

Qualitative Systematic Review of Barber-Administered Health Education, Promotion, Screening and Outreach Programs in African-American Communities

John S. Luque · Levi Ross · Clement K. Gwede

Published online: 3 August 2013
© Springer Science+Business Media New York 2013

Abstract The barbershop has been portrayed as a culturally appropriate venue for reaching Black men with health information and preventive health screenings to overcome institutional and socio-cultural barriers. The purpose of this review is to synthesize the peer-reviewed literature on barbershop-based health programs to provide lessons learned for researchers and practitioners. A literature search was conducted to identify articles for the review. Inclusion criteria specified that studies had to be based in the United States and reported about research where barbers were either being assessed for the feasibility of their participation or recruited to administer health education/screening outreach or research activities. The literature search produced 901 unique bibliographic records from peer-reviewed publications. After eliminating articles not meeting the inclusion criteria, 35 articles remained for full-text review. The final article sample consisted of 16 articles for complete abstraction to assess characteristics of studies, role and training of barbers, outcomes targeted, effectiveness, and key findings. All barbershop-based studies reviewed targeted Black men in urban settings. Common study designs were cross-sectional studies, feasibility studies, needs assessments, and one-shot

case studies. Barber administered interventions addressed primarily prostate cancer and hypertension, and barbers provided health education, screening, and referrals to health care. Nonintervention studies focused mostly on surveying or interviewing barbers for assessing the feasibility of future interventions. Barbershops are a culturally appropriate venue for disseminating health education materials in both print and media formats. Barbershops are also acceptable venues for training barbers to conduct education and screening. In studies where barbers received training, their knowledge of various health conditions increased significantly and knowledge gains were sustained over time. They were also able to increase knowledge and promote positive health behaviors among their customers, but these outcomes were variable and not consistently documented.

Keywords Health education · Screening · Community-based interventions · Men's health · African-Americans

Introduction

Black men in the United States experience health disparities in comparison to Whites from a number of major diseases including cancer, cardiovascular disease, cerebrovascular disease, HIV/AIDS, and diabetes [1]. For example, Black men experience the highest mortality rates and shortest survival of all racial and ethnic groups for most major cancers, especially from cancer of the lung and prostate [2]. A recent report from the Kaiser Family Foundation on health disparities in men concluded that Black men experienced poorer health outcomes on a range of indicators than White men [3]. Notably, Black men had

J. S. Luque (✉) · L. Ross
Jiann-Ping Hsu College of Public Health, Georgia Southern
University, P.O. Box 8015, Statesboro, GA 30460-8015, USA
e-mail: jluque@georgiasouthern.edu

C. K. Gwede
Department of Health Outcomes and Behavior, Moffitt Cancer
Center, Tampa, FL, USA

C. K. Gwede
Department of Oncologic Sciences, College of Medicine,
University of South Florida, Tampa, FL, USA

higher rates of diabetes, cardiovascular disease, and obesity than White men; moreover, the new AIDS case rate was strikingly higher for Black men (104.1/100,000) compared to White men (13.7/100,000), as well as all other groups. Other alarming statistics from the report related to social determinants. For example, Black men had the highest rates of incarceration (5.9 times higher than White men) and unemployment (2.4 times higher than White men). Black men also experienced higher rates of poverty and lower median household income than men in other racial or ethnic groups. This combination of disproportionate risk factors and negative health outcomes has prompted a call to action for focusing on solutions to eliminate racial and ethnic health disparities in boys and men [4]. While there have been numerous studies examining the causes, determinants, and negative health outcomes for Black men, there is less reported in the literature about how to effectively reach them through interventions delivered in culturally appropriate venues.

Community assets, such as beauty salons, barbershops and churches, have been portrayed as culturally appropriate venues for reaching African Americans with health information to overcome institutional and socio-cultural barriers in accessing health care [5–7]. Studies have also indicated that barbershops and sporting events are preferred communication channels for health information targeting Black men since men are characterized by lower church attendance compared to women [8–10]. African-American barbershops are staffed by primarily Black barbers and cater to the Black customer, so their client base is primarily from this demographic group. Some barbers are considered respected members of the community and might maintain close and trusting personal relationships with some of their customers. The Black barbershop is a community resource where men do not just come for haircuts. It is also a place to obtain job leads, reconnect with the community for men who have moved away from urban centers, purchase a variety of goods from itinerant vendors, and discuss current events, politics, and sports in a relaxed setting [11].

This review examines the role that the Black barbershop has played in the African-American community for feasibility studies and intervention research on men's health issues. Furthermore, the review critically evaluates the potential for barber-administered health education and outreach to reach Black men and promote positive health behaviors to address these persistent health disparities.

