative and quantitative studies. They were able to identify facilitators of and barriers to CRCS in certain racial and ethnic groups including African Americans, Asians, Hispanics, American Indians, and Alaskan Natives. Lack of health insurance

and access to healthcare are associated with low CRCS rates, but they are not the only factors among minority groups.⁶ Many other barriers were identified and linked to the low rates of CRCS including low CRC knowledge, fear and embarrassment of the procedure, lack of physician recommendation, low health literacy, and fear of screening outcomes.⁷⁻¹⁵ There are cultural differences across racial and ethnic groups in the perception of CRCS. Therefore, interventions should be culturally tailored to increase the utilization of CRCS.

Arab Americans are not federally recognized as a separate ethnic group; however, they are considered to be part of the White group.¹⁷ The Arab American Institute Foundation estimated that nearly 3.7 million Americans are of Arab descent.¹⁸ Only a few studies have addressed cancer epidemiology and screening disparities among Arab Americans in the last decade.¹⁹⁻²⁴ Two studies linked a database of Arabic names with the National Cancer Institute's Surveillance, Epidemiology, and End Results registry (SEER) in order to estimate the incidence rates and prevalence of cancer cases among Arab Americans and adjusted the data by age, gender, and cancer site.^{25,26} The rates of CRCS in Arab Americans were reported to be 25.6% in one study in Michigan based on the 2001-2002 Special Cancer Behavioral Risk Factor Survey (SCBRFS), indicating a disparity in screening rates within this population.²⁶ Researchers developed patient navigation programs and culturally tailored strategies to reduce CRCS disparities in many racial and ethnic groups. Understanding the barriers and facilitators of CRCS in a specific ethnic group is the first step in the creation of such programs. However, there is insufficient data regarding Arab Americans' beliefs and attitudes toward CRCS.²⁷ The aim of this study is to explore the barriers to and facilitators of CRCS in Arab Americans.

METHODS

Study Design

We built a conceptual diagram at the beginning of our study to help us understand the process of CRCS and the potential barriers (Figure 1). The diagram considers that the perceived concerns and knowledge of the person and the physician about CRC are the main triggers of the process. However, several factors may affect each step causing a delay or interruption in the process of completing a screening test.

Qualitative analysis utilizing the Grounded Theory was used to identify the barriers to and facilitators of colorectal cancer screening among Arab Americans. The goal in using Grounded Theory here was to develop a common framework for understanding any health disparities within the Arab American community impacting CRCS, derived from the participants' experiences. The participant's views, attitudes, beliefs, and feelings were collected and analyzed. The University of Washington's Institutional Review Board approved the study and its procedures (IRB ID: STUDY00000666).

We conducted two focus groups in two different locations. We chose the times and locations of the focus groups based on the participants' preferences. The participants elected to speak in English during the first focus group and the second group spoke in Arabic. We explained the purpose of the study and obtained written informed consents from each participant. Each participant filled the general information sheet about his demographics without mentioning any personal health information (Appendix A). We discussed the focus group rules and they all agreed to participate. We recorded the focus groups' responses using a digital audio-recorder and two bilingual researchers transcribed the commentary verbatim into English. We asked eight open-ended questions to explore the barriers to and the facilitators of CRCS. In addition, detailed

probe questions were used to understand their views and attitudes (Appendix B). Each focus group lasted approximately 45 minutes. Each participant received a \$25 gift card to compensate for the use of his time. At the end of each focus group, a brief presentation about CRCS was given along with brochures and CRC educational materials that were obtained from the American Cancer Society office.

Study Participants

Focus groups were carried out in California, which has the largest number of Arab Americans in the US. The recruitment process involved public announcements at Arab-majority mosques and distributing flyers in Mediterranean stores. We recruited Arab Americans who live in the San Francisco Bay Area of California and met the following eligibility criteria: Participants were 50 to 75 years old, born in an Arabic country, and identify themselves to be of Arab ethnicity. We excluded people with active or prior history of CRC. Nine participants agreed to join the focus groups, where the first group had six participants and the second had three. Only men participated in the study and there was a difficulty in approaching women due to the conservative culture of segregation of the Arab American community.

