



Recruiting African Immigrant Women for Community-Based Cancer Prevention Studies: Lessons Learned from the AfroPap Study

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Abstract

Recruitment in research can be challenging, particularly for racial/ethnic minorities and immigrants. There remains a dearth of research identifying the health and sociocultural needs of these populations related to recruitment. To describe our experiences and lessons learned in recruiting African immigrant (AI) women for the AfroPap study, a community-based study examining correlates of cervical cancer screening behaviors. We developed several recruitment strategies in collaboration with key informants and considered published recruitment methods proven effective in immigrant populations. We also evaluated the various recruitment strategies using recruitment records and study team meeting logs. We enrolled 167 AI women in the AfroPap study. We used the following recruitment strategies: (1) mobilizing African churches; (2) utilizing word of mouth through family and friends; (3) maximizing research team's cultural competence and gender concordance; (4) promoting altruism through health education; (5) ensuring confidentiality through the consenting and data collection processes; and (6) providing options for data collection. Online recruitment via WhatsApp was an effective recruitment strategy because it built on existing information sharing norms within the community. Fear of confidentiality breaches and time constraints were the most common barriers to recruitment. We were successful in recruiting a “hard-to-reach” immigrant population in a study to understand the correlates of cervical cancer screening behaviors among AI women by using a variety of recruitment strategies. For future research involving African immigrants, using the internet and social media to recruit participants is a promising strategy to consider.

Keywords Recruitment strategies · African immigrants · Cervical cancer · Pap testing

Introduction

In the United States (U.S.), higher cancer prevalence, poorer cancer prognoses and higher cancer related deaths are pronounced in racial/ethnic, cultural and linguistic minority

groups [1, 2]. There are systematic efforts in place to promote the inclusion of racial/ethnic and socioeconomically diverse groups in cancer prevention and health promotion studies, including the incentivization of study participants and researchers in the form of monetary compensations and research grants, respectively [3]. Despite these efforts, recruiting and enrolling participants in cancer prevention and health promotion studies remain challenging, especially when the potential study participants belong to low income, racial/ethnic minority, and immigrant groups [4, 5]. Low education, low English proficiency, or certain study topics such as cancer, which is stigmatized in some immigrant, communities may pose additional recruitment challenges [6, 7].

Several factors have been identified as barriers to the successful recruitment and enrollment of racial/ethnic minorities in cancer prevention and health promotion studies. The history of research misconduct and human subject abuse

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that racial/ethnic minorities and persons of low income have experienced in the U.S. has created fear of research and the mistrust of researchers among these vulnerable populations [8, 9]. Immigrants often have limited social and financial resources and thus become hesitant to enroll in research studies because of the fear that any breach of confidentiality could have severe negative economic and social consequences [5]. The current political climate has also created concerns among immigrants who fear that, their personal information would be shared with government officials if they participate in research studies, which could lead to harassment by immigration officials and potential deportation [10]. Notwithstanding these barriers, it is important to include racial/ethnic, cultural, and linguistically diverse groups in health research in order to develop effective health interventions to address the health problems that often plague vulnerable populations [2, 4, 11].

While the persistent underrepresentation of racial/ethnic minorities in cancer trials has been well described in the literature, the effective strategies that researchers have used to recruit immigrants for community-based cancer prevention studies are not well documented [12, 13]. In the U.S., published studies addressing immigrant recruitment strategies in cancer prevention research have included small sample sizes, focused primarily on Hispanic immigrants, and recruited study participants mainly from community clinics [14]. Recruitment strategies employed among African immigrant women in the U.S. are not well-documented. In this paper, we report the recruitment successes and the steps taken to increase the recruitment of African immigrant (AI) women for a community-based cancer prevention study between 2017 and 2018. In addition, we discuss the lessons we learned to inform future studies and facilitate the recruitment of immigrant, low income, low English proficient, and ethnic/racial minorities for community-based, cancer prevention studies.