Barber-Based Interventions to Address Health Disparities in Black Men

The first studies examining the feasibility of barbershops as outreach and screening sites in the African-American community focused on how to engage the shops as

community sites for health education and screening to monitor hypertension [10, 12, 13]. In the mid-1980s, Kong [13] had initially worked with Black churches in Baltimore, but found lower participation among men. Using the barbershop setting, they found that men could easily have their blood pressure checked while waiting for a haircut and responded positively. While some of these early studies were innovative and promising with the use of this novel outreach approach, there were no published reports on the training of barbers to deliver health education or screening services or on the evaluation of these programs. Ferdinand replicated Kong's outreach model in New Orleans, but he found some limitations to the approach of engaging barbers and beauticians, cautioning that there were time constraints on how many blood pressure checks could be conducted in barbershops and beauty salons [10, 12]. In this program, barbers and beauticians volunteered as part of a larger effort to control hypertension in the African-American community in partnership with other establishments. In addition to these early examples, other more recent programs have reported using barbershops as sites for barbers to deliver disease-specific health education, for example with the assistance of computer kiosks (the Prostate Net), and for health professionals to provide health education and screening for a range of health conditions [7, 14–16].

Engaging the barbershop as a community asset for health screenings using health care professionals versus recruiting barbers to receive training as peer health educators for barbershop-based health outreach and education programs require different approaches and strategies. One key distinction is that performing periodic community outreach in barbershops does not require the same level of community investment of time and resources as training barbers and keeping them motivated and engaged in the delivery of sustainable health education and screening programs. Moreover, obtaining the commitment of barbers to deliver health programs requires both a high level of trust and partnership with the community to ensure that barbers receive training, earn recognition for their commitment to the health program, and are compensated with monetary or nonmonetary incentives for this peripheral activity to their job. Clearly, achieving sustainability is a major challenge for barber-administered health programs. Releford et al. [7] raise the issue of cultural factors which might threaten the partnership formation process between barbershops and the health sector because of recent historical events, leading to a lack of trust in the health care system. The authors also question the sustainability of barber-administered health programs because of barbers' competing priorities. As such, mutually beneficial partnerships with barbershops are needed much like in other community-engaged research to ensure sustainability and long-term impact.

In addition to challenges for implementation and sustainability of these health programs from the community perspective, from the health care provider perspective, there is the fear that for some complicated screening decisions, such as prostate cancer screening, using lay health educators to deliver information could potentially add to patient misunderstanding, and consequently lead to lower rates of screening. Because of the limited evidence base for the barbershop-based or barber-administered outreach model, health care providers might have reservations about health education or screening programs which empower barbers to influence a patient's health care decisions, which is traditionally the province of the provider. For prostate cancer, access to current and relevant information for screening and education in the community is limited, and consequently, there is a community-identified need for programs to raise awareness and increase prostate health knowledge in communities with high incidence of the disease, where access to relevant information has been limited [17]. While the evidence from pilot studies suggests the feasibility of partnering with barbershops for health education programs on prostate and colorectal cancer screening, there is a dearth of community trials to determine the effectiveness of barber-administered interventions to effect changes in men's cancer screening behaviors or shared- and informed-decision making processes [17–20]. Barber-administered intervention programs for hypertension are more developed, evidenced by two peer-reviewed publications resulting from a nonrandomized efficacy trial and a randomized controlled trial demonstrating the effectiveness of trained barbers for increasing hypertension control rates [21, 22].

Studies show that cultural barriers to accessing health care, such as mistrust of the health care system or physicians, and passive decision making preferences among low income Black men, can be overcome through candid discussions with influential peers in community settings [23, 24]. Again, using the example of prostate cancer screening, given the difficulty of the disease specific terminology, low health literacy among lower socioeconomic status Black men, and physician time constraints to have prescreening discussions, men might receive screening for prostate cancer without understanding the ramifications of their decisions [25]. Increased attention to the development of culturally and literacy-level relevant health education and outreach materials and programs based in the community can greatly impact cancer health disparities [26].

This review synthesizes the evidence base for barber-administered health education, screening, and outreach programs. Because there are very few studies reporting the results of these types of health programs, this review also included studies which engaged barbers and barbershop proprietors to assess the feasibility of initiating barber-

administered programs. Therefore, the purpose of the review is to synthesize the literature on both assessing feasibility and evaluating promising interventions to provide lessons learned for those researchers and practitioners engaging in barber-administered, community-based education and outreach programs. In order to achieve this purpose, this review poses the following three research questions: (1) what are the training needs for barbers to deliver health education/promotion programs? (2) what types of health education/promotion activities can barbers reasonably accomplish while working in the barber's chair? and (3) what is the evidence supporting the effectiveness of barber-administered health interventions? While there have been relatively few studies conducted in barbershops, this review will assess the potential of delivering health programs in this venue.

