USING COMMUNITY-BASED PARTICIPATORY RESEARCH TO DEVELOP A CULTURALLY SENSITIVE SMOKING CESSATION INTERVENTION WITH PUBLIC HOUSING NEIGHBORHOODS

Jeannette O. Andrews, PhD, APRN, BC; Gayle Bentley, DNP, APRN, BC; Stacey Crawford, CHW; Lester Pretlow, PhD, CLS (C), NRCC (CC); Martha S. Tingen, PhD, APRN, BC

Purpose: To describe surface and deep structure dimensions of a culturally sensitive smoking cessation intervention developed with southeastern US public housing neighborhoods.

Procedures: Community-based participatory research (CBPR) methods were used to develop this culturally sensitive smoking cessation intervention by the following research partners: academicians, neighborhood residents, community health workers, and community advisory board. This CBPR involved a cyclical process with the following phases: assembling a research team; identifying smoking cessation as the health need of interest; developing the research method; establishing evaluation, feedback, and dissemination mechanisms; implementing the initial ''Sister to Sister'' community trial; analyzing and interpreting the data; disseminating the results; revising the intervention; and, establishing mechanisms to sustain outcomes. Culturally sensitive dimensions emerged during this process and were categorized as surface structure and deep structure.

Findings: Surface structure dimensions included written materials, incentives and food, and protocol delivery strategies. Deep structure dimensions included kinships, collectivism, storytelling, and spiritual expressions. Community health workers and the advisory board contributed to the identification and integration of both surface and deep structure dimensions. The six-month continuous smoking abstinence outcomes from the initial community trial were 27.5% vs 5.77% for the intervention and comparison groups, respectively.

Conclusions: Community-based participatory research (CBPR) methods facilitate processes in which culturally sensitive dimensions can be effectively identified and integrated into health promotion interventions for marginalized populations. The incorporation of surface structure dimensions increases acceptance and feasibility, while deep structure improves overall impact and efficacy of the intervention. (*Ethn Dis*. 2007;17:331–337)

Key Words: Community-Based Participatory Research, Cultural Sensitivity, Smoking Cessation

INTRODUCTION

Low socioeconomic African American women who live in urban subsidized housing developments report smoking prevalence rates as high as 40%–60%.[1,2] African American women experience disparities in tobacco-related diseases and report greater difficulty with cessation.[3–5] Further disparities in health outcomes exist for segregated African American women as a result of rooted inequalities and power imbalance and the associated social, economic, and political exclusion that lend to extreme marginalization.[6,7]

Despite the publication of findings from meta-analyses of smoking cessation trials, the efficacy of smoking cessation interventions for low socioeconomic African Americans remains unknown.[8,9] Historically, African Americans' participation has been limited in organized clinical trials because of mistrust, access barriers, and the lack of sociocultural relevance of traditional ''outsider'' academic driven research.[10,11]

From the School of Nursing, Department of Biobehavioral Nursing (JA, GB), *Sister to Sister* Collaborative (SC), School of Allied Health, Department of Biomedical and Radiological Technologies (LP), Georgia Prevention Institute, Department of Pediatrics (MT), Medical College of Georgia, Augusta, Georgia.

Address correspondence and reprint requests to Jeannette O. Andrews, PhD, RN; Medical College of Georgia, EC 5314; School of Nursing; 987 St. Sebastian Way; Augusta, GA 30912; 706-721-4812; 706-721-0655 (fax); jandrews@mcg.edu

Recent recommendations support the inclusion of ethnic minorities in gender-specific smoking cessation intervention trials and the incorporation of cultural sensitivity to adequately address the embedded, complex sociocultural factors.[8,9,12,13] Culturally sensitive interventions are defined as those that integrate the ethnic/cultural characteristics, norms, values, beliefs, and behavioral patterns, as well as the contextual historical and socioenvironmental forces of a target population, into the design, delivery, and evaluation of the intervention.[10,14]

Resnicow et al[14] conceptualize two dimensions for the application of cultural sensitivity in health promotion interventions: surface structure and deep structure. Surface structure involves matching intervention materials and messages to observable, readily apparent characteristics of a target population. The application of surface structure involves the packaging of intervention materials with familiar and preferred graphics, linguistics, music, foods, and brand names of the target audience. Surface structure also incorporates the identification of people, channels, and settings that are most appropriate for delivering messages and programs.[14]