Methods

Study Design

The African immigrant women Pap testing behaviors (AfroPap) study was a community-based, explanatory, mixed-methods study to understand the impact of health literacy, culture, and psychosocial factors on the cervical cancer screening behaviors of AI women in the U.S. The first phase of the study involved the completion of a quantitative survey to assess AI women's cervical cancer knowledge, health literacy, and other psychosocial determinants (self-efficacy, decisional balance) of Pap testing. The second phase of the study included one-on-one telephone interviews with a subset of survey participants to gain an in-depth understanding

of how their health information sharing practices were influenced by their cultural beliefs and health literacy levels. Females who self-identified as African immigrants, were 21 years and older, able to read and write English and had no history of hysterectomy were eligible to enroll in the study. Potential participants were identified via word of mouth, African immigrant churches, and community organizations that provide services to African immigrants. Our initial recruitment goal was 160 AI women residing in the Washington DC–Maryland–Virginia (DMV) metropolitan area, a region with a concentration of African immigrants (12%) that is three times the national average [15]. After further review of the literature, we identified that studies in the U.S. that include African immigrants often recruited participants originating from one specific African country (e.g., Somalia, Ghana, or Nigeria) or residing in a specific region of the country (e.g., Minnesota) [16, 17]. In our efforts to expand the study catchment area, we modified our eligibility criteria to include all AI women who reside in the U.S.

Procedure

All study procedures were approved by an academic institutional review board (IRB). Potential participants were approached at various African churches and community organizations where study flyers were disseminated. We piloted the study survey and procedures in October 2017 with 7 participants, and 3 advisory board members (1 Principal investigator of an African immigrant study and 2 African immigrant nurses) to establish our data collection protocol. Trained bilingual research assistants (RAs) obtained informed consent from every participant in the AfroPap study. Participants were given options to complete the study survey either in-person or online. Study participants received a \$5 gift card after survey completion.

Analysis

Descriptive statistics such as frequencies, percentages, and means were used to calculate yield rates. Content analysis was performed on study team meeting logs to identify common barriers and facilitators to recruitment of AI women for the AfroPap study.

Results

Recruitment yield rates

During a 1-year active recruitment period (November 2017–December 2018), we met our goal and enrolled 167 AI women. Forty-six percent of study participants completed the online version of the survey and 54% completed

the in-person survey. Online surveys resulted in the highest yield (69.72%) compared to in-person surveys (55.49%); details of the yield rates can be found in Table 1.

Table 2 describes the sociodemographic characteristics of the participants by survey completion method. Women who completed the surveys online were more likely to be college educated (80%), employed (83%), insured (84%), not married (43%) and younger (mean age: 33 years). Women who completed the in-person surveys were more likely to be older (mean age: 46 years) and married (68%).

Strategies to Enhance Participant Recruitment

We adopted a variety of strategies to facilitate participant enrollment. Main strategies included: (1) mobilizing African immigrant churches; (2) using an online survey; (3) utilizing word of mouth through female friends and relatives; (4) maximizing gender concordance and cultural competence of research team; (5) promoting altruism through health education; (6) ensuring confidentiality through the consenting and data collection process, and (7) providing options for data collection.

Mobilizing African Immigrant Churches

Our community advisory board members helped the study team identify African immigrant churches in the Washington, DC–Maryland–Virginia area. In addition, our RAs conducted additional Google searches to identify the names and contact information of churches not listed by the advisory board. Among immigrant communities, attending church is a social event, and churches provide social support and a sense of social cohesion to members [18–20]. Previous health studies on African immigrants also successfully used African churches as a primary recruitment site because of the large number of African immigrants who attend church services on a weekly basis [16]. When recruiting from African churches, we found that an initial contact with the church leadership through phone calls and emails was effective. The principal investigator (PI) also attended church service a week prior to the actual study recruitment/data collection. The introductory visits were helpful because it gave the study team an opportunity to build rapport with the leaders, provide a brief study overview and answer any

questions the congregation may have. With approval from the churches' leadership team (pastors, heads of women ministries, church elders, etc.), we distributed study flyers to the congregation, displayed flyers at the church sites, and published study flyers in the churches' newsletters. On the agreed date of recruitment, the team set up tables in a private room on the church premises to answer additional questions about the study and enroll women who were eligible and willing to participate.