Methods

Inclusion Criteria

The inclusion criteria for articles in this review were that the studies be based in the United States where barbers were either being assessed for the feasibility of their participation or actual participation in either a health education/screening outreach or research activity. Articles which did not include barbers, used barbershops as settings for outreach or research without including the barbers, or review articles were excluded from the final sample of potential articles for abstraction and review.

Search and Selection Processes

For the initial database search, we searched three electronic databases [PubMed, CINAHL (excluding MEDLINE), and PsycINFO (EBSCO)] from the earliest retrievable records of each database to October 2, 2012. For each database, the following two search terms or keywords were used to identify articles: [barber(s) and barbershop(s)]. The results of each search were scanned to identify all health intervention studies in barbershops, written in English, and conducted in the United States. Using these search terms we identified a total of 901 articles (421 articles in PubMed, 61 articles in CINAHL, and 419 articles in PsycINFO). Out of the search results, 866 articles were excluded because they were duplicate records, did not take place in barbershops or were conducted outside of the United States. This left 35 citations for abstraction and full-text review. We reviewed the reference lists from these 35 articles to identify additional possible articles to include in the review. After the full-text review, 20 additional articles were excluded for the following reasons: eight articles

were commentaries or reviews with no original data; six used barbershops as sites for surveys or ethnographic research with customers but did not engage barbers; two used barbershops to pretest education materials for African-American audiences; and four used barbershops as sites where health professionals delivered services, but barbers were not involved. An additional four articles were added to the review based on reference lists, and one met inclusion criteria to arrive at the final sample of 16 articles for full abstraction and review.

Article Abstraction

For each eligible article, we abstracted key study characteristics including health issue addressed, prevention approach (i.e., primary, secondary or tertiary), study design or study type, sample size, sample characteristics, and geographic location. In addition, information from the articles was collected on intervention characteristics, components, duration, training details, and methods of determining receipt of screenings or behavior change. Finally, we recorded main study findings, and outcomes measured and targeted by the interventions. Two reviewers discussed coding discrepancies, reviewed articles to ensure accuracy, and combined all responses into a single abstraction grid.

Results

Barbershop-Based Study Characteristics

The summary of study location, health issue(s) addressed, study design or study type, and the role of the barbers from all 16 identified barbershop-based studies is presented in Table 1. All barbershop-based studies targeted Black men in urban settings. Study types included cross-sectional studies (43 %), feasibility studies (36 %), one-shot case studies (14 %), and needs assessment studies (14 %). Only one study was a quasi-experimental study [22], and the subsequent study was a randomized controlled trial [21, 27]. The most common data collection method was interviewer-administered surveys, followed by self-administered surveys. Other less used forms of data collection included focus group discussions, participant observation, physical measurements such as blood pressure readings and blood glucose, and physical assessments (e.g., BMI). Common roles for barbers were administering screening (e.g., blood pressure measurements), delivering health education, and making referrals to health care. Other studies focused mostly on surveying or interviewing barbers for assessing feasibility of various interventions [17, 24, 28–30]. Additionally, a few studies worked with

barbers to develop intervention materials for future interventions [18, 19].

Table 2 summarizes the barbershop-based study characteristics. For the 13 articles reporting sample sizes, the total number of barbers reached in the studies was 177, and the number of customers was 1,064. One study which reported numbers was excluded from the count because there was no exact number of barbers or customers reached, claiming only that more than 7,000 men had been screened for hypertension across six states [14]. The two most common health issues addressed in the barbershop-based studies were prostate cancer and hypertension. Other health issues addressed in studies included cardiovascular disease, diabetes, colorectal cancer, physical activity, sexual health, and general health improvement. Barbershop-based studies occurred primarily in metropolitan areas across the United States, with half of the studies representing the Southeast United States, not including Texas. Only one study was a multi-site study, covering six states [14].

Key Features of Barbershop-Based Studies

The key features of the barbershop-based studies are presented in Table 3. The most common services provided by barbers were health education and screening (e.g., blood pressure measurements). Other less common services provided by barbers included other types of health screenings and referrals to health care.

Training Needs

While some of the studies were feasibility studies and only surveyed or interviewed barbers, several studies were intervention studies, and barbers were trained to deliver the intervention. Barbers received training in taking blood pressure measurements, first aid, treatment and prevention guidelines for infectious and chronic diseases, and peer health education techniques. The length of barber's training ranged from 2½ to 10 h. Some studies were less specific and simply stated that training was covered over the course of 2 weeks or lasted 1 day [18, 30, 31]. Training was completed didactically and using interactive media.

