

Feasibility Study of Engaging Barbershops for Prostate Cancer Education in Rural African-American Communities

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Abstract The barbershop is a promising setting where African-American men might receive information and education about prostate cancer. In this study, we assessed the feasibility of engaging rural barbershops as venues for barbers to deliver a prostate cancer education intervention to increase informed decision-making for prostate cancer screening among customers. Twelve barbershops were recruited from two separate micropolitan areas in Georgia as intervention and control sites. Structured interviews were conducted with 11 barbers in both sites about customer characteristics as well as their willingness to participate in the study. The interviews were audio recorded and transcribed for analysis. In the intervention site, six barbers completed a survey and a pre-/posttest prostate cancer knowledge instrument following training classes. Barbers reported a wide average range of customers served per week (50 to 300). African-American men made up an average of 87 % of customers. Barbers thought prostate cancer was an important discussion topic, felt they would be comfortable discussing it, and supported the participation of their barbershop in the study. For intervention group barbers, there was a statistically significant difference between the average pretest knowledge score of 72 % (mean 12.2, SD=3.2) and the posttest knowledge score of 89 % (mean 15.2, SD=1.1) ($P=0.03$) on the 17-item prostate cancer knowledge instrument. Based on the multiple interactions with the

barbers, there was high receptivity to the topic and consensus about the importance of addressing prostate cancer with their customers. Rural barbershops represent feasible venues for delivering a prostate cancer education intervention.

Keywords African American · Barbershop · Prostate cancer · Cancer education

Introduction

Compared to men from other racial and ethnic groups, African-American men are more likely to develop and die from major cancers [1]. This is particularly true for prostate cancer, the most commonly diagnosed cancer among African-American men (40 % of all diagnoses), and the second leading cause of cancer deaths in all American men, behind lung and bronchus [1, 2]. The number of new prostate cancer cases for African-American men according to data from 2007 to 2011 was 223.9 per 100,000 compared to 139.9 per 100,000 for white men [3]. Nationwide, African-American men experience a 2.4 times higher death rate from prostate cancer, present with more advanced disease, and have lower 5-year mortality rates than white men [1, 2].

Disparate prostate cancer outcomes for African Americans that exist at the national level are found in states throughout the southeast, including Georgia. In Georgia, the prostate cancer mortality rate for African-American men was 61.2 per 100,000 over the time period 2003–2007, higher than the rates for white men in the state (21.9 per 100,000), and for all African-American men in the USA (54.2 per 100,000) [4]. Numerous biological, environmental, and social factors may contribute to these disparities along the cancer control continuum including suboptimal engagement in preventive health behaviors related to diet, lifestyle, exercise, awareness, and knowledge of cancer risk and screening options, timely diagnosis and treatment, attitudes and perceptions of care, and quality of life [5, 6].

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Current screening recommendations stipulate that men discuss with their health care provider the uncertainties, risks, and benefits of having a prostate-specific antigen (PSA) screening test [7]. A national survey study of physicians found that there is much variability in discussions about screening, and these discussions happen infrequently between doctor and patient [8, 9]. Moreover, it is well documented that racial and ethnic minorities face numerous obstacles in receiving equal access to health care providers and opportunities to discuss cancer prevention, early detection, and quality treatment [10].

The lower prostate cancer screening rates observed in African-American men compared to white men have been attributed to differences in education and insurance coverage. While these factors may explain some of the differences in cancer outcomes, one study found that PSA testing, comorbidities, and income explained 29 % of the difference in metastatic cancer incidence, whereas tumor characteristics explained 50 % of the black/white racial mortality gap [11]. Prostate cancer health disparities might also be associated with controversies surrounding the benefits of screening for early detection of prostate cancer in terms of reducing prostate cancer mortality [12]. Given the current evidence, the contribution of PSA testing for decreasing mortality is inconclusive [13]. Therefore, it is critical that African-American men have access to timely, relevant, and accurate information to engage in shared decision-making discussions with their health care providers since a screening recommendation requires some personalization.

Findings from a systematic review of barber-administered health education suggest that trained barber advisors, situated in familiar and convenient settings (i.e., barbershops), may be effective at delivering easy-to-understand health education information in urban settings [14]. Having such information prior to the clinical encounter has the potential to facilitate greater patient involvement in shared decision-making discussions. Pilot studies demonstrate a need for intervention programs to raise awareness and increase prostate cancer knowledge in communities with high incidence of prostate cancer and limited access to relevant information [15–17]. The current study addresses racial disparities in access to health education information for informed decision-making with prostate cancer screening by engaging barbers in micropolitan (semi-rural) areas in the US South to deliver a health education intervention. This article reports preliminary findings to demonstrate feasibility and to document the process of engaging barbers to participate in the research study. A future community trial will test the efficacy of a barber-administered intervention—*Barbers Against Prostate Cancer*—to increase informed decision-making among barber-shop customers.