Data Analysis

The audio-recordings were transcribed and translated verbatim into English by two qualified bilingual researchers. The principal investigator (PI) analyzed the data alone and there was no crosschecking performed during the coding process. The PI initially reviewed the data carefully and coded all concepts, activities, actions, and opinions. Relevant words, sentences, and phrases were labeled with codes. An open-minded approach was used based on the Grounded Theory and the PI built the code dictionary while reviewing the data. The PI combined similar

and relevant codes to create new codes. Themes were generated and categorized into barriers and facilitators. Based on the generated themes, we built a framework utilizing the Grounded Theory that shows the effects of the barriers and facilitators on the CRCS process in Arab Americans (Figure 2). The framework consists of the same process used in the conceptual diagram, however the barriers and facilitators are consistent with the study results.

RESULTS

Nine Arab Americans participated in the study and two focus groups were conducted. The first group comprised six participants who had experience with two CRCS methods (FIT and colonoscopy) except one person who had experience with only one (FIT only). They were well educated with average to high income. The second group consisted of three participants who were unemployed and had lower levels of education compared to the first group. One of them never had CRCS and another one had only FIT in the past. The mean age of the participants was approximately 63 and all of them were males. All participants were Muslims and U.S. citizens. Demographics of the study participants are listed in Table 1.

We generated six themes and categorized them into barriers and facilitators. A list of the themes with relevant quotes is shown in Table 2. The barriers included disbelief in modern medicine, concerns about the procedure, and lack of communication with the physician. Three facilitators were identified as compliance and priority of health, access to healthcare, and awareness.

A) Barriers:

Theme I – Disbelief in modern medicine

Some participants preferred lifestyle modification like changing dietary habits and exercise to taking medications or performing further tests. At least three participants expressed their disbelief in the term “cancer” and none of them had regular CRCS. One of the participants who had intermittent coverage of health insurance and irregular visits to the doctor responded to our question about his views of cancer as follows:

“...The word cancer does not mean anything but it is a trick for pharmaceutical companies and chemical industries to sell the illusion that there is something and to sell their medications and nuclear medicine and radiation and these chemical substances that has high costs. The meaning of cancer is lack of vitamin 17 or something like that maybe 18. The vitamin that is available in peach seeds, apricot and things that are available and the person can eat it and will not get cancer.”

Another participant who had health insurance and a primary care physician shared his views about cancer. He received FIT kits by mail and he performed the test annually, but he was not aware of the results. His primary care physician never discussed the option of screening colonoscopy with him or other screening modalities.

“You know what I see and read about the new propaganda about cancer. They said “cancer”. Everybody has cancer but it is up to your immune system. The cancer never be polite...what we eat increases or decreases the immunity in your body so the cancer starts to get growing in your

body because your immune is not balancing. So what I read more now about alternative way of life. Cut back on red meat, more vegetarian, more fruit...

A third participant who believes that visiting the physician is a waste of time as long as he doesn't have a health problem expressed the reason of not having a primary care physician. He believed that lifestyle modifications like salt restriction and regular exercise are more beneficial than visiting a physician or taking medications.

"I do not need it much. Good diet and salt restriction. I don't have salt at all. And exercise regularly. This is what really benefits me."

Theme II – Concerns about the procedure

Six participants had colonoscopy and they described their experiences with *"It is not fun, I hate it"* and *"It is painful."*

One participant explained his concerns about the colonoscopy procedure and mentioned the difficulties he faced throughout the process.

"It was not easy. You have to go to the doctor. You have to have somebody drives you back. You have to take your wife or a friend and you are under anesthesia. You have to go through the procedure. You have to drink a lot of liquid...It is pain in the butt, really. Both ways...it is really something I don't look forward to."

The majority of them considered that the colonoscopy preparation could be a potential barrier and an easier procedure should be discovered. One of the participants discussed the colonoscopy procedure with his physician and stated:

“I didn’t want to put anything in my rear and it should have been easier way to do it.”

Theme III – Lack of communication with the physician

The majority of participants receive their health information from the primary care physician. Some participants believed that the physician is not providing them with appropriate care. Although they have health insurance, they don’t visit the primary care physician on a regular basis. They expressed that the communication with the physician is limited and they visit the physician for emergency situations only.

“The appointments are far apart because I do not have health problem and because we are on the Medicare. There isn’t that much of good care. Maybe every five to six months or when there is an emergency. You go to the appointment and you do an interview with your doctor. And I have tried that even when you have an emergency. When you go they do not show that much of a care.”

One of the participants who had health insurance and followed the doctor’s recommendations regarding CRCS said:

“Actually, they send the kit and never heard back. I have never seen anything. The only thing, the doctor responds to the email. When I have a blood test we got to my results...that is it.”