Use of Online Survey

Key informants (female leaders of African community-based organizations and religious institutions) suggested that our target population use WhatsApp, a social media and telecommunication platform, to disseminate news and health information. Therefore, we created the online study survey using Qualtrics, a web-based survey tool. We chose Qualtrics because it is an encrypted data management system which enhances participants' confidentiality, is easy to use, and provides a unique, shareable weblink to the online survey. The online survey included a copy of the IRB-approved oral consent script and an eligibility self-screening. The online survey was only limited to individuals who could complete the survey on their own with no assistance from the research team. To ensure survey completion, we asked participants who finished the surveys online to provide their contact information at the end of the survey so the research team could contact them for a one-on-one telephone interview (if necessary) and compensate them for their time.

Word-of-Mouth Through Female Friends and Relatives

Informal, oral communication, and the sharing of health information among female friends and families is a common practice within the African community [21, 22]. With this knowledge, we used word-of-mouth as one of the primary strategies to recruit study participants. Both eligible and ineligible study participants were asked to share information about the study with their close female friends and relatives. The word-of-mouth recruitment strategy evolved to include encouraging study participants to also share the web link of the study survey with other African immigrant females within their social circles.

Gender Concordance and Cultural Competence of Research Team

When recruiting immigrants and minorities for a study, it is important that the study team exhibits competent knowledge of the target population's cultural norms and values [5, 6, 8]. Our study survey included questions on women's health (example: history of Pap testing, vaginal and reproductive

Table 1 Recruitment yield per survey type

Survey version	Participants approached (n)	Participants enrolled (n)	Yield (%)
In-person	164	91	55.49
Online	109	76	69.72
Total (N)	273	167	61.17

Table 2 Description of participants in the AfroPap Study

Characteristics	Overall (N = 167)	In-person surveys (N = 91)	Online surveys (N = 76)
<i>Age, years</i>			
Mean (SD)	40.90 (12.25)	46.70 (11.27)	33.96 (9.48)
Range	22–65	22–65	22–61
<i>Education (n, %)</i>			
< HS	19 (11)	17 (19)	2 (3)
High school	34 (20)	31 (23)	13 (17)
College	114 (68)	53 (58)	61 (80)
<i>English proficiency (n, %)^a</i>			
Low	38 (23)	28 (31)	10 (13)
High	129 (77)	63 (69)	66 (87)
<i>Employment (n, %)</i>			
Employed	134 (80)	71 (78)	63 (83)
Unemployed	23 (14)	16 (18)	7 (9)
Other	10 (6)	4 (4)	6 (8)
<i>Health insurance (n, %)</i>			
Yes	132 (79)	68 (75)	64 (84)
No	35 (21)	23 (25)	12 (16)
<i>Marital status (n, %)</i>			
Married	95 (57)	62 (68)	33 (43)
Separated/divorced	27 (16)	19 (21)	8 (11)
Not married	45 (27)	10 (11)	35 (46)
<i>Length of stay</i>			
Mean (SD)	15.12 (7.76)	15.91 (8.29)	14.14 (6.99)
< 15 years (n, %)	74 (46)	31 (34)	35 (46)
≥ 15 years (n, %)	88 (54)	60 (66)	41 (53)
<i>History of Pap testing (n, %)</i>			
Yes	118 (71)	70 (77)	48 (63)
No	49 (29)	21 (23)	28 (37)
<i>Country of birth (n, %)</i>			
Ghana	106 (63)	66 (73)	40 (53)
Nigeria	16 (10)	–	16 (21)
Cameroon	27 (16)	24 (26)	3 (4)
Uganda	6 (4)	–	6 (8)
Kenya	4 (2)	–	4 (5)
Other ^b	8 (5)	1 (1)	7 (9)
<i>State of residence (n, %)</i>			
Virginia	66 (40)	55 (61)	11 (14)
Maryland	47 (28)	33 (36)	14 (18)
New York	5 (3)	–	5 (7)
Texas	24 (14)	–	24 (32)
New Jersey	5 (3)	–	5 (7)
Other ^c	20 (12)	3 (3)	17 (22)

^a6-item instrument which assess individuals ability to read, write, converse in English