Methods

From fall 2013 to spring 2014, the study team recruited a non-probability sample of 12 barbershops from two towns

designated by the US Census as micropolitan statistical areas—intervention and control sites 130 miles apart—in central and southeast Georgia to assess the feasibility of study participation. Additionally, each of the counties where the towns were situated is designated by the Department of Health and Human Services as Medically Underserved Areas. In both towns, a regional state college/university was the major employer. In the intervention site, African-American residents comprised 30 % of the total population compared to the control site where 43 % of the residents were African American. All “Black barbershops” in these towns were identified and visited until the recruitment goal of six barbershops per town was reached. In each town, there were two or three barbershops that were not interested in participating. All barbers received a lay description of the barber-shop study as part of the recruitment process. One barbershop was recruited after this initial interview phase following a change in the barbershop’s location, so the barber at this shop was not interviewed for logistical reasons. In addition, one barber who was interviewed did not follow through with the meetings or the trainings, so another barbershop was selected by a barber for the intervention. Structured interviews were conducted with 11 barbers at study barbershops. Barbers were interviewed about the types of customers who come into their shops and their willingness to participate in the intervention. The interviews were audio recorded and transcribed for analysis.

The interviews included questions about how long the barbershop had been in business, clientele characteristics, space considerations for placing educational materials in the barbershop, feasibility of participation, knowledge about prostate cancer screening, and interest in the study goal of engaging barbers and their customers in prostate cancer education and outreach. The study is designed to train barbers in the intervention site, deliver the intervention over 6 months, and then administer pre-/posttests with 60 customers each in both intervention and control sites in the first phase of the intervention. The second phase involves switching the intervention condition to the control condition for the same time period, while following the original intervention condition participants. In this preliminary study, six barbers (five of whom had participated in the prior interviews) from the intervention group site completed a 4-h group and individual barber health advisor training. The training was delivered over multiple sessions. The details of the literacy level appropriate training curriculum are described elsewhere [15, 18]. The study team adapted and tailored brochures and posters from a previous study to the intervention group with photos of local barbers. Barbers received certificates of completion and a \$50 stipend for completing the training. The intervention group of barbers completed a 17-item pre-/posttest prostate cancer knowledge instrument covering risk factors, disease prevalence, anatomy, screening, and informed decision-making [19]. The difference

between pre-/posttest scores was analyzed using the Wilcoxon signed rank test. Barbers also completed a self-administered survey at the end of the training session covering personal history of prostate cancer screening, decision self-efficacy, perceived risk of prostate cancer, and ability to educate their customers after receiving the training [20, 21]. Descriptive statistics for these measures and questions were calculated to establish baseline values. For the decision self-efficacy scale, scores are summed, divided by 11, and then multiplied by 25, to arrive at a range of scores from 0 (low self-efficacy) to 100 (high self-efficacy). The Cronbach’s alpha for this scale is .92 indicating that the scale is reliable ($\alpha=.92$). The study was approved by the Georgia Southern University Institutional Review Board.

A steering group was also created to help guide the study. The steering group consisted of barbers from the intervention site, three African-American cancer educators, and the study team. The steering group met quarterly and each barber received a modest stipend to attend the meetings. The formation of the steering group was intended to keep the barbers continually engaged in the study and to provide valuable input from the barbers in order to ensure the success of the study.

Results

Barber Demographics

A total of 11 barbers were interviewed (10 men, 1 woman) from 11 different barbershops. Ten out of 11 barbers were African-American, had at least a high school education, and were Georgia natives. Seven barbers had some college education, and the average age was 47 years old (range: 36 to 64). Six barbers were married, three were single, and two were divorced. Only two of the barbers reported that they did not have health insurance. Table 1 details the demographic characteristics of the barbers who participated in the interviews.