B) Facilitators:

Theme I – Compliance & priority of health

The vast majority of participants believed that complying with the physician’s recommendations is beneficial for their health. They expressed their agreement to undergo all tests ordered by the physician because they want to stay healthy. One of the participants believed that following up with the physician is important to his health.

“Until now, I didn’t refuse any test as long as it is for my benefit. I mean, the doctor when he decides something usually it is based on a specific thing. I mean, it is based on something important. I have to do it.”

Another person expressed his beliefs toward preventative measures by saying:

“And I am a believer in anything that has a preventive type of action. If it is available for me, I can basically make sure I am healthy from something inside that I do not see. I am proactive for it. He said that. I said yes I am all up for it.”

And,

“I take those [screening measures] as a benefit for me for my health.”

Theme II – Access to healthcare services

All participants had health insurance and primary care physicians except one person. Access to healthcare is a major factor that introduced most participants to CRCS and allowed them to receive appropriate health information from their physicians. Some participants mentioned the role of the Kaiser Permanente health insurance plan in providing annual FIT kits to all qualified members for CRCS. One of the participants who is seeing the same primary care physician for 25 years responded to a question about his knowledge of CRC and said:

“For me it is just the doctor, when I hit fifty, and he sent me for colonoscopy”

Another participant answered our question about his knowledge of CRCS methods saying:

“Kaiser sent everybody. I think after 50. They sent you the stool, the blood in the stool test. They mail it actually to you and you mail it back. This is a very good way that Kaiser keeps it up to front and let every member knows that you need to do this”

Theme III – Awareness

Participants expressed their awareness of CRC and CRCS methods except one person who didn't have a primary care physician and had no knowledge about CRC. Some participants became aware of CRCS through discussions with family and friends while others learned about it from their primary care physicians. They believed that CRC is preventable and curable if found at an early stage.

“The first thing I learned about that kind of cancer when my doctor, when I was 55, recommended to go through the procedure.”

“I think if you discover it early you get a better chance of survival and cure.”

We asked the participants about their knowledge of CRC and one of them responded:

“Mostly I am educated on colon cancer from my physician”

And,

“I was really aware of colon cancer because my aunt’s husband died of it in Jordan.”

DISCUSSION

To our knowledge, this study is the first qualitative analysis that explores the barriers to and facilitators of CRCS among Arab Americans through focus group methodology. Two studies evaluated the barriers to CRCS in Arab Americans through surveys and quantitative analysis.^{27,28} The main barriers reported in these two studies were lack of awareness, feeling uncomfortable, and lack of physician’s recommendation. Our study reported similar barriers, but we were able to identify an additional barrier: the disbelief in modern medicine. One qualitative study that was not exclusive to CRC identified the barriers to utilization of healthcare and cancer prevention services among Arab American immigrants. The study reported that participants linked lifestyle modification with cancer.²⁹ In contrast, our study showed that participants believed that lifestyle

modifications like changing diet and exercise are enough to prevent CRC. Disbelief in modern medicine could be the result of multiple factors related to the healthcare systems in Arab countries and the cultural background of Arabs. Some of the participants considered that lifestyle modifications, especially dietary habits might cure diseases. They also believed that modern medicine and technology are not useful to detect or treat health problems. They preferred changing their dietary habits to prevent diseases rather than utilizing preventative measures. The majority of healthcare systems in Arab countries don't promote cancer prevention programs and Arabs don't have experience with these services. The concept of preventive medicine is lacking in the Arab countries and the society is not aware of it as well.^{36,37} Arabs usually rely on media, family, and friends as sources of health information and visit the physician only if they experience health problems. Participants who expressed their disbelief in modern medicine use the Internet, YouTube, Facebook, and WhatsApp as sources of health information instead of healthcare professionals. There are many web pages and social media accounts that distribute false medical information in Arabic. One of the participants mentioned that the cause of cancer is vitamin B17 deficiency and cancer can be prevented and cured by consuming fruits that contain vitamin B17. This false information was distributed recently through the Internet and social media applications among Arabs in general and Arab Americans specifically. The lack of advanced technology in the majority of healthcare systems in Arab countries is another factor that results in disbelief in modern medicine. These factors resulted in the development of disbelief in modern medicine.