The second dimension, deep structure,[14] refers to the broader and more contextual influences of the target population. Deep structure reflects the social, psychological, environmental, and historical factors that influence health behaviors. Specifically, deep structure requires an understanding of how religion, family, society, economics, and the government shape the target

behavior in a population.[14] The understanding of the core values and "insider worldview" of the target group facilitate the adaptation of meaning and context into the materials, messages, and delivery system, rather than a superficial, disingenuous approach.[14]

To adequately incorporate cultural sensitivity in smoking and other health promotion interventions, *Healthy People 2010* initiatives[15] and others[10,16,17] support community involvement in all phases of research. Community-based participatory research (CBPR) is a partnership approach that involves collaboration among community members, community partners, and researchers in the planning, implementation, and evaluation of research.[16,17] Based on premises of the emancipatory and empowerment ideologies of CBPR, people who experience health disparities are uniquely aware of the sociocultural context and constraints affecting their health.[16,17] This collaborative process acknowledges community members as experts and serves to empower communities, strengthen problem solving capacity, and ensure the cultural specificity of the research.[16,17]

This paper describes an overview of processes utilizing CBPR methods to develop a culturally sensitive smoking cessation intervention for African American women living in urban public housing. Following, an in-depth description of the integration of both surface and deep structure dimensions is provided for this culturally sensitive intervention.

METHODS

Overview of Setting and Sample

This CBPR was implemented in public housing neighborhoods in Augusta-Richmond County, Georgia. The sample was drawn from the 6072 residents living in 16 housing developments, 99.5% of whom were African American. Annual household incomes of families ranged from $2556 to $7056. Approximately 80% to 85% of the residents were adult women and their children and/or grandchildren. The smoking prevalence among adult women was 40%, and at least 63% of all households had at least one smoker.[18,19]

Phases of Community-Based Participatory Research

This CBPR involved a cyclical, iterative process, with multiple phases including formative, intervention and evaluation stages. (Tables 1 and 2). An in-depth description of these CBPR processes is provided elsewhere.[18,19] The study partners included academicians, neighborhood residents, advisory board, and community health workers (CHWs).

FINDINGS AND INTEGRATION OF CULTURAL SENSITIVITY

Both surface and deep structure sensitive cultural dimensions emerged during this CBPR. Descriptions of these major dimensions are presented, along with exemplars of how the identified culturally sensitive strategies were incorporated in this research.

Surface Structure

Surface structure sensitivity, identified during the formative stages of this CBPR process, involved the study partners' recommending familiar representation in all aspects of the research: written materials, incentives and food, and the delivery of intervention components.

Written Materials

Results from preliminary data indicated that the use of meaningful, culturally sensitive written materials would be an important strategy to help the participants quit smoking. Although several established cessation materials were reviewed by the study partners, they elected to develop their own unique, local materials. The academicians negotiated to include the major contexts and themes recommended by the Public Health Service Clinical Practice Guideline, *Treating Tobacco Use and Dependence*,[8] and other national resources.[20,21] The Rapid Estimate of Adult Literacy in Medicine[22] tool was used to assess reading level of the neighborhood residents, which was on average at the seventh- to eighth-grade level.

A CHW developed the chosen logo for the locally developed cessation materials that reflected African American women supporting each other. The logo displayed the preferred ethnic body image and style of the neighborhood women (logo is available from author). On the basis of recommendations from the literature [22,23] and from the study partners, the written materials were developed at a third-grade reading level. The final content and design of the written materials reflected colorful ethnic graphics and photos of "ordinary women"; they used easy-to-read, monosyllabic words; graphics and photos that provided meaning to the text; and a simplistic and concise formatting design with simple page layouts and adequate white space. These materials integrated interactive components to allow women to record personal diaries with personal goals and strategies and selected inspirational scriptures and poems.

Incentives

The study partners indicated that ethnically preferred food would be an important incentive for participation. Food was recommended for various meeting formats ranging from larger neighborhood forums (up to 100 residents) to smaller forums with the advisory board (15 members) and intervention group meetings (8–10 women).