Targeted Outcomes

Intervention studies targeted various behavioral and cognitive outcomes including hypertension control, knowledge of chronic disease factors, and shared decision making with physicians. Other study outcomes examined feasibility outcomes for training barbers and delivering services, and developing health education materials in partnership with barbers and customers. Few studies indicated that the

Table 1 Barbershop-based studies (*n* = 16)

References	State	Health issue(s) addressed	Study design or study type	Conceptual framework/theory used	Role of barbers
Bragg [33]	Maryland	Prostate cancer Hypertension Cardiovascular disease Diabetes General Health	Cross-sectional	ND	Referrals to healthcare Screening
Ferdinand [10]	Louisiana	Cardiovascular disease	Cross-sectional, outreach	ND	Screening
Fraser et al. [18]	New York	Prostate cancer	Needs assessment, pre-test/post-test	Stages of change	Testing a prostate cancer education curriculum Discussing prostate cancer with customers
Hart et al. [32]	Washington	Prostate cancer	Cross-sectional, feasibility	ND	Feasibility for being engaged in prostate cancer education program
Hart et al. [17]	Virginia	Prostate cancer	Cross-sectional, feasibility	ND	Feasibility for being engaged in prostate cancer education program
Hess et al. [22]	Texas	Hypertension	Quasi-experimental	Social cognitive theory	Blood pressure measurements, peer support, peer approval, peer education
Holt et al. [19]	Alabama	Prostate cancer Colorectal cancer Hypertension/Diabetes (control conditions) STD/HIV	Qualitative, education materials development	Community-based participatory research and empowerment education	Engagement with materials development, input on cultural appropriateness, acceptability, and understandability
Lewis et al. [31]	North Carolina	General health	Needs assessment	Social cognitive theory	Delivery of peer education, condom distribution
Li et al. [28]	North Carolina	Physical activity	Cross-sectional, feasibility	ND	Feasibility for being engaged in health education program
Linman et al. [29]	North Carolina	Prostate cancer	Cross-sectional, feasibility	ND	Delivery of peer education, physical measurements
Luque et al. [30]	Florida	Prostate cancer	Pre-test/post-test, feasibility	Empowerment education	Feasibility for barber engagement in prostate cancer education program, receiving prostate cancer curriculum instruction
Luque et al. [20]	Florida	Prostate cancer	One-shot case study, feasibility	Empowerment education	Educating customers about prostate cancer screening
Pepe [34]	Ohio	Hypertension	One-shot case study, outreach	ND	Blood pressure measurements, peer education
Releford et al. [7, 14]	California, Georgia, Illinois, Louisiana, Missouri, New York	Hypertension Cardiovascular disease Diabetes	Outreach	Social ecological model	Peer education, health screenings (blood pressure, blood glucose), referrals to healthcare

Table 1 continued

References	State	Health issue(s) addressed	Study design or study type	Conceptual framework/theory used	Role of barbers
Victor et al. [27]	Texas	Hypertension	Randomized controlled trial design description	CDC AIDS community demonstration project model	Blood pressure measurements, peer support, peer approval, peer education, referrals to healthcare
Victor et al. [21]	Texas	Hypertension	Randomized controlled trial	CDC AIDS community demonstration project model	Blood pressure measurements, peer support, peer approval, peer education, referrals to healthcare

Table 2 Barbershop-based study characteristics

Barbershop Characteristics Population served ^a	Sample No. (%) <i>No. of articles</i>
Customers	1,064 (85.7 %)
Barbers	177 (14.3 %)
State ^b	
Alabama	1
California	1
Florida	1
Georgia	1
Illinois	1
Louisiana	2
Maryland	1
Missouri	1
New York	2
North Carolina	3
Ohio	1
Texas	2
Virginia	1
Washington	1
Health issue addressed ^c	
Cardiovascular disease	3
Colorectal cancer	1
Diabetes	2
General health improvement	2
Hypertension	5
Physical activity	1
Prostate cancer	6
Sexual health	1

^a 3 studies did not report exact numbers of barbers or customers reached

^b 1 study (Releford et al. [7, 14]) had multiple sites in Georgia, California, Louisiana, Illinois, New York and Missouri; 2 studies by Luque et al. [20, 30] (Florida) and Victor et al. [21, 27] (Texas) were only counted once since they reported on the same study

^c Many studies targeted multiple health issues; 2 studies by Luque et al. [20, 30] and Victor et al. [21, 27] were only counted once since they reported on the same study

interventions or programs were informed by any particular health behavior theory, but the studies that did discuss theory or frameworks cited social cognitive theory [22, 31], stages of change [18], empowerment education [19, 20, 30], and the social ecological framework [14] as informing the intervention approach.