Several studies have investigated the barriers to breast and cervical cancer screening among Arab American women. Some barriers were attributed to cultural beliefs, religious practices, and lack of awareness.^{20,22,23,30} These studies emphasized the importance of addressing

cultural and religious values through cancer screening programs. Most of the studies that discussed cancer screening in Arab Americans used quantitative measures and focused only on barriers. Our study explored Arab Americans' views and beliefs regarding CRCS and identified three major barriers and three major facilitators. We collected our data by conducting focus groups and asking open-ended questions along with deep probes. We used the Grounded Theory in data analysis in order to build a substantial, relevant, and functional framework that may improve the rates of CRCS among Arab Americans.

The results of this study correlate with prior studies and enrich the literature with additional information about the facilitators of CRCS in Arab Americans. Disbelief in modern medicine is one of the barriers that we identified in our study, but it was not mentioned in prior studies. The reason could be related to the type of questions asked during the focus group. We asked the participants about their views of cancer and CRC, which helped us understand their main concerns. Although some participants had health insurance and primary care physicians, they believed that lifestyle modifications, especially diet changes are sufficient to prevent cancer. This finding implies that the barriers of cancer screening in Arab Americans are multifactorial and not limited to the lack of access to healthcare. The participants in our study expressed similar concerns about the colonoscopy procedure as the general population. However, we didn't have female participants in our study and Arab American women may have different concerns about the procedure. This study explored the facilitators of CRCS in order to improve the future designs of CRCS programs that involve Arab American communities. Our study showed that access to healthcare services increased CRCS awareness among the participants and improved their compliance.

Multiple studies evaluated the disparities in CRCS among racial and ethnic groups due to the low rates of CRCS in minorities compared to Whites.^{5,31,32,33} Disparities in CRCS can't be explained by the lack of access to healthcare services and socioeconomic status (SES) alone, but other factors like language barriers and cultural differences may contribute to this issue.^{5,29,34,35} Understanding the barriers of CRCS in minorities reduces the disparities and improves the national rates of CRCS. The rate of CRCS in Arab Americans is much lower than the national average rate, which indicates the necessity of more CRCS programs that target Arab American communities. Our study provides valuable information about Arab Americans and their views of CRC and CRCS. Future programs might be able to adopt our findings and implement them to reduce disparities in CRCS among Arab Americans.

We utilized the Grounded Theory to build a framework based on the results of our study. The Grounded Theory was used to generate recommendations that will motivate Arab Americans to undergo CRCS. The framework consists of the main process of CRCS that we described in the conceptual diagram. Several barriers and facilitators affect this process and our study identified these potential factors among the Arab American community (Figure 2). The framework demonstrates that educating Arab Americans about cancer and its consequences has an important role in the early stages of the process. In addition, providing access to healthcare services and improving the communication with the physician may encourage Arab Americans to follow the CRCS recommendations. Some studies described linguistic barriers among other ethnic minorities and this may play a role in the Arab American community as well. The majority of the participants in our study had average to advanced levels of English proficiency. Linguistic barriers among the Arab American community require more research and investigation.

The first barrier that emerged from the data analysis was the disbelief in modern medicine. This barrier affects the process of CRCS at an early stage and may prevent Arab Americans from receiving appropriate CRCS. Few interventions can be implemented to change Arab Americans' disbelief in modern medicine based on our study results. We recommend that CRCS programs should create cancer awareness events at Arab-majority mosques and churches and provide simple evidence-based presentations about cancer and the advances in technology related to prevention and treatment of cancer. These events can involve Arab American cancer survivors who can share their stories and encourage attendees to utilize cancer prevention services. These events should be conducted in Arabic and English to achieve higher level of attendance and communication with the audience. We also recommend that healthcare providers located in areas with large Arab American community should provide Arab American patients with educational sessions about the advances in technology and the ability to detect and treat cancer through modern medicine. Nurses or health educators can give these sessions with the emphasis on using Arabic-speaking providers. These sessions should also educate Arab Americans that lifestyle modifications like changing dietary habits are not enough to prevent cancer and further steps like screening are required. These interventions should be directed toward immigrant Arab Americans specifically due to the lack of preventive medicine and cancer screening services in Arab countries. They should be introduced to the available technology and cancer screening services in the US, so they can benefit from them.