For the neighborhood forums, established "neighborhood cooks" were

Table 1. Time line and phases of CBPR collaboration: formative stage

Time	Phase	Activities
Year 1	I. Establishing initial partnerships	• Initial approach from community requesting assistance with tobacco control • Ad-hoc advisory board established • Community partners approached to assist with resource provision
	II. Identification of the problem	• Neighborhood surveys examined prevalence, knowledge, preferred intervention strategies; $n=220$ adult women; representing 20% of estimated population in two public housing neighborhoods • Grounded theory study conducted with AA women ($n=25$) who had successfully quit smoking • Neighborhood forums (4) in two neighborhoods to assist with data interpretation and dissemination
Year 2	III. Planning and design of intervention strategies	• Advisory Board established (60% residents; members of housing authority, church pastor, school official, health department, community clinic staff, three community agencies) • Framework established for shared decision-making processes, communication, capacity building • Study design planned by Advisory Board • Written materials developed • Instrument development and selection • Delivery protocols and recruitment/retention procedures established • Pilot study of proposed *Sister to Sister Intervention* ($n=15$)
	IV. Evaluation/feedback mechanisms	• Focus groups and individual interviews with study participants and advisory board members • Analysis and interpretation of pilot study • Dissemination to community via neighborhood forums and newsletters

CBPR=community-based participatory research; AA=African American.

hired to prepare the main course (ie, hot dogs, hamburgers, or the favorite, local fish), while neighborhood residents were recruited to bring a covered dish. For the smaller meeting formats, the CHWs prepared a hot meal for the group. The CHWs had experience with food preferences and were also skilled in preparing meals for groups at a reasonably low cost (ie, a $10 meal consisting of spaghetti with meat sauce, salad, and fruit to feed 10).

In addition to food as an incentive, the study partners made recommendations for participants' payment. In lieu of receiving a check at a later date (many participants did not have bank accounts), research participants received gift cards to accessible general merchandise chains or to local grocery stores on the same day as the data collection.

Recommendations were also made to offer door prizes at neighborhood forums and the intervention group meetings. Preferred door prizes were hair care and nail products, lotions, candles, bath salts, common kitchen gadgets and accessories, and movie tickets. Also preferred was the strategy of giving everyone something, regardless of the value, rather than giving larger, higher value items to only a few people.

Protocol Delivery Issues

During the formative stage of this research (Table 1), the team noted revered times that study participants would not likely be available. Many women preferred to "sleep in" after getting their children on the bus in the morning, some were not available until the noon hour. Secondly, early afternoon hours were problematic for many because of preferences to view favorite "soap operas." These challenges were addressed by offering study participants choices of meeting times from early afternoon to evening hours. All meetings were held either in the community center or allocated research space (donated apartment) in the respective neighborhoods within walking distance for all housing residents. The supervision of the study participants' children and grandchildren during the delivery of the intervention was also recommended. This need was accommodated with research staff members and nursing students who supervised the children in a nearby location.

The study partners recommended having familiar people (ie, same ethnicity and gender) assist with the conduct of the research. Therefore, African American CHWs from the community, who were former smokers and credible and influential among their peers, were employed to assist in all aspects of the research process. Community health workers (CHWs) were first used in the initial pilot studies (Table 1) to assist with participant recruitment, data collection of survey data, and miscellaneous tasks such as food preparation and phone call reminders for community meetings. The CHW role was expanded in the first community trial (Table 2) with the incorporation of their attendance at group meetings with participants and providing additional 1:1 weekly contact outside group meetings to enhance social support and self-efficacy with smoking cessation.