Study Findings

Because of the diversity of health topics and study designs, barbershop-based study findings were also variable. Multiple articles stressed the importance of forming a coalition

Table 3 Key features of barbershop-based studies

Barbershop-based study feature	Description
Services provided by barbers	<p><i>Common services</i> Blood pressure measurements, hypertension education, prostate cancer education, general health education</p> <p><i>Less common services</i> BMI cholesterol testing, diabetes testing, heart rate test, STD and HIV education, condom distribution, referrals to healthcare</p>
Characteristics of training programs	Examples of training included: checking blood pressure with sphygmomanometers, first aid training, prostate screening guidelines, STD and HIV testing and prevention, popular education
Outcomes targeted	<p><i>Common outcomes targeted</i> Blood pressure control, knowledge of hypertension risk factors, talking to your physician, knowledge of prostate cancer risk factors and screening, feasibility outcomes for training barbers and delivering services, developing health education materials in partnership with barbers and customers</p> <p><i>Less common outcomes targeted</i> Blood sugar level reduction, knowledge of diabetes risk factors, cholesterol reduction</p>
Highlights of some study findings	<p>Working coalition must be in place before major project is undertaken, and must have strong community support. Limits on number of blood pressure measurements taken at barbershops. Need ongoing support from project leaders. Limits must be set of number of blood pressure measurements done in shops by barbers. Recommend using ethnically and culturally appropriate videos. Publicize the event as screening opportunity (Ferdinand [10])</p> <p>Barber knowledge increased from 51.4 to 75.7 ($p < .05$). 42 % of barbers had knowledge of PSA; 31 % barbers said man can lead normal life with prostate cancer. Language, lack of insurance, immigration status as barriers to care. Significant changes in knowledge from pre- to post-test and from post-test to 3-month follow-up. Decrease in knowledge from post-test to 3-month follow-up suggests the need for booster training session. Not necessary to differentially present the curriculum based on African American vs. Caribbean ethnicity (Fraser et al. [18])</p> <p>Working with Barbershop Advisory Council “lead” proprietor, 66–100 % of clients were African American, percentage of clients 40–70 ranged from 20–85 %, men 40–70 get their haircut twice/month, men 40–70 get haircuts on Thursdays and Saturdays. There were overwhelming positive reactions regarding health education programs and research. There was a fair amount of variability in the clientele served by African American barbershops with regard to race and age. Barbershop proprietors expressed varied levels of interests in having their shops serve as a venue to conduct prostate cancer educational research (Hart et al. [17])</p> <p>Barbers needed to be trained, want credentials for wall. Barbers use visual aids and/or print materials. If barbers were cancer survivors, it would add credibility. Intervention protocol and package of educational materials developed and pilot tested with input from African American men, 2 community health advisor manuals (1 prostate cancer & colorectal cancer, 1 diabetes/hypertension), educational booklet on informed decision making for prostate cancer screening and on colorectal cancer screening, poster, evaluation materials/protocols. Barbers are less familiar with issues surrounding colorectal cancer than prostate cancer. Printed materials fit better in the barbershop environment and the educator/client interaction. Credibility is very important and is enhanced by being a survivor and having and displaying certification documents (Holt et al. [19])</p> <p>Recruitment cost for each of 90 customers was \$105.92, costs for training 11 part-time research assistants, staffing (182 person hours), travel costs, cash incentives, and equipment. Customer statistics: mean BMI was 29, 20 % normal, 43 % overweight, 20 % obese I, 10 % obese II/III, waist 38 in. seated heart rate = 75 beats/min, step test 106 beats/min; BP 134/79, 49 % had elevated BP, 70 % interested in physical activity, 79 % interested in contest. Feasibility to recruit African American men through barbershop was demonstrated. Customers interested in learning more about physical activity in shops. Referral method yielded the best study participation (Linnan et al. [29])</p> <p>90 % of customers attended same barbershop year round, customers ranked risk factors correctly after receiving education from the barber—family history, age, African American background, and diet. 78 % said educational materials increased knowledge of prostate cancer; 53 % had discussed prostate cancer twice in last month with a friend or family member (Luque et al. [20])</p> <p>Absolute group difference of 8.8 % ($p = .04$) in hypertension control rate, increasing more in intervention group compared to control group participants. Greater change in hypertension control among intervention group participants after adjustment for covariates ($p = .03$) (Victor et al. [21])</p>

or community advisory board to partner with research efforts [10, 17]. A common theme identified was that the barbers are busy professionals, and there is a limit on the amount of services they can provide (e.g., education or screening), to keep from disrupting normal shop business.

However, several feasibility studies demonstrated that there was an overwhelming positive response from barbers to delivering health education programs in the barbershop setting [17, 28, 29, 32]. Barbershops were found to be a convenient venue for disseminating print and media

education materials. Barbershop customers are a captive audience and usually attend the same barbershop, so the opportunity for booster sessions is increased.