^bTanzania (n = 1), Congo (n = 1), Tog(n = 1), Cote D'Ivoire (n = 2), Sierra Leone (n = 2), Ethiopia (n = 1)

^cArizona (n = 1), California (n = 3), Nevada (n = 1), Georgia (2), District of Columbia (n = 3), Pennsylvania (n = 2), Illinois (n = 1), Ohio (n = 4), Rhodes Island (n = 1), Minnesota (n = 1), Michigan (n = 1) and Nebraska (n = 1)

health, etc.), which African women are often uncomfortable discussing with individuals of the opposite sex, especially if the individual is not their regular healthcare provider [23, 24]. When addressing a health issue that is gender specific such as cervical cancer screening, it is also essential that the study team is made of members whose gender reflect the target population as well. For AfroPap study, the PI and the study team were first-generation, female African immigrant researchers and staff who spoke English in addition to various African dialects (*Twi, Ga, Igbo, Pidgin English*), and shared an in-depth understanding of life of as female, African immigrants in the United States. This approach enhanced the research team's engagement with study participants and expedited the data collection process for participants who were eligible to enroll in the study but needed additional assistance in completing the study survey due to their limited English proficiency. The research team's demonstration of cultural competence also helped build trust among potential study participants.

Promoting Altruism Through Health Education

Studies on African immigrants report low knowledge and low perceived susceptibility as barriers to positive health behaviors such as cervical cancer screening [25–27]. Individuals who lack awareness about cervical cancer and the importance of health promotion are less likely to participate in health promotion related studies because they do not see their value [5, 6, 28]. To enhance AI women's participation in the AfroPap study, we provided cervical cancer education sessions at the various churches that served as recruitment sites. We conducted education sessions a week before recruitment in conjunction with our introductory visits. We prepared and delivered a 10 min presentation where we addressed the following: (1) description of cervical cancer; (2) description of Pap testing; and (3) importance of cervical cancer screening and early detection to African women. Studies have reported individuals' expectation of personal benefit and altruism as known facilitators to research participation, so during the education sessions, we emphasized the important roles mothers and daughters play in the African family [6, 28]. We also highlighted how understanding the health and wellbeing of women could ultimately inform health policies to address the health needs of female, African immigrants in the U.S.

Ensuring Confidentiality Through the Consenting and Data Collection Processes

When conducting community-based research with immigrants, it is essential that researchers develop and use consenting and data collection processes that do not make potential study participants feel coerced [4, 5, 7]. We initially

received IRB approval to enroll study participants using written consents. After an unexpectedly low initial enrollment, we sought the advice of our advisory board and key informants who recommended oral consent as a strategy to address participants' fear of potential confidentiality breach.

Providing Options for Data Completion

Community-based studies that include minorities and use in-person data collection methods often identify time constraint as a main barrier to recruitment and participant engagement [29]. In order to effectively address this issue in our study, we offered all eligible study participants the following survey options: (1) an in-person paper survey, or (2) an online survey. The identical survey options included questions on demographics, immigration (year of arrival, length of stay), assessment of English proficiency, access to medical care, and history of cervical cancer screening. Well-validated instruments that assessed health literacy, self-efficacy, cervical cancer knowledge, and decisional balance were also included in the surveys. Both surveys could be completed in approximately 20 min. With the online survey option, eligible participants who did not have time to complete an in-person survey still had the opportunity to complete the survey at a time that was convenient for them.

Barriers and Facilitators to Recruitment

Although we met our recruitment goal, we identified several factors at the organizational and individual levels which served as facilitators and barriers to the successful recruitment of African immigrants for the AfroPap study. Out of twelve African immigrant churches and five community-based organizations we contacted to serve as potential recruitment sites, the study team was able to build collaborative relationships with seven churches and one community organization. The leaders of the sites which declined to collaborate with us cited time constraint as the main barrier because they could not fit a research study into their regular, preplanned schedules. One church declined to participate because our study team was not providing free Pap smears, and the participant incentive of \$5 was "too small." At the individual-level, concerns with immigration status and signing an informed consent were identified as barriers to recruitment. The major facilitator to recruitment at the individual and organizational levels included building trust and exhibiting cultural competence. Our study team accomplished this by ensuring the racial/gender concordance of the research team, building a rapport with church and community organization leaders who served as gatekeepers, and helping community members understand the importance of research studies and cervical cancer screening by providing health education sessions. To address the issue

of time constraints and increase in-person survey completion rates, we provided participants who completed the in-person surveys with prepaid stamped envelopes so they could mail their completed surveys back to the study team at a later time.