Table 2. Timeline and phases of CBPR collaboration: intervention and evaluation

Time	Phase	Activities

Year 3	V. Implementation of trial #1	• Implementation of *Sister to Sister I* Trial
		• Two public housing neighborhoods randomized to treatment conditions
		• Intervention neighborhood received:
		  • Individual-*(Sister to Sister)* level intervention ($n=51$ tobacco-dependent women), included nurse-led group education/em-powerment counseling, locally developed written materials, NRT weekly for six weeks; CHWs attended each group session to provide testimonials, support, and made 1:1 contact with each participant weekly; and,
		  • Neighborhood-level intervention, implemented by Advisory Board, that consisted of: a) media campaign (message board at the entry to neighborhood); and b) dissemination of educational materials to all neighborhood residents three times over a 24 week period.
		• Comparison neighborhood ($n=52$ tobacco-dependent women) received PHS smoking cessation education materials at baseline and group attention (general health education) by a nurse at weeks 1, 6, 12, and 24.
		• Major outcome variables for both groups: smoking cessation as measured by exhaled CO
		• Detailed description of cessation and other outcome variables reported elsewhere[18,19]

Year 4	VI. Evaluation/dissemination	• Analysis and interpretation of results • Focus groups and individual interviews with study participants and advisory board members • Dissemination via community forums and newsletters • Revision of written materials • Plan new delivery mechanisms for intervention (CHW led intervention) • Revision of protocols (include longer duration of contact) and instruments
Year 5	VII. Implementation of trial #2	• *Sister to Sister II* currently being implemented ($n=150$ women in four neighborhoods) to test the effect of a CHW-led behavioral intervention and nicotine replacement therapy (NRT)
Years 6–8	VIII. Planning larger community trial	• *Sister to Sister III* planned to take place in 28–32 public housing neighborhoods.

CBPR=community-based participatory research; NRT=nicotine replacement therapy; CHW=community health workers; PHS=Public Health Service; CO=carbon monoxide.

Deep Structure

Several deep structure culturally sensitive dimensions for the targeted neighborhoods were identified to include the use of kinships, collectivism, storytelling, and spiritual expression.

Family Kinships

Similar to other findings in the literature, African Americans in this targeted community had strong family networks and kinship bonds.[6,24,25] First, we learned that many family members lived in the same neighborhood (ie, mothers, daughters, grandmothers, aunts). Secondly, the findings from a grounded theory[26] showed that women who successfully quit smoking had often relied on the support of a female relative or close friend during and after the quitting process. This deep structure dimension was incorporated into the study protocols in several ways: 1) the title of this overall study was named "Sister to Sister," which reflects a kinship of women helping other women quit smoking; and 2) research participants were encouraged to invite their close female relatives and friends who smoked to enroll in the study as a means of social support with the cessation process.

To accommodate the cultural preference of kinship methodologically, the study partners designed the Sister to Sister clinical trial to incorporate randomization at the neighborhood level versus at the individual level. Not only did this design allow for study enrollment of neighborhood women and their close female relatives and friends living in or near the targeted neighborhood, but it also addressed the concern of potential contamination of intervention components by the usual approach of individual randomization. These densely populated neighborhoods contained 650–850 residents on three to four acres of land, with residents sharing information on a daily basis. The randomization at the neighborhood level also accommodated the advisory board's request to facilitate neighborhood-level smoking cessation approaches among all residents in the public housing neighborhoods.

Collectivism

Collectivism, or placing the welfare of the entire group over that of the individual,[24] was another identified deep structure dimension. These targeted neighborhoods preferred all women, rather than just a few participants, to receive door prizes in the group meetings. Collectivism was also observed in the advisory board's preference to pro-

vide cessation strategies to the entire neighborhood, in addition to enrolled individual participants.

Additional ways collectivism was incorporated into the study protocols included: 1) the protocol for the intervention meetings was designed to set group goals for attendance, cessation, and other identified objectives; and 2) the advisory board initiated several neighborhood-level smoking cessation strategies (eg, distribution of anti-smoking educational brochures to all households quarterly and the use of a message board at the entrance to the community). For one week each month, the advisory board posted a health message on smoking and/or progress of the enrolled participants. For example, a message one week stated, ''18 women in the neighborhood have quit smoking so far - Are you next?'' Evaluation data revealed that the participants who were one of these 18 quitters were proud of their achievements. For participants who had not yet quit smoking, this provided inspiration toward their goal of cessation. Neighborhood residents not enrolled in the study reported being encouraged that their peers were quitting smoking, which motivated them toward cessation attempts as well.