Customer Characteristics

Most of the barbershops had been in operation for 5 years or more. One barbershop in each town had been in operation for over 40 years. Barbers reported a wide average range of customers served per week (50 to 300). On the busiest days, a barber could have between 20 and 50 customers. African-American men were the majority of all barbershop customers across the shops. Because the intervention targets men between 40 and 70 years old, barbers were asked to estimate the number of customers in this age range, resulting in variable estimates. However, this question allowed the researchers to identify which barbershops had a greater number of older customers. Older customers tended to come in the morning and earlier in the week. Barbers were asked to comment on the

Table 1 Demographic characteristics of barbers completing feasibility interviews (N=11)

| Characteristic | Number | Percent |
|-------------------------|------------|---------|
| Age (mean, range) | 47 (36–64) | – |
| Gender | | |
| Male | 10 | 91 |
| Female | 1 | 9 |
| Marital status | | |
| Single | 3 | 27 |
| Married | 6 | 55 |
| Divorced | 2 | 18 |
| Race | | |
| African American | 10 | 91 |
| White | 1 | 9 |
| Education level | | |
| High school/GED | 2 | 18 |
| Some college | 7 | 64 |
| Bachelor’s degree | 2 | 18 |
| Annual household income | | |
| \$10,000–\$29,999 | 3 | 27 |
| \$30,000–\$49,999 | 3 | 27 |
| \$50,000–\$69,999 | 2 | 19 |
| \$70,000 and higher | 3 | 27 |
| Health insurance | | |
| Yes | 9 | 82 |
| No | 2 | 18 |

most common health problems in the African-American community. Diseases most commonly mentioned were prostate cancer, high blood pressure, diabetes, and STDs. When asked to describe their customers’ characteristics, barbers reported a wide range of their customers who were married (10–60 %), smokers (5–50 %), high school graduates (10–90 %), and who had “good” to “excellent” health status (35–90 %). Table 2 provides further details on differences between interview responses from the intervention and control sites.

Prostate Cancer Knowledge

Barbers were asked what they knew about prostate cancer and whether they would feel comfortable discussing prostate cancer with their customers. Many barbers said prostate cancer was more common among African-American men and if caught early, it could be cured. A few of the barbers did not know anything about prostate cancer or thought men should be screened starting at age 25. In fact, one of the barbers reported being screened for prostate cancer at that age. Regarding prostate cancer screening, some barbers expressed that it was a very simple test, “simple screening test, painless,” whereas others expressed reservations about the test that it was “awkward” or “uncomfortable.” The “finger test” was

Table 2 Barbers' estimates for characteristics of intervention and control sites

| Characteristic | Intervention (6 shops) | Control (6 shops) |
|---|--|--|
| % of African-American customers | 87 | 87 |
| % of customers aged 40–70 years old | 29 | 43 |
| % of customers in good to excellent health | 69 | 70 |
| # of customers/week | 140 | 197 |
| Health concerns in African-American community | Prostate cancer, high blood pressure, diabetes, STDs | Prostate cancer, high blood pressure, diabetes, HIV/AIDS |

mentioned more often than the PSA test. Regarding prevention, most barbers mentioned regular screening as the best method. Lifestyle changes discussed included taking a pill to help the prostate, avoiding red meat, and eating a healthy diet high in fiber. All of the barbers interviewed believed that prostate cancer was an important topic to discuss with their customers, felt they would be comfortable discussing prostate cancer, and supported their barbershop's participation in the intervention. All but one of the male barbers over 40 (7 out of 10 male barbers) reported having been screened for prostate cancer.

Intervention Group Survey Results

Six exit surveys were collected from barbers who completed training in the intervention arm. Three barbers rated their knowledge of prostate cancer prior to the intervention as "fair," whereas the other three barbers rated their knowledge as "poor" or "very poor." On the 17-item prostate cancer knowledge instrument, there was a statistically significant difference between the average pretest knowledge scores of 72 % (mean 12.2, SD=3.2) and the posttest knowledge scores 89 % (mean 15.2, SD=1.1) ($P=0.03$). Barbers scored the greatest number of incorrect answers on the multiple choice question about the function of the prostate gland, thinking that it had a role in the production of urine. On the 11-item decision self-efficacy scale, the six barbers achieved a very high average self-efficacy rating of 94 out of 100, suggesting the barbers' confidence in making an informed choice about whether to be screened for prostate cancer. Examples of items on this scale included getting the facts about prostate cancer screening decision choices and understanding the information to make a choice, and asking for advice. Regarding the ability to educate their customers, five out of the six barbers felt "very confident" about delivering prostate cancer education to their customers after receiving the training. Barbers also reported to have understood the importance of informed decision-making about prostate cancer screening and the importance of asking questions during the medical appointment. For example, one barber commented, "being knowledgeable about when to start having a conversation with your doctor." The perceived risk of prostate cancer scale consisted of a

single question: "What do you think your risk of developing prostate cancer is compared to other men your age?" On average, the barbers believed their risk of developing prostate cancer was about the same level of risk compared to other men their age.