Another barrier that we identified in our study was the concerns about the procedure. The participants who underwent colonoscopy described it as painful and embarrassing. They also expressed their concerns about the colonoscopy preparation. Physicians should be aware of these concerns among Arab Americans and other CRCS methods should be offered instead of

colonoscopy. One of the acceptable alternatives to colonoscopy is FIT, which should be offered to Arab Americans to achieve compliance with CRCS recommendations. The third barrier to CRCS in our study was the lack of communication with the physician. The lack of communication affects the physician-patient relationship and leads to less compliance. Physicians' recommendations of CRCS should be communicated more thoroughly with Arab American patients and their concerns should be addressed as well. Physicians should receive cultural-based training to improve their communication skills with Arab American patients. A multi-pronged program that addresses all the barriers utilizing the recommended interventions is needed to encourage Arab Americans to undergo CRCS.

We identified three facilitators of CRCS among the participants in our study. The participants linked their compliance to prioritization of health. They considered that their health is a priority, which is a facilitator that can be utilized by CRCS programs that target the Arab American community. The programs can implement this facilitator in the educational materials used to increase the awareness of CRCS among Arab Americans. Access to healthcare was the second facilitator we identified in our study. The majority of participants who had access to healthcare underwent CRCS and followed the physicians' recommendations. The expansion of health insurance coverage through the Affordable Care Act (ACA) allowed millions of Americans to receive primary healthcare and cancer preventive services. Further regulations and policies are needed to provide health insurance coverage to all Americans, which will reduce health disparities among minorities. The majority of participants in our study were aware of CRCS and the sources of their knowledge were family, friends and their physicians. We recommend that CRCS programs should implement these facilitators in their campaigns in order to increase the rate of CRCS among Arab Americans.

A multi-pronged CRCS program that addresses all barriers and facilitators is required to reduce health disparities among Arab Americans. We built a second framework that contains interventions and recommendations based on the data analysis of our study (Figure 3). These recommendations can guide future programs to design their campaigns and make them culturally and spiritually suitable for the Arab American community. The utilization of the Grounded Theory in our study allowed us to generate recommendations and interventions that can be applied to the CRCS process in the Arab American community.

LIMITATIONS

The sample size of our study was small and limited to males only. We asked multiple open-ended questions with probes to extract the maximum amount of information from the participants. We spent enough time with the participants and allowed them to add any additional thoughts or beliefs they had during the focus groups. It was difficult to recruit females in our study due to the conservative culture of Arabs. Some people refused to participate in the study due to the lack of interest and awareness of CRC. The majority of the participants had health insurance, primary care physicians, and high levels of education, which makes the sample less representative of the Arab American community. However, we were able to identify certain barriers that are not related to access to healthcare or socioeconomic status (SES). In addition, some studies reported that access to healthcare and SES are not the only factors that affect CRCS.

RECOMMENDATION

The Arab Americans have lower CRCS rates compared to other ethnic and racial groups. Our study investigated the barriers to and facilitators of CRCS among Arab Americans utilizing the Grounded Theory with qualitative analysis. The Grounded Theory was used to build a framework that consists of recommendations and interventions specific for each barrier and facilitator. The framework serves as a guide to future CRCS programs in order to design culturally based campaigns for the Arab American community. Our recommendations include increasing the awareness of CRC and its consequences and explaining the health benefits of screening among the Arab American community. We also recommend providing cultural-based training to physicians in order to improve their communication skills with Arab American patients. Physicians should offer Arab American patients different CRCS methods to achieve higher levels of compliance.

Table 1 – Demographics of the study participants

Demographics	n. (N = 9)
English level	
Advanced	4
Intermediate	5
Annual income*	
\$20,000 - \$49,000	2
\$50,000 - \$100,000	2
> \$100,000	3
Education level	
6 – 8 years	1
9 – 12 years	1
Some college/university	1
University graduate	6
Marital status	
Single	2
Married	7
Have a primary care physician	8
Have health insurance	8

* Two participants didn't disclose their annual income

Table 2 – Themes of the study results

Themes
A) Barriers
<p>I – Disbelief in modern medicine</p> <p><i>“The word cancer does not mean anything but it is a trick for pharmaceutical companies and chemical industries to sell the illusion that there is something and to sell their medications”</i></p>
<p>II – Concerns about the procedure</p> <p><i>“I didn’t want to put anything in my rear and it should have been easier way to do it.”</i></p>
<p>III – Lack of communication with the physician</p> <p><i>“Actually, they send the kit and never heard back. I have never seen anything. The only thing, the doctor responds to the email...”</i></p>
B) Facilitators
<p>I – Compliance and priority of health</p> <p><i>“Until now, I didn’t refuse any test as long as it is for my benefit...”</i></p>
<p>II – Access to healthcare services</p> <p><i>“Kaiser sent everybody. I think after 50. They sent you the stool, the blood in the stool test.”</i></p>
<p>III – Awareness</p> <p><i>“I was really aware of colon cancer because my aunt’s husband died of it in Jordan.”</i></p>