Another strategy incorporating collectivism into the overall cessation strategies addressed the concern for children and the future of their families. Evaluation data revealed that women were not always as concerned about their own personal risks of smoking but were very concerned about environmental tobacco smoke (ETS) exposure, especially among their children and grandchildren. Therefore, the locally developed written materials and behavioral group protocols of the intervention, as well as the smoking literature delivered to the intervention neighborhoods, strongly emphasized ETS exposure risks for family members.

Storytelling

Storytelling, a unique tradition that reflects a synthesis of values and rituals rooted in African and American societies,[27] was an important deep structure preference in this population. With the initial pilot study (n=15), a nurse delivered cessation information using an informal, interactive approach.[19] During study implementation, we observed that information (eg, risks of smoking) was reinforced when a participant shared her own personal story about the context of the information (eg, father suffering and dying of lung cancer). The CHWs were also effective in establishing credibility of the information by sharing their own personal stories of cessation and the benefits of becoming a nonsmoker. Evaluation data revealed that participants preferred the informal, interactive group sessions that encouraged storytelling as a teaching method.

Storytelling was effective for the participants in identifying both stressors and coping strategies; was perceived as cathartic when they shared their own stories of daily survival and life navigation; and fostered camaraderie by hearing each other's stories of success with the cessation process. Thus, storytelling became a mechanism for sharing wisdom and knowledge to promote positive health behaviors. Because of the importance of this strategy, protocols were revised to allow 50% of the time (ie, 30 minutes) during each intervention group for the women to share and reflect on their own stories.

Spirituality

Spirituality, identified as a deep structure preference in this population, as well as by others who have intervened with African American women,[28,29] revealed that women often turned their cessation attempts ''over to God'' and asked God for ''deliverance from tobacco.''[19,26] The use of spirituality was also observed as a coping mechanism and support for cessation.

Spirituality was integrated in the community trial using four strategies: group prayer was offered at the end of each group intervention session; individual prayer was offered by CHWs during weekly contacts with intervention participants outside the group sessions; favorite biblical scriptures and inspirational meditations were shared during group sessions; and poems and inspirational messages from a leading African American author[30] were incorporated into the written cessation materials. The advisory board also incorporated prayer at the beginning of all meetings and also at neighborhood forums.

Surface and Deep Structure

Two major strategies, CHWs and the advisory board, support the integration of both surface and deep structure with this intervention study. The CHWs could effectively navigate the sociocultural environment because of their many life experiences and similarities to the research participants. The CHWs were evaluated as a key component to the overall effectiveness of the study, including recruitment and retention, cessation outcomes, and provision of social support. Not only did they provide familiarity (surface structure) as a mechanism to deliver the intervention protocols, the CHWs often served as ''culture brokers'' between the researchers and neighborhood residents, translating language and preferences from one group to another.[31] The CHWs shared their personal experiences with smoking cessation attempts and offered simple, practical, and realistic suggestions to which the participants could relate. The CHWs identified, understood, and integrated the kinship, collectivism, storytelling, and spiritual values (deep structure) with a naturalistic approach and ''insider knowledge'' that were less obvious to outsiders. The CHWs were especially effective in empowering women in the appropriate sociocultural context to identify solutions to combat tempting situations, employing appropriate coping strategies, and maintaining cessation regardless of the physiological, social, and environmental barriers and constraints.

Similar to the CHWs, the advisory board also enhanced both surface and deep structure to this overall process. The advisory board members were indigenous to the neighborhoods and had ''insider knowledge'' to identify surface and deep structure sensitivity, along with successful strategies to incorporate these preferences into the research.

CESSATION OUTCOMES

The preliminary outcomes of the culturally sensitive intervention show promise for the success of this overall approach. In the first community trial (Sister to Sister #1, Table 2), the six-month continuous smoking abstinence outcomes were 27.5% in the intervention group and 5.77% in the comparison group (odds ratio 6.180, 95% confidence interval 1.65–23.09) and were validated with exhaled carbon monoxide measures. The seven-day point prevalence outcomes at weeks 6, 12, and 24 were 49%, 39%, and 39% for the intervention group and 15%, 7.6%, and 11.5% in the comparison group, respectively. A more detailed discussion of these results is reported elsewhere.[18]

DISCUSSION

The identification and integration of both surface and deep structure are important considerations in the conduct of research with marginalized communities to ensure appropriate cultural sensitivity. Community-based participatory research (CBPR), which engages the participants actively in all aspects of research, facilitates processes in which culturally sensitive variables can be identified and integrated into the research plan and evaluation.