Barbers also mentioned the importance of obtaining all of the information about the different tests and treatments and talking to their doctor and families before making a final decision to be screened. Furthermore, barbers identified new skills that they developed during the training session, including the ability to educate others and to foster dialog with customers about prostate cancer. One barber noted the benefit of the role-playing exercise for helping to begin the dialog with customers. The exercise was a part of the training where the barber would practice the prostate cancer discussion with the trainer.

Discussion

This study explored the feasibility and receptiveness of African-American barbers to become barber health advisors and partner with researchers to test the efficacy of a prostate cancer education intervention program in rural Georgia. Several findings provide information for researchers and practitioners in cancer education: (1) rural African-American barbershops are both appropriate and feasible settings for health promotion; (2) barbers can complete a training curriculum on prostate cancer and gain the knowledge to become barber health advisors, but scheduling challenges remain with particular barbers; and (3) some barbers are enthusiastic participants in health promotion programs and will work as advocates for health issues, in this case prostate cancer, because they want to help their customers. These findings share similarities with the results from other pilot studies examining the feasibility of barbershops as health education and promotion sites in urban areas [15, 18, 22, 23]. This study also found that barbers were nearly unanimous in allowing their clients to learn about prostate cancer in their shops [23]. While the efficacy of prostate cancer education in barbershops is still under investigation, the findings for hypertension education and screening

in barbershops are instructive. One team of researchers has advanced the field of barbershop health promotion by showing intervention effectiveness for barbers to control hypertension in their customers [24]. The training and materials used in the *Barbers Against Prostate Cancer* intervention are targeted to African-American men 40 years old and older and address cultural attitudes such as distrust of medical providers and issues of masculinity around the screening and treatments for prostate cancer. The literacy level appropriate program informs barbers and customers about the prostate cancer screening controversy so patients can make an informed decision about screening. The barbers expressed appreciation for the training, and they proudly displayed their training completion certificates as validation of the training and knowledge that they had received. In addition to the educational materials in the shops (brochures, poster, DVD, and plastic anatomical model), the training completion certificates also serve as “conversation starters.”

Barbershops are an ideal setting to reach older African-American men in rural areas where there is a shortage of health care providers and limited health information about cancer screenings for African-American men. Barber health advisors might play a significant role to increase informed decision-making among their customers by encouraging them to have a conversation and ask questions during their medical visits with a family physician. Given the cancer health disparities experienced by African-American men in Georgia, this study is both timely and relevant. Based on the interviews, there was consensus among barbers about the importance of addressing the topic of prostate cancer with their barbershop customers. The barber in the intervention group who scored lowest on the knowledge pretest (7 out of 17 and improving to 14 in the posttest) was the youngest barber in the cadre—31 years—and rated his knowledge about prostate cancer prior to the education as very poor on a 5-point scale in the exit survey. The future intervention will test the efficacy of the barber health advisor intervention to increase decision self-efficacy in this target population.

As a feasibility study, there were study limitations because the towns and barbershops were not randomly selected. As a result, the study findings might not be generalizable to other micropolitan areas, especially where the health care organization or university does not have the trust of the community. As a community-based research project, the research team had to develop rapport with individual barbers and owners in order to identify which African-American barbershops met study inclusion and to gauge interest in participation. For example, some barbershops which catered primarily to college students were less interested in partnering with the study; moreover, the target population for the intervention, African-American men over 40 years old, would be less likely to patronize these shops. Our feasibility interviews and surveys allowed us to reach interested barber stakeholders for the purposes of the study.

This feasibility study conducted with barbers in African-American barbershops demonstrated that barbers were willing to engage customers in brief discussions about prostate cancer after receiving the training. The enthusiasm of the barbers around the topic of prostate cancer should translate to the feasibility of the planned intervention. African-American barbershops are community resources, and it is common to observe community, faith-based, and cause-related events prominently advertised inside the barbershop. However, the role of the barber has been underutilized in health education initiatives. Barbers and customers build long-term trusting relationships, and barbers can nurture these relationships further by providing health education to their customers. If the findings from this barbershop study are positive, the researchers will work with barbers to provide health education about other important diseases affecting the African-American community, such as diabetes and hypertension. Especially in rural communities where there are fewer medical facilities and a shortage of health care providers, the African-American barbershop is an underutilized resource that can be engaged to address health disparities.