Figure 1 – Conceptual diagram of colorectal cancer screening

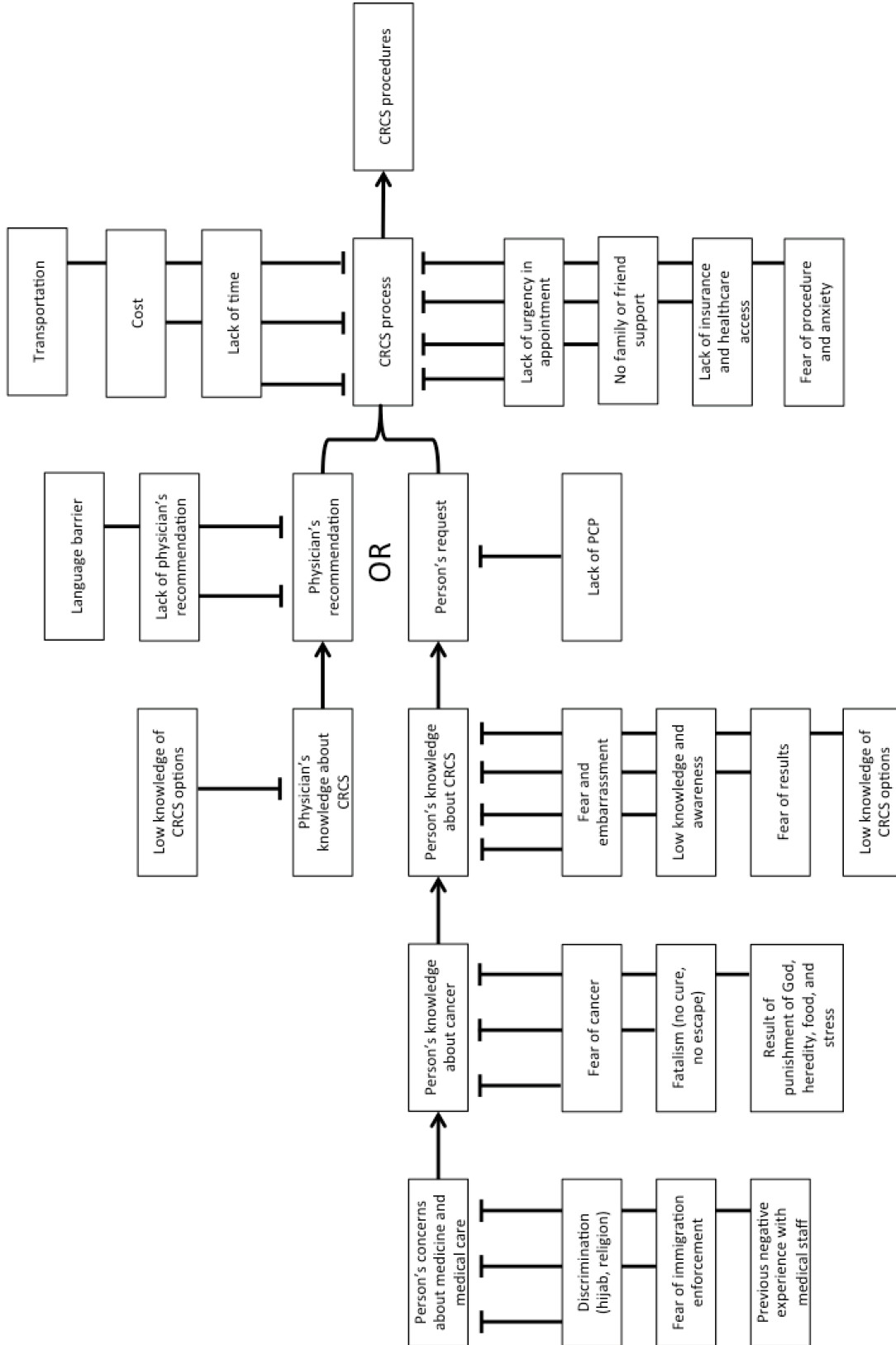


Figure 2 – Framework of