A positive finding was that in many studies where barbers received formal structured lay health educator training, their knowledge of various health conditions increased significantly, and they were also able to increase knowledge among their customers [18, 20, 30]. Some studies reported increased knowledge among barbers and customers for particular health conditions [18, 28, 30]. Regarding behavioral outcomes, a nonrandomized efficacy trial reported that hypertension control in the treatment group increased from 47 to 92 % but remained unchanged in the control group [22]. In a follow-up study, the researchers reported the results of a randomized clinical trial, and found that barbers can effectively impact their customers' hypertension control rate, with a 8.8 % absolute group difference between intervention and control groups [21]. This study also found that the barber-administered intervention was cost-effective.

Discussion

Barber-administered health education and health promotion programs exemplify innovative uses of a community resource to disseminate evidence-based health information and services to Black men. This qualitative systematic review synthesized the peer-reviewed literature reporting both feasibility and intervention studies using the barbershop venue and engaging its barbers. Only 16 articles satisfied our comprehensive inclusion criteria, indicating that there is an underreporting of health promotion work in barbershops in the academic literature, since there have been several examples of these types of programs reported in the popular media and on the Internet [35–37]. The most common types of programs identified in this review prepared barbers to deliver health education, screening or outreach services, such as physician referrals, to their customers on health topics of importance to Black men, primarily on hypertension and prostate cancer.

The first research question posed by this review was to identify the training needs for barbers to deliver these types of health education/promotion programs. In order for barbers to successfully implement health programs, they need to receive the proper training in a culturally appropriate manner. We only identified one article which specifically focused on the training process and outcomes for barbers [30]. In this prostate cancer education study, the researchers found that using a combination of popular education techniques and didactic instruction totaling 10 h, the eight participating barbers significantly increased their knowledge about prostate cancer and retained this knowledge

during the course of the two-month pilot intervention, based on two post-test assessments. The multiple training sessions in this study began with a kick-off dinner event, followed by trainings at a community partner site, and concluded with individualized trainings at barbershops. Another prostate cancer education study reported that barber training had to be moved from the institutional site to the barbershops because of low initial attendance of the 14 participating barbers [18]. In this program, there were also two follow-up assessments, and the barbers demonstrated higher levels of prostate cancer knowledge at each post-test compared to baseline. However, interestingly, none of the barbers in this study responded in the affirmative to the question of whether they believed that screening can save a life since the training covered the prostate cancer screening controversy.

In the articles describing blood pressure screening programs, it was reported that barbers received training, but the training program was not discussed in depth [10, 14, 21]. One article discussed an annual one-day training program on sexual health, which included both barbers and beauticians, to teach about STD and HIV treatment and prevention strategies with a focus on skills building [31]. Another study discussed the development of curriculum training materials for prostate cancer and colorectal cancer education that underwent multiple iterations and used extensive cognitive interviewing with participants to ensure understandability; however, the study focused on the materials development, not the barber training [19]. In sum, there was variable training of barbers and limited evaluation for gauging short versus long-term retention of knowledge which leaves many unanswered questions about when booster training should be administered. This information would be helpful in designing experimental studies using cross-over designs to estimate the time period necessary for washout periods.

The second research question was to determine which types of education or screening activities that trained barbers might reasonably accomplish while working in the barber's chair. There were several studies where barbers would communicate health information verbally and provide an informational brochure. If barbers were providing any health services, the most common procedure was to record their customer's blood pressure. It was less common for barbers to perform other types of medical tests, such as cholesterol screening or diabetes testing. Because these more time intensive tasks took time away from their main occupation, barbers' activities were commonly limited to delivering health education and providing referrals to health care providers. More time-intensive screenings were generally held only periodically during special health promotion events.

Certainly just by focusing health programs on barber-shop customers constitutes a specific target audience and

has limitations. Regular patrons of barbershop are generally younger men who place an emphasis on their appearance and have the means to afford to pay for haircuts. Moreover, obviously older men who have experienced hair loss have less need for regular barbershop visits which reduces the “dose” of health education which is the focus of such efforts. Health education/promotion programs should target their approaches to the target audience to maximize their return on investment.

The third research question was to examine the level of evidence for the effectiveness of barber-administered health intervention programs. Most of the studies were descriptive and used study designs such as a cross-sectional study, one-shot case study, or pilot feasibility study so it was not possible to determine effectiveness. There were only two examples of efficacy or effectiveness studies. Studies were characterized by a wide variability in study designs and measured outcomes. Consequently, there is limited evidence for the effectiveness of barber-administered intervention strategies for improving the health of Black men, despite some positive results from multiple cross-sectional studies. Therefore, it was not possible to pool data (effect sizes) to conduct a meta-analysis to demonstrate effectiveness for outcomes such as improved knowledge or clinical endpoints, such as hypertension control.