By matching materials and messages, and delivering these messages based on the preferences of the targeted population (ie, surface structure), the community's interest and acceptance of the intervention was enhanced and increased the overall feasibility of the study.[14] The integration of the preferred deep structure dimensions, kinships, collectivism, storytelling, and spirituality reflected the core social, psychological, and environmental influences of the community. The integration of the deep structure dimensions facilitated adaptation of meaning and context of the cessation strategies and strengthened the overall impact and efficacy of the study. Both the CHWs and advisory board were instrumental in identifying and integrating surface and deep structure cultural sensitivity to this overall study. Their inherent ''insider'' expertise aided problem-solving at all levels and ensured that the ecological based individual, group, and community level) cessation strategies were within the appropriate sociocultural context of these neighborhoods.[31]

The smoking cessation outcomes from the first clinical trial are promising. No other studies used a combined intensive group format, behavioral counseling, and nicotine patches in African Americans. However, other community-based studies[32,33] conducted with African Americans have reported less favorable cessation outcomes than are demonstrated with our initial results. This study provides evidence that CBPR not only facilitates cultural sensitivity but also overall ''buy in,'' feasibility, and impact of the intervention (Tables 1 and 2).

CONCLUSIONS

With extensive formative work, both surface and deep structure have been integrated into a culturally sensitive smoking cessation intervention for African American women in public housing. By acknowledging and involving at the outset the community as the expert in all aspects of this research, empowerment and enthusiasm emerged to address not only smoking but other health promotion needs. Community-based participatory research (CBPR) can be used as an effective method to understand and integrate cultural sensitivity in health promotion interventions with marginalized populations.

REFERENCES

1. Grady G, Ahluwalia J, Pederson L. Smoking initiation and cessation in AAs attending an inner-city walk-in clinic. *Am J Prev Med*. 1998; 14:130–137.
2. Manfredi C, Lacey L, Warnecke R, Buis M. Smoking-related behavior, beliefs, and social environment of young Black women in subsidized public housing in Chicago. *Am J Public Health*. 1992;82:267–272.
3. Manfredi C, Lacey L, Warnecke R, Balch G. Method effects in survey and focus group findings: understanding smoking cessation in low socioeconomic African American women. *Health Educ Behav*. 1997;2(6):786–800.
4. Wetter D, Kenford S, Smith S, Fiore M, Jorenby D, Baker R. Gender differences in smoking cessation. *J Consult Clin Psychol*. 1999;67:555–562.
5. Ahijevych K, Wewers ME. Factors associated with nicotine dependence among African American women cigarette smokers. *Res Nurs Health*. 1993;16:283–292.
6. Fiscella K, Williams DR. Health disparities based on socioeconomic inequalities: implications for urban health care. *Acad Med*. 2004; 79(2):1139–1147.
7. Williams DL. Race, socioeconomic status, and health: the added effects of racism and discrimination. *Ann N Y Acad Sci*. 1999;896: 173–188.
8. Fiore M, Bailey W, Cohen S, et al. *Treating Tobacco Use and Dependence*. Rockville, Md: US Dept of Health and Human Services; 2000. AHRQ Publication No. 00-0032.
9. Piper M, Fox B, Welsch M, Fiore M, Baker T. Gender and racial/ethnic differences in tobacco-dependence treatment: a commentary and research recommendations. *Nicotine Tob Res*. 2001;3:291–297.
10. Smedley B, Stith A, Nelson A. *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*. Washington, DC: Institute of Medicine/National Academy Press; 2002.
11. Freimuth VS, Quinn SC, Thomas SB, Cole G, Zook E, Duncan T. African Americans' view on research and the Tuskegee syphilis study. *Soc Sci Med*. 2001;52:797–808.
12. Ard JD, Durant R, Edwards L, Svetkey L. Perceptions of African American culture and implications for clinical trial design. *Ethn Dis*. 2005;15:292–299.