colorectal cancer screening among Arab Americans

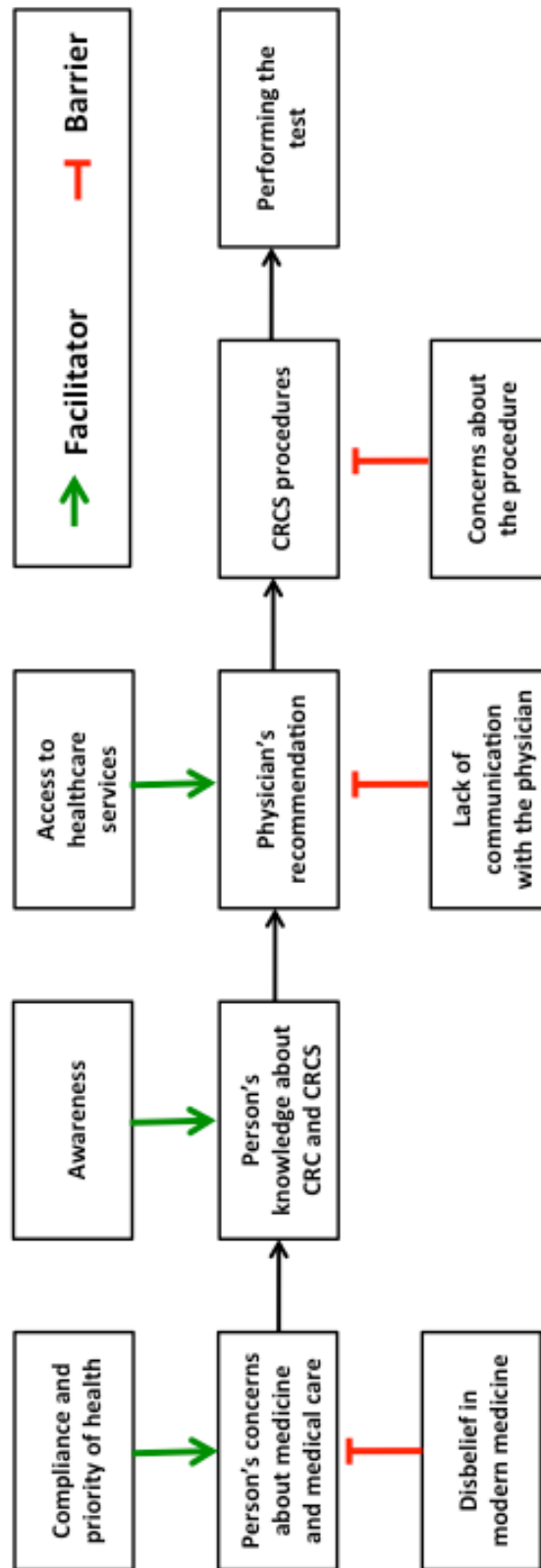
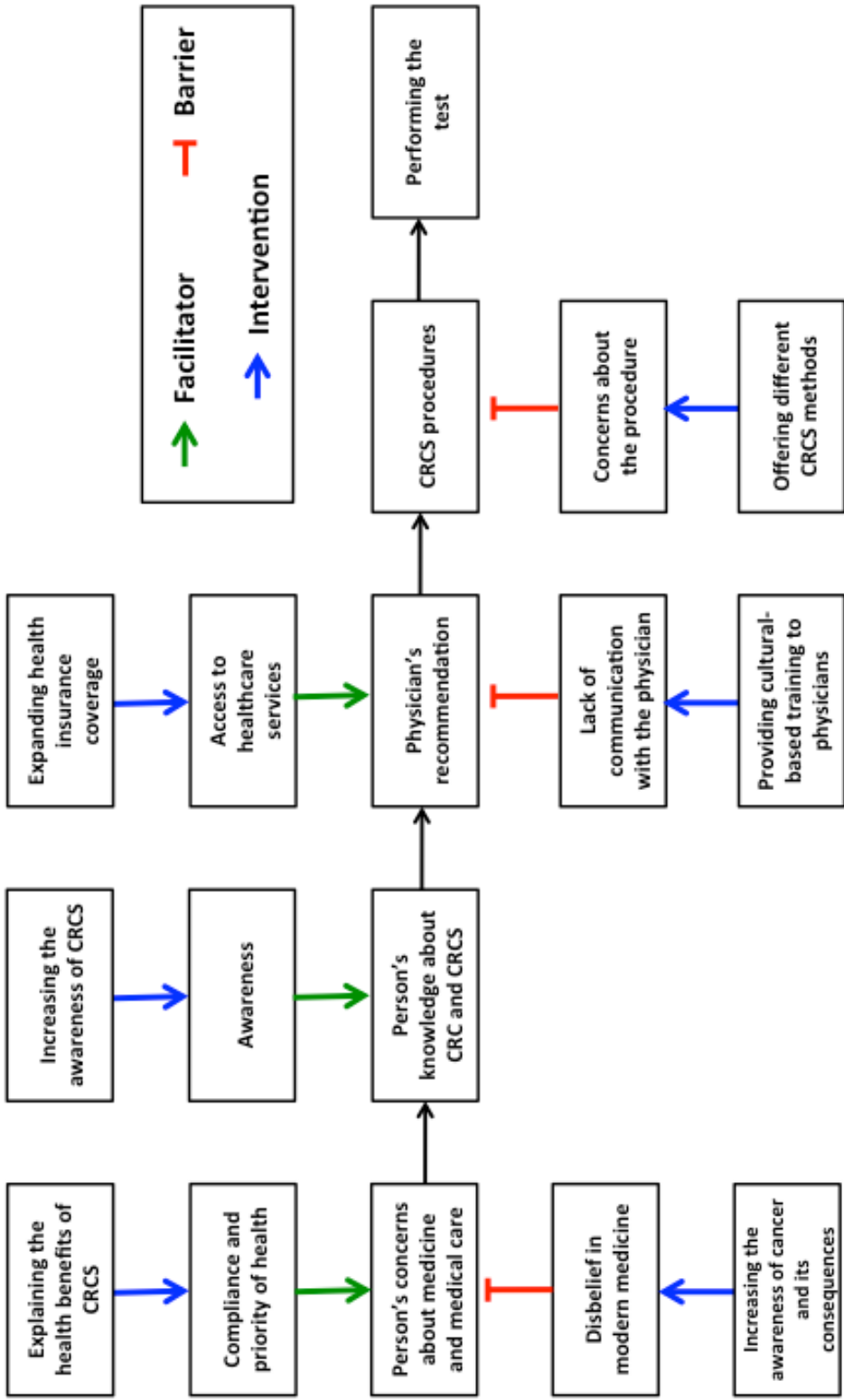