Nevertheless, a post hoc research question which deserves consideration is the question of feasibility. Multiple studies spent considerable effort to establish the feasibility of barber-administered programs and reported uniformly positive results in multiple sites across diverse regions of the United States [17, 28–30, 32]. Therefore, if this review examines the sum of evidence not from an evidence-based medicine perspective, but from an applied science perspective, it is reasonable to conclude that this culturally-based, intervention strategy matches diverse community contexts and is adaptable to different communities and health priorities [38] Given that only one study identified in this review addressed sexual health, we conclude that this health issue may be a more sensitive topic in many communities than other topics which Black men are more comfortable discussing among their peers in the barbershop setting.

Conclusion

This review found that barbershop customers are a captive audience receptive to health interventions delivered by trained barbers, who are respected and trusted members of the community. The review identified multiple approaches to health education/promotion focused on multiple and varied health outcomes. Given the variability of studies in the peer-reviewed literature, this review offers tentative but

hopeful conclusions to the practice of barber-administered health education/promotion programs.

Given the infancy of the practice of barbers functioning as lay health educators and as research interventionists, there is limited evidence for the effectiveness of their participation in health intervention programs or their training needs. However, based on the findings from this review, barbers are willing participants in community-based research projects if trust has been established, and they can see the health benefits for their customers to receive information and health screenings. Following the success of barber-administered health education and outreach programs, models will emerge so that such programs can be replicated in diverse African-American communities and contribute to reducing health disparities.

Acknowledgments This work was partially supported by a training grant from the National Cancer Institute (NCI) at the NIH (R25 CA090314; Paul Jacobsen, Principal Investigator). The article's contents are solely the responsibility of the authors and do not necessarily represent the official views of the National Cancer Institute.

References

- Centers for Disease Control and Prevention. (2011). CDC health disparities and inequalities report—United States, 2011. *MMWR Surveillance Summaries*, 60(Suppl), 1–114.
- American Cancer Society. (2013). *Cancer facts & figures for African Americans 2012–2013*. Atlanta: American Cancer Society.
- Kaiser Family Foundation. (2012). Putting men's health disparities on the map: Examining racial and ethnic disparities at the state level. Washington, DC.
- Jones, D. J., Crump, A. D., & Lloyd, J. J. (2012). Health disparities in boys and men of color. *American Journal of Public Health*, 102(Suppl 2), S170–S172.
- Kreuter, M. W., Black, W. J., Friend, L., et al. (2006). Use of computer kiosks for breast cancer education in five community settings. *Health Education & Behavior*, 33(5), 625–642.
- Linnan, L. A., & Ferguson, Y. O. (2007). Beauty salons: A promising health promotion setting for reaching and promoting health among African American women. *Health Education & Behavior*, 34(3), 517–530.
- Releford, B. J., Frencher, S. K, Jr., & Yancey, A. K. (2010). Health promotion in barbershops: Balancing outreach and research in African American communities. *Ethnicity and Disease*, 20(2), 185–188.
- Allen, J. D., Kennedy, M., Wilson-Glover, A., & Gilligan, T. D. (2007). African-American men's perceptions about prostate cancer: Implications for designing educational interventions. *Social Science and Medicine*, 64, 2189–2200.
- Grant, C. G., Davis, J. L., Rivers, B. M., et al. (2012). The men's health forum: An initiative to address health disparities in the community. *Journal of Community Health*, 37(4), 773–780.
- Ferdinand, K. C. (1995). The Healthy heart community prevention project: A model for primary cardiovascular risk reduction in the African-American population. *Journal of the National Medical Association*, 87(8 Suppl), 638–641.
- Wright, E. I. L., & Calhoun, T. C. (2001). From the common thug to the local businessman: An exploration into an urban African American barbershop. *Deviant Behavior*, 22(3), 267–288.

