Cultural Sensitivity and Readability of Breast and Prostate Printed Cancer Education Materials Targeting African Americans

Jeffrey J. Guidry, PhD, Pebbles Fagan, MPH, and Verrick Walker, MS
College Station, Texas

Cancer prevention materials such as pamphlets, booklets, and fact sheets play a significant role in reducing cancer disparities. Little is documented in the literature about the cultural sensitivity of materials targeting African Americans. The Cancer Prevention Materials and African Americans project was conducted to assess the cultural sensitivity and readability of printed cancer education materials targeting African Americans. Results showed current breast and cancer materials are not written at appropriate reading levels, and only 54% of the breast and 40% of the prostate cancer materials were found to be culturally sensitive. Even though the materials are being developed and disseminated in health fairs, physician offices, barber shops, and other locations, the materials are still not reflective of the African-American populations and do not consider literacy, visual, written messages, and format as factors in their utilization. Future studies should assess the appropriateness of materials for African Americans to promote and prevent cancer in African Americans. (*J Natl Med Assoc.* 1998;90:165-169.)

Key words: ◆ cultural sensitivity ◆ cancer education materials ◆ African Americans

The incidence of cancer and mortality rates have increased among African Americans. Next to lung cancer, breast and prostate cancer are the second leading causes of cancer death in men and women. According to recent American Cancer Society data, new cases of prostate and breast cancer far exceed the number of cancer cases in other sites.[1] In 1997, approximately 334,500 new cases of prostate cancer were diagnosed out of the total 785,800 new cases of cancer diagnosed in men. Of the total 596,600 cases of cancer in women, 180,200 of those were diagnosed as breast cancer.

Unfortunately, African Americans in the United States have a long history documenting the devastating effects of prostate and breast cancer incidence and mortality. Last year, approximately 62,000 African Americans were expected to die from cancer, with the highest incidence rates occurring in prostate and breast cancer. African-American men not only have the highest overall cancer incidence rates than any other racial or ethnic group in the United States, but also the highest incidence rates for prostate cancer in the world. Prostate cancer incidence rates are 66% higher for African-American men than white men, and mortality rates for African-

From the Department of Health and Kinesiology, Texas A&M University, College of Education, College Station, Texas. This study was funded by the Texas Cancer Council, a state-funded agency, as part of contract (95-96) 9674. Requests for reprints should be addressed to Dr Jeffrey J. Guidry, Dept of Health and Kinesiology, Texas A&M University, 159 Read Bldg, MS 4243, College Station, TX 77843-4243.

Table 1. Breast and Prostate Cancer Morbidity and 5-Year Survival Rates

	Whites	African Americans
Incidence (1988-1992)*		
Prostate cancer	180.6	134.7
Breast cancer	111.8	95.4
5-year survival rate (1986-1992)†		
Prostate cancer	89.0	73.0
Breast cancer	85.0	70.0

*From reference 1.
†From reference 2.

American men are two times higher than rates for white men.[1,2]

Among women, disparities between African Americans and whites are evident in the 5-year survival rates (Table 1). Incidence rates in African-American women, however, are lower than in white women, and for the first time, during the period from 1986 to 1992, breast cancer mortality is declining in younger African-American women. Despite these changes, there is still much work to be done in reducing breast cancer mortality in African-American women. Although changes in breast cancer mortality may be due to early prevention, detection, and improved treatment, only 54.9% of African-American women over the age of 50 report having had a mammogram and a clinical breast examination within the previous 2 years.[1,2]

Various communication mediums are used by health practitioners to disseminate prevention information to their patients and the general public. They include printed materials (ie, pamphlets, booklets, and fact sheets) and audiovisual materials (videos, public service announcements, and documentaries). Studies have shown that printed cancer education materials can positively affect the knowledge, attitudes, and practices of individuals to modify their behaviors to adopt cancer preventative practices.[3,4]

A group's culture influences their knowledge, attitudes, and personal practices, which affects their responses to health education information.[5] Individuals respond to prevention information in terms of their beliefs and values that affect their identity and rules of behavior associated with group survival and welfare. Therefore, information must be developed to reflect their culture. Many cultural factors that affect the health-care needs of African Americans differ from other ethnic groups. Information in printed cancer educational materials for the general population may be interpreted differently by African Americans.[6] Printed cancer education materials must be developed that are culturally sensitive (ie, address the cultural beliefs, values, and behavior of the intended audience) to effectively promote behavior change.[7]

Physicians, nurses, and other health professionals often use print educational materials to increase awareness and promote the adoption of cancer preventive behaviors in African Americans. These materials often are disseminated at hospitals, clinics, health fairs, and other public locations. However, culturally sensitive breast and prostate cancer materials that address African Americans are scarce, and this scarcity has been recognized by health professionals. In a survey conducted in minority health organizations, minority health workers prioritized the need for the availability of health materials suited for minorities as high. Cultural sensitivity and willingness to use ethnic sensitivity on behalf of the minority community were cited as the top items needed in health programs to help eliminate health status disparity in minorities. Studies also have demonstrated that ethnic groups have different perceptions of well-being, illness, and methods for disease prevention, health maintenance, and self-care.[8]

Printed materials are only usable to a population if that population can understand and identify with the prevention message in the material. Investigating cultural sensitivity of printed materials entails an examination of the language, format, visual presentation, and content of the written material. In addition, another important factor is the readability level of the materials. Few researchers have attempted to measure the concept of cultural sensitivity. This study examines the cultural sensitivity and readability of breast and prostate cancer education materials that are targeted toward African Americans.