Figure 3 – Framework of interventions related to colorectal cancer screening among Arab

Americans



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APPENDIX A

General information

Age:

City of Birth:

Country of origin:

Gender: Male Female

Current city:

English level: Advanced Intermediate Beginner

Annual income: <\$20,000 \$20,000 - \$49,000 \$50,000 - \$100,000
 >\$100,000

Education level: 6-8 years 9-12 years Some college/University
 University graduate

Marital status: Single Married Widowed
 Divorced

Years of residence in the US:

Immigration status: U.S. Citizen Legal permanent resident
 Temporary legal status No legal status

Employment status: Yes, full-time Yes, part-time Unemployed

Have you ever had a colorectal cancer screening in the past? Yes No

If yes, what method? Colonoscopy Sigmoidoscopy
 Fecal Occult Blood Test (Stool test)
 CT colonography

Do you have a primary care provider (physician)? Yes No

What is your health insurance status? Medicaid Medicare
 Employer-funded Self-funded
 Uninsured

What is your religion? Islam Christianity Judaism Other: _____

Do you know any family member who had colorectal cancer? Yes No

If yes, what is your relation?

APPENDIX B

Focus group questions:

- What is the main source of your health information?
- What comes to your mind first when you hear “Colon Cancer”?
- What do you know about colon cancer? Symptoms? Is it different from other cancers? Risk factors? Prevention? Who are the people at risk?
- What do you know about the screening methods of colon cancer? What methods you know about? How much do you know about them?
- Have you ever discussed colorectal cancer screening methods with your doctor? What did he/she tell you? How do you describe this discussion?

Screened:

- How was your experience with the screening method you had before? What made you choose this method? Why didn't you choose other methods? What were the difficulties you encountered during performing the screening? What were the factors that made the screening easy to perform?

Unscreened:

- What were the factors/reasons that made you decide not to get screened?
- What might encourage you to get screened?