Discussion

This study shows that a diverse sample of AI women can be successfully recruited for a community-based, cancer prevention, and health promotion study. We attribute the success of the AfroPap study to the hard work of our trained research team, proactive principal investigator, key informants/gatekeepers, community advisory board, and study participants who shared information about our study with their peers and encouraged them to join. Most importantly, our successful recruitment can be attributed to the different recruitment strategies we used. Many studies involving Asian and Hispanic immigrants have shown word-of-mouth as an effective recruitment strategy [7, 30, 31]. What made our efforts different was that we identified and took advantage of preexisting information sharing norms within the African immigrant community. In particular, by encouraging women to use WhatsApp to share information about our study, we were able to tap into the preexisting social bonds of our study participants. This strategy tremendously enhanced our recruitment efforts.

Despite AfroPap study's relatively small sample size, the pattern of migration reported by the study participants is similar to the national distribution of African immigrants living in the U.S. For example, as of 2015, the largest number of African immigrants in the U.S. migrated from West (44.6%) and East (35.7%) Africa, with the most common countries of origin being Nigeria, Ghana, Ethiopia, and Kenya [32]. For the AfroPap study, the majority of study participants were from West Africa (92%), with the largest number of participants migrating from Ghana ($n=106$), Nigeria ($n=17$), and Cameroon ($n=27$). East Africans (8%) also made up a small proportion of the sample size. The AfroPap sample characteristics were also like those of national samples. According to the Migration Policy Institute, 35% of sub-Saharan Africans ages 25 and older have a Bachelor's degree [32]. Individuals with less than a college education and limited English proficiency were underrepresented in our study sample (see Table 2). Thirty-one percent of AfroPap participants reported having less than a college education and 23% had limited English proficiency. Majority of our study participants resided in Virginia (40%), Maryland (28%), and Texas (14%) which is similar to the states with the highest concentrations of African immigrants as reported by the 2015 U.S. Census Bureau [32].

We learned the importance of performing ongoing assessments of barriers and facilitators to recruitment and modifying recruitment strategies accordingly. We identified written informed consents, time constraints, limited knowledge on cervical cancer and the importance of Pap testing as potential barriers to recruitment. To address these issues, we offered oral consents, provided study participants with an online study survey which could be completed at their convenience as an alternative to completing in-person surveys. We also provided potential study participants with an education session on cervical cancer and Pap testing. Similar to other health studies, we saw an increase in study participation from recruitment sites where participants were engaged during education sessions, and could verbalize how the research study would benefit them and future generations [7, 28]. Many studies have shown the important contributions that building rapport and establishing collaborative relationships with gatekeepers, using ethnic churches, demonstrating cultural competence and ensuring gender/racial concordance of a research team can make in recruiting immigrants (Asian and Hispanics) for community-based studies [5–7, 33]. In this study, we have shown that building on these known facilitators are essential to successful recruitment of African immigrants.

Conclusion

In summary, the successful recruitment of AI women for the AfroPap study was the result of the synergism of the various recruitment strategies we used. We were able to demonstrate that a sample of African immigrants can be successfully recruited for a community-based research study using a wide array of strategies if the study team constantly monitors and modifies recruitment strategies based on their effectiveness. When working with a linguistically, culturally diverse, AI population, one recruitment strategy may not always fit all. Some studies have shown that older adults and individuals belonging to immigrant groups are less likely to use the internet [34, 35]. In our study, participant recruitment increased after introducing oral consenting, and distribution of study survey weblink via WhatsApp. In particular, using WhatsApp and online surveys resulted in a high yield. Based on the findings from our study, we highly recommend the use of the internet as an innovative and flexible strategy to recruit African immigrants for future community-based studies.

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Compliance with Ethical Standards

Conflict of interest The authors declare they have no conflict of interest.

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