MATERIALS AND METHODS

The Cancer Prevention Materials for African Americans Project was initiated to assess the cultural sensitivity and readability levels of printed cancer education materials. The study design and data collection procedures have been described previously.[9] In summary, 200 printed cancer edu-

cation materials targeting African Americans were collected from local, state, and national health organizations from October 1994 to June 1995. Because many of the materials were duplicates, the ending sample was 116 materials that were categorized as breast, cervical, colorectal, nutrition, lung, prostate, skin, and general cancer. This article focuses on breast and prostate cancer education materials. Twelve prostate and 34 breast cancer pamphlets, posters, and fact sheets were included in these analyses. Analyses were conducted using the Printed Cancer Education Materials for African Americans Cultural Sensitivity Assessment Tool (CSAT) and the SMOG readability test (McLaughlin).

The CSAT

The CSAT was developed using extensive literature review, a multidisciplinary advisory committee of health-care professionals and lay volunteers, and rural/urban African-American focus groups. Three components relating to cultural sensitivity of printed materials were identified:

- format (general organization or arrangement of the materials such as bookmarks, booklets, or pamphlets),
- written message (underlying theme or idea such as the wording and understandability), and
- visual presentation (visible representations other than text used to convey the message such as photographs, illustrations, and cartoons).

All three of the major components were defined further according to African-American cultural expressions and symbols. A Likert-type scale was used for assessment, ranging from 4 (strongly agree) to 1 (strongly disagree). The averages of the scores for each category are compared to a minimum cultural sensitivity index score (2.5) to determine the cultural sensitivity of the materials. All materials that were found to have index scores lower than 2.5 were categorized as culturally insensitive. Research staff and advisory committee members reviewed the materials on three separate occasions for reliability measures.

The SMOG Readability Formula

The SMOG readability formula was developed by McLaughlin in 1969 to measure the difficulty experienced by people reading a text and the linguistic characteristics of that text.[10] This test takes into consideration the number of polysyllabic words in a sentence to measure reading difficulty. Research staff members were trained to calculate the SMOG grade levels. Each score was calculated three times for reliability.

Table 2. Mean Cultural Sensitivity Scores of Printed Material by Cancer Type

	Mean Score	
	Breast Cancer (n=34)	Prostate Cancer (n=12)
Format	3.04	2.88
Written	2.72	2.51
Visual	2.57	2.17
Overall	2.41	1.91
% culturally sensitive	54.5	40.0

RESULTS

Readability

The SMOG readability test indicated a mean grade level of 8.58 (SD=2.10) for prostate cancer materials (n=12) and 9.47 (SD=2.62) for breast cancer materials (n=34). These readability levels translate to materials that are "readable" by individuals who have ⩾ eighth educational level. The average score was too high for most populations. Those who develop materials should aim for a fifth- or sixth-grade reading level.

Cultural Sensitivity Analyses

The overall percentage of cultural sensitivity was calculated for breast and prostate cancer printed education materials (Table 2). Less than half of the printed materials were found to be culturally sensitive. Approximately 54% of the breast and 40% of the prostate cancer materials were found to be culturally sensitive. A low index score for breast cancer education materials occurred in the visual message category (2.57). Prostate cancer education materials had low index scores in two areas–visual (2.17) and written messages (2.51). On average, format and written message scores were higher than visual message scores for prostate and breast cancer.

DISCUSSION

This study found readability scores of breast and prostate cancer materials to be lower than what previous studies indicate, but these scores still failed to meet the recommended fourth- and fifth-grade reading levels. Thus, numerous African Americans who

are low or functionally illiterate are not able to read and comprehend the information contained in printed materials. To increase the appropriateness of cancer prevention materials for African Americans who are at high risk for cancer, health professionals should focus on developing materials at the appropriate grade levels. Making written messages more culturally sensitive means focusing on the content and language of the message. Using words, phrases, and expressions familiar to African Americans will help increase the audience's ability to comprehend the information. Using shorter words reduces the amount of time for readers to identify words.

In addition, the medical jargon of health-care workers is often different from the jargon that various audiences use. Material designers must translate medical jargon into terminology that the audience uses. Clinicians who disseminate materials should review the information in pamphlets verbally with patients and define medical terms using the patient's terminology. This requires that clinicians and other health-care professionals acquire a level of bilinguality that allows them to cross translate between their language and the client's. Appropriate language can provide acceptance and credibility on the part of the messenger.[11] These steps will help increase the patient's understanding of printed material.

The mean scores and percentages of cultural sensitivity in this study suggest that more breast cancer materials are culturally sensitive than materials on prostate cancer. However, the findings indicate that nearly 45% of the breast and 60% of the prostate cancer education materials are not culturally sensitive. With the alarming prostate cancer rates in African-American men and low screening rates, materials that address this audience should be carefully designed for African-American men.