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References

1. Siegel R, Ma J, Zou Z, Jemal A (2013) Cancer statistics, 2014. *CA Cancer J Clin* 64(1):9–29
2. American Cancer Society (2013) Cancer facts & figures for African Americans 2012–2013. American Cancer Society, Atlanta
3. National Cancer Institute (2014) Seer Stat Fact Sheets: Prostate Cancer. <http://seer.cancer.gov/statfacts/html/prost.html>. Accessed 11 June 2014
4. US Cancer Statistics Working Group (2010) United States cancer statistics: 1999–2007 incidence and mortality Web-based report. US Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute, Atlanta
5. Reynolds D (2008) Prostate cancer screening in African American men: barriers and methods for improvement. *Am J Mens Health* 2(2): 172–177
6. Jones BA, Liu WL, Araujo AB, Kasl SV, Silvera SN, Soler-Vila H et al (2008) Explaining the race difference in prostate cancer stage at diagnosis. *Cancer Epidemiol Biomarkers Prev* 17(10):2825–2834
7. Wolf AM, Wender RC, Etzioni RB, Thompson IM, D’Amico AV, Volk RJ et al (2010) American Cancer Society guideline for the early detection of prostate cancer: update 2010. *CA Cancer J Clin* 60(2): 70–98
8. Linder SK, Kallen MA, Mullen PD, Galliher JM, Swank PR, Chan EC et al (2014) Physician behaviors to promote informed decisions

- for prostate cancer screening: a national research network study. *J Cancer Educ* 29(2):345–349
9. Volk RJ, Linder SK, Kallen MA, Galliher JM, Spano MS, Mullen PD et al (2013) Primary care physicians' use of an informed decision-making process for prostate cancer screening. *Ann Fam Med* 11(1): 67–74
 10. Institute of Medicine (2003) Unequal treatment: confronting racial and ethnic disparities in healthcare. The National Academies, Washington
 11. Taksler GB, Keating NL, Cutler DM (2012) Explaining racial differences in prostate cancer mortality. *Cancer* 118(17):4280–4289
 12. Andriole GL, Grubb RL 3rd, Buys SS, Chia D, Church TR, Fouad MN et al (2009) Mortality results from a randomized prostate-cancer screening trial. *N Engl J Med* 360(13):1310–1319
 13. Carroll PR, Vickers AJ (2014) Point/counterpoint: early detection of prostate cancer: do the benefits outweigh the consequences? *J Natl Compr Cancer Netw* 12(5 Suppl):768–771
 14. Luque JS, Ross L, Gwede CK (2014) Qualitative systematic review of barber-administered health education, promotion, screening and outreach programs in African-American communities. *J Community Health* 39(1):181–190
 15. Luque JS, Rivers BM, Kambon M, Brookins R, Green BL, Meade CD (2010) Barbers against prostate cancer: a feasibility study for training barbers to deliver prostate cancer education in an urban African-American community. *J Cancer Educ* 25(1):96–100
 16. Hart A Jr, Underwood SM, Smith WR, Bowen DJ, Rivers BM, Jones RA et al (2008) Recruiting African-American barbershops for prostate cancer education. *J Natl Med Assoc* 100(9):1012–1020
 17. Fraser M, Brown H, Homel P, Macchia RJ, LaRosa J, Clare R et al (2009) Barbers as lay health advocates—developing a prostate cancer curriculum. *J Natl Med Assoc* 101(7):690–697
 18. Luque JS, Rivers BM, Gwede CK, Kambon M, Green BL, Meade CD (2011) Barbershop communications on prostate cancer screening using barber health advisers. *Am J Mens Health* 5(2):129–139
 19. Allen JD, Mohllajee AP, Shelton RC, Drake BF, Mars DR (2009) A computer-tailored intervention to promote informed decision making for prostate cancer screening among African American men. *Am J Mens Health* 3(4):340–351
 20. Holmes-Rovner M, Kroll J, Schmitt N, Rovner DR, Breer ML, Rotherth ML et al (1996) Patient satisfaction with health care decisions: the satisfaction with decision scale. *Med Dec Making* 16(1): 58–64
 21. O'Connor AM (1995) Validation of a decisional conflict scale. *Med Dec Making* 15(1):25–30
 22. Brawner BM, Baker JL, Stewart J, Davis ZM, Cederbaum J, Jemmott LS (2013) “The black man’s country club”: assessing the feasibility of an HIV risk-reduction program for young heterosexual African American men in barbershops. *Fam Community Health* 36(2):109–118
 23. Hart A Jr, Bowen DJ (2004) The feasibility of partnering with African-American barbershops to provide prostate cancer education. *Ethn Dis* 14(2):269–273
 24. Victor RG, Ravenell JE, Freeman A, Leonard D, Bhat DG, Shafiq M et al (2011) Effectiveness of a barber-based intervention for improving hypertension control in black men: the BARBER-1 study: a cluster randomized trial. *Arch Intern Med* 171(4):342–350