Preliminary Evaluation of the InCHARGE Program Among Older African Americans in Rural Alabama

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Abstract

Objective: Blindness rates among older African Americans are two times higher than for older whites. Our purpose was to understand attitudes about eye care and perceived barriers to care among older African Americans living in rural Alabama and to determine whether an educational program reduced perceived barriers to care. InCHARGE, an eye health education program for older African Americans, promotes eye disease prevention by conveying the personal benefits of annual dilated comprehensive eye care and by teaching strategies to minimize barriers to eye care.

Design and Participants: InCHARGE was presented in five senior centers to 111 individuals. Using a questionnaire before and three months after InCHARGE, we evaluated what impact InCHARGE had on attitudes and knowledge about prevention and strategies for reducing barriers.

Results: Before InCHARGE, 52.3% reported receiving an eye examination in the past year. Almost all indicated that they felt finding, getting to, and communicating with a doctor were not problems yet about one-quarter indicated that the cost of an examination and/or eyeglasses were problems. After InCHARGE the percentage saying that cost was a problem increased to almost half.

Conclusions: Older African Americans in rural Alabama have positive attitudes about comprehensive eye care, yet only about half reported receiving an exam by an eye care provider in the past year. The cost of care is a barrier for many, a problem that was not mitigated by InCHARGE. In order to improve eye health in this population, eye health education initiatives are not enough; economic strategies must be implemented to address the cost barrier.

Keywords

Barriers to care; Blindness; Comprehensive eye care; Eye – Examination; Health education; Older African Americans – Medical care; Vision

Cover Page Footnote

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ABSTRACT

Objective: Blindness rates among older African Americans are two times higher than for older whites. Our purpose was to understand attitudes about eye care and perceived barriers to care among older African Americans living in rural Alabama and to determine whether an educational program reduced perceived barriers to care. InCHARGE, an eye health education program for older African Americans, promotes eye disease prevention by conveying the personal benefits of annual dilated comprehensive eye care and by teaching strategies to minimize barriers to eye care. Design and Participants: InCHARGE was presented in five senior centers to 111 individuals. Using a questionnaire before and three months after InCHARGE, we evaluated what impact InCHARGE had on attitudes and knowledge about prevention and strategies for reducing barriers. Results: Before InCHARGE, 52.3% reported receiving an eye examination in the past year. Almost all indicated that they felt finding, getting to, and communicating with a doctor were not problems yet about one-quarter indicated that the cost of an examination and/or eyeglasses were problems. After InCHARGE the percentage saying that cost was a problem increased to almost half. Conclusions: Older African Americans in rural Alabama have positive attitudes about comprehensive eye care, yet only about half reported receiving an exam by an eye care provider in the past year. The cost of care is a barrier for many, a problem that was not mitigated by InCHARGE. In order to improve eye health in this population, eye health education initiatives are not enough; economic strategies must be implemented to address the cost barrier.

Key words: vision, comprehensive eye care, aging, barriers to care, health education

INTRODUCTION

Previous research has suggested that older African Americans, when compared to older whites, are less likely to receive annual, comprehensive eye care when newly developing eye conditions could be diagnosed and treated during their earliest stages (Bazargan, Baker, & Bazargan, 1998; Orr, Barron, Schein, Rubin, & West, 1999; Roy, 2004; Wang, Javitt, & Tielsch, 1997; Wang & Javitt, 1996). This lower rate of receiving comprehensive eye care may be contributing to the higher rates of vision impairment and eye disease among older African Americans, which have been reported to be about two times higher than whites (Sommer, et al., 1991; Tielsch, et al., 1991; West, Munoz, Schein, Duncan, & Rubin, 1998). Many factors underlie this lower utilization rate including transportation and cost barriers, trust in the healthcare system, and an inadequate understanding of eye health and eye disease (e.g., basic symptoms, risk factors, treatments for common age-related eye conditions, preventative care's positive impact on preserving sight) (Alexander, Miller, Cotch, & Janiszewski, 2008; Chin, et al., 2001; Ellish, Royak-Schaler, Passmore, & Higginbotham, 2007; Hartnett, Key, Loyacano, Horswell, & DeSalvo, 2005; Bausch and Lomb InVision Institute, 1990; Owsley, et al., 2006; Tielsch, et al., 1991; Walker, et al., 1997).

Health education and promotion programs have the potential for increasing healthcare utilization and stimulating prevention behaviors in high-risk populations (DiClemente, Crosby, & Kegler, 2006). Although in recent years there has been a heightened awareness of the importance of eye health education in the U.S. and increased implementation of eye health education programs (National Eye Institute, 2007), there have been very few outcome evaluations of the effectiveness of these programs (Basch, Walker, Howard, Shamoon, & Zybert, 1999; Lee, Linton, Ober, & Glanville, 1994). Recently we have developed an eye health education program specifically targeted for older African Americans (Owsley, et al., 2008). It is called InCHARGE®, which stands for In Communities Helping African Americans Receive General Eye Care, and is designed for administration in a group setting in the community (e.g., senior centers). The primary messages of InCHARGE are eye disease prevention through the annual, dilated comprehensive eye examination and strategies for removing or minimizing barriers to care. Pilot testing of InCHARGE delivered to older African Americans in an urban area in Alabama suggested that the program's key messages can be successfully imparted (Owsley, et al., 2008).

Our next step was to explore InCHARGE's responsiveness among older African Americans living in rural areas where barriers to care are more severe. Alabama's Black Belt region, originally named for its rich black soil, is a 12-county rural area with one of the highest poverty rates in the U.S. (Birmingham News, 2002). For example, in Lowndes County (in the heart of Alabama's Black Belt), 26.6% adults aged ≥ 65 years have income below the poverty level (Public Affairs Research Council of Alabama, 2006). The Black Belt has one of the highest concentrations of African American residents of any region of the country, where they represent over 50% of the population. In addition to having widespread poverty, the region is characterized by inadequate education, transportation, and community (e.g., grocery stores) resources and a shortage of healthcare providers including ophthalmologists and optometrists.

Here we describe a preliminary evaluation of the InCHARGE eye health education program on older African Americans living in Alabama's Black Belt, in terms of its impact on attitudes about eye care and perceived barriers to care.

METHODS

The Institutional Review Board of the University of Alabama at Birmingham approved the study protocol. The Area Agency on Aging in central Alabama assisted us in contacting the directors of five senior centers serving predominantly African American communities in rural Alabama. InCHARGE classes were then scheduled in these centers, which are located within churches in Lowndes, Bullock, and Macon Counties of the Black Belt region. In each center the class was scheduled during a regular senior activity day when seniors in the community routinely gather at the center. Approximately one to two weeks before the InCHARGE presentation at a senior center, posters announcing the