13. Grzwacz J, McMahan S, Hurley J, Stokols D, Phillips K. Serving racial and ethnic populations with health promotion. *Am J Health Promot*. 2004;18(5):8–12.
14. Resnicow K, Baranowski T, Ahluwalia JS, Braithwaite RL. Cultural sensitivity in public health: defined and demystified. *Ethn Dis*. 1999;9:10–21.
15. US Department of Health and Human Services. *Healthy People 2010*. McLean, Va: International Medical Publishing, Inc; 2002.
16. Minkler M, Wallerstein N. *Community-Based Participatory Research for Health*. San Francisco, Calif: Jossey-Bass; 2003.
17. Israel B, Eng E, Schulz A, Parker E. *Methods in Community-Based Participatory Research*. San Francisco, Calif: Jossey-Bass; 2005.
18. Andrews JO, Felton G, Wewers ME, Waller J, Tingen M. The effect of a multi-component smoking cessation intervention in African American women residing in public housing. *Res Nutr Health*. In press.
19. Andrews JO, Felton G, Wewers ME, Waller J, Humbles P. Sister to sister: assisting low-income women to quit smoking. *South Online J Nurs Res*. 2005;6(5):2–23.
20. Centers for Disease Control. *Pathways to Freedom: Winning the Fight Against Tobacco*. Atlanta, Ga: CDC; 2003.
21. Centers for Disease Control. *Best Practices for Comprehensive Tobacco Control Programs*. Atlanta, Ga: US Department of Health and Human Services, CDC; 1999.
22. Davis RC, Long SW, Jackson RH, et al. Rapid estimate of adult literacy in medicine: a shortened screening instrument. *Fam Med*. 1993;25(6):391–395.
23. Davis TC, Holcombe RF, Berkel HJ, Pramanik S, Divers SG. Informed consent for clinical trials: a comparative study of standard versus simplified forms. *J Natl Cancer Inst*. 1998; 90(9):668–674.
24. Kreuter MW, Lukwago SN, Bucholtz DC, Clark EM, Sanders-Thompson V. Achieving cultural appropriateness in health promotion programs: targeted and tailored approaches. *Health Educ Behav*. 2003;30(2): 133–146.
25. Shambley-Ebron D, Boyle J. New paradigms for transcultural nursing: frameworks for studying African American women. *J Transcult Nurs*. 2004;15(1):11–17.
26. Andrews JO, Bunting S. A grounded theory study of successful smoking cessation among African American women in Southeastern US public housing neighborhoods. *Proceedings from the 19th Annual Southern Nursing Research Society*. Little Rock, Ark: Southern Nursing Research Society; 2004.
27. Banks-Wallace J. Talk that talk: storytelling and analysis rooted in African American oral tradition. *Qual Health Res*. 2002;12(3): 410–426.
28. Musgrave C, Allen C, Allen G. Spirituality and health for women of color. *Am J Public Health*. 2002;92(4):557–560.
29. Newlin K, Knafl K, Melkus G. African American spirituality: a concept analysis. *Adv Nurs Sci*. 2002;25(2):57–70.
30. Vanzant I. *Acts of Faith: Daily Meditations for People of Color*. New York, NY: Simon & Schuster; 1996.
31. Andrews JO, Felton G, Wewers M, Heath J. The use of community health workers in research with ethnic minority women. *J Nurs Scholarsh*. 2004;26(4):358–365.
32. Ahluwalia J, McNagny A, Clark W. Smoking cessation among inner city using the nicotine transdermal patch. *J Gen Intern Med*. 1998;13: 1–8.
33. Resnicow K, Vaughan R, Futterman R, Weston R, Royce J, Parms C. A self-help smoking cessation program for inner city African Americans: results from the Harlem Health Connection Project. *Health Educ Behav*. 1997;24(2):201–217.

AUTHOR CONTRIBUTIONS

Design concept of study: Andrews, Crawford, Tingen
Acquisition of data: Andrews, Crawford, Pretlow, Tingen
Data analysis and interpretation: Andrews, Bentley, Tingen
Manuscript draft: Andrews, Bentley, Pretlow, Tingen
Statistical expertise: Andrews
Acquisition of funding: Andrews, Pretlow
Administrative, technical, or material assistance: Andrews, Bentley, Crawford, Pretlow, Tingen
Supervision: Andrews