Visual messages tended to be less sensitive than the other categories of materials, particularly those on prostate cancer. Many of the visual messages did not possess pictures of African-American men. Many materials included pictures of African Americans on the exterior, but failed to address African Americans either visually or verbally. Messages were placed in pamphlets that are not relevant to African Americans. This also may cause the reader to lose interest in the topic. Similarly, many printed materials did not include pictures, and researchers should be aware that African Americans are a visual culture. In addition, the format of the materials was less than conducive to the visual culture of African Americans. The majority of the materials were booklets or fact sheets with many statistics. These communication mediums are too extensive for comprehension by the majority of African-American populations.

Clinicians who disseminate and help develop print materials must understand that race, gender, ethnicity, geographical location, and numerous other factors lead to different cultural experiences. Thus, materials for one African-American population may not be appropriate for another African-American population. Clinicians who are familiar with their clients' cultural differences have a greater understanding on how these factors affect their population's acceptance of preventive messages.

CONCLUSION

Although several health professionals have addressed the development and implementation of strategies designed to accommodate the cultural needs of African Americans, these strategies have not diffused into the mind-set and practice of those in cancer prevention for racially and ethnically diverse populations.[8] The current methodology of developing materials for audiences is not inherently sensitive to the needs of the audience because those who often lead focus groups and design pretests are not inherently cultural sensitive.

To capture the audience's perspective, the developers need to place themselves within the context of the audience. Individual researchers themselves are members of several cultures and subcultures, which permeates their conceptualization,[12] their judgments,[13] the study design,[14] the instruments used and their administration,[15] and interpretation[16] of any information. Thus, focus groups and even pretests selected for printed materials may not be culturally relevant. Clinicians who have direct cultural experiences with clients can help focus research efforts that provide relevant information to develop appropriate cancer prevention materials.

The experiences a material developer has with an audience as well as those of clinicians may provide insight and allow the developer to understand the process of developing congruency between the message sent and that received by the audience. Thus, if the developers have experience working directly with African-American audiences who are at high risk for cancer, many health-care workers may become more aware and sensitive to the needs of diverse African-American audiences.

Based on these findings and the relatively low numbers of materials addressing cancer prevention materials targeting African Americans, there is a need to focus on the development of culturally sensitive materials. Clinicians must be conscious of the materials that they disseminate to African Americans for the materials to be effective in changing behavior. Culturally sensitive and readable cancer education materials will strengthen primary cancer prevention efforts to increase screening and promote early preventive behaviors.

Literature Cited

1. American Cancer Society. *Cancer Facts & Figures 1997.* Atlanta, Ga: American Cancer Society Inc; 1997.
2. Parker SL, Tong T, Bolden S, Wingo PA. Cancer statistics, 1997. *CA Cancer J Clin.* 1997;47:5-27.
3. MacDonald JL, Thompson PR, Souya H. Multicultural health education: an emerging reality in Canada. *Hygie.* 1988;7:12-16.
4. Panchos ML. The continuing challenge of multicultural health education. *J Sch Health.* 1992;62:24-26.
5. Kagawa-Singer M. Today's reality: research issues in underserved populations. In: *Nursing Research and Underserved Populations.* Atlanta, Ga: American Cancer Society; 1994:1-17.
6. Fishman BM, Boho L, Kosub K, Womeodu RJ. Cultural issues in serving minority populations: emphasis on Mexican Americans and African Americans. *Am J Med Sci.* 1993;306:16-166.
7. Renneker M, Lim N, Wheatley B. An inner-city cancer prevention clinic in West Oakland California. In: *Cancer Screening in Underserved Populations.* Atlanta, Ga: American Cancer Society; 1995:27-37.
8. Wilson LB, Simson SP. Planning minority health programs to eliminate health disparities. *Evaluation and Program Planning.* 1991;14:211-219.
9. Guidry JJ, Fagan P. Readability levels of cancer prevention materials targeting African Americans. *J Cancer Educ.* 1997;12:108-113.
10. McLaughlin GH. SMOG grading-a new readability formula. *J Reading.* 1969;12:639-646.
11. *Cultural Awareness and Sensitivity: Guidelines for Health Educators.* Reston, Va: Association for the Advancements of Health Education; 1994.
12. Kleinman A, Eisenberg L, Good B. Culture, illness, and care: clinical lessons from anthropologic and cross cultural research. *Ann Intern Med.* 1978;88:251-258.
13. Davis A. Ethical issues in nursing research. *West J Nurs Res.* 1983;5:970-998.
14. Keller E. *Reflections on Gender and Science.* New Haven, Conn: Yale University Press; 1985.
15. Samuda R. Cross-cultural testing within a multicultural society. In: Irvine SH, Berry JW, eds. *Human Assessment and Cultural Factors.* New York, NY: Plenum; 1983:591-603.
16. Trimble J, Lonner W, Boucher J. Stalking the wily emic alternatives to cross cultural measurement. In: Irvine SH, Berry JW, eds. *Human Assessment and Cultural Factors.* New York, NY: Plenum; 1983:259-271.