12. Ferdinand, K. C. (1997). Lessons learned from the healthy heart community prevention project in reaching the African American population. *Journal of Health Care Poor Underserved*, 8(3), 366–371.
13. Kong, B. (1997). Community-based hypertension control programs that work. *Journal of Health Care Poor Underserved*, 8(4), 409–415.
14. Releford, B. J., Frencher, S. K., Jr, Yancey, A. K., & Norris, K. (2010). Cardiovascular disease control through barbershops: Design of a nationwide outreach program. *Journal of the National Medical Association*, 102(4), 336–345.
15. Cowart, L. W., Brown, B., & Biro, D. J. (2004). Education African American men about prostate cancer: The barbershop program. *American Journal of Health Studies*, 19(4), 205–213.
16. The Prostate Net. Barbershop Initiatives. (2012). www.theprostatenet.org/barber.html. Accessed 02 June 2013.
17. Hart, A., Jr, Underwood, S. M., Smith, W. R., et al. (2008). Recruiting African-American barbershops for prostate cancer education. *Journal of the National Medical Association*, 100(9), 1012–1020.
18. Fraser, M., Brown, H., Homel, P., et al. (2009). Barbers as lay health advocates—developing a prostate cancer curriculum. *Journal of the National Medical Association*, 101(7), 690–697.
19. Holt, C. L., Wynn, T. A., Lewis, I., et al. (2009). Development of a barbershop-based cancer communication intervention. *Health Education*, 109(3), 213–225.
20. Luque, J. S., Rivers, B. M., Gwede, C. K., Kambon, M., Green, B. L., & Meade, C. D. (2011). Barbershop communications on prostate cancer screening using barber health advisers. *American Journal of Men's Health*, 5(2), 129–139.
21. Victor, R. G., Ravenell, J. E., Freeman, A., et al. (2011). Effectiveness of a barber-based intervention for improving hypertension control in black men: The BARBER-1 study: A cluster randomized trial. *Archives of Internal Medicine*, 171(4), 342–350.
22. Hess, P. L., Reingold, J. S., Jones, J., et al. (2007). Barbershops as hypertension detection, referral, and follow-up centers for black men. *Hypertension*, 49(5), 1040–1046.
23. Drake, B. F., Shelton, R. C., Gilligan, T., & Allen, J. D. (2010). A church-based intervention to promote informed decision making for prostate cancer screening among African American men. *Journal of the National Medical Association*, 102(3), 164–171.
24. Hart, A., Jr, Smith, W. R., Tademy, R. H., McClish, D. K., & McCreary, M. (2009). Health decision-making preferences among African American men recruited from urban barbershops. *Journal of the National Medical Association*, 101(7), 684–689.
25. Kilbridge, K. L., Fraser, G., Krahn, M., et al. (2009). Lack of comprehension of common prostate cancer terms in an underserved population. *Journal of Clinical Oncology*, 27(12), 2015–2021.
26. Meade, C. D., Menard, J., Martinez, D., & Calvo, A. (2007). Impacting health disparities through community outreach: Utilizing the CLEAN look (culture, literacy, education, assessment, and networking). *Cancer Control*, 14(1), 70–77.
27. Victor, R. G., Ravenell, J. E., Freeman, A., et al. (2009). A barber-based intervention for hypertension in African American men: Design of a group randomized trial. *Journal of the American Heart*, 157(1), 30–36.
28. Li, J., Linnan, L., Rose, J., et al. (2011). Promoting men's health within barbershops: Barber/owner survey results and implications for intervention planning. *Preventive Medicine*, 53(3), 207–208.
29. Linnan, L. A., Reiter, P. L., Duffy, C., Hales, D., Ward, D. S., & Viera, A. J. (2011). Assessing and promoting physical activity in African American barbershops: Results of the FITStop pilot study. *American Journal of Men's Health*, 5(1), 38–46.
30. Luque, J. S., Rivers, B. M., Kambon, M., Brookins, R., Green, B. L., & Meade, C. D. (2010). Barbers against prostate cancer: A feasibility study for training barbers to deliver prostate cancer education in an urban African American community. *Journal of Cancer Education*, 25(1), 96–100.
31. Lewis, Y. R., Shain, L., Quinn, S. C., Turner, K., & Moore, T. (2002). Building community trust: Lessons from an STD/HIV peer educator program with African American barbers and beauticians. *Health Promotion Practice*, 3(2), 133–143.
32. Hart, A., Jr, & Bowen, D. J. (2004). The feasibility of partnering with African-American barbershops to provide prostate cancer education. *Ethnicity and Disease*, 14(2), 269–273.
33. Bragg, C. A. (2011). The Black Barbershop: Increasing health awareness among minority men. *AABSS Journal*, 15, 1–20.
34. Pepe, M. (1989). Minority barbers screen customers for hypertension. *Health Education*, 20(7), 10–12.
35. Black C. (2005). Barbers clip at cancer. Florida Times-Union. http://jacksonville.com/tu-online/stories/042505/met_18566998.shtml. Accessed 02 June 2013.
36. The Black Barbershop Health Outreach Program. (2013). <http://blackbarbershop.org/>. Accessed 02 June 2013.
37. The Institute for Family Health. "Get Screened, Get Clean" Pop-up barbershop and free health screenings in Harlem. (2012). <http://www.institute2000.org/2012/06/25/get-screened-get-clean-pop-up-barbershop-and-free-health-screenings-in-harlem/>. Accessed 02/06/13.
38. Livingood, W. C., Allegrante, J. P., Airhihenbuwa, C. O., et al. (2011). Applied social and behavioral science to address complex health problems. *American Journal of Preventive Medicine*, 41(5), 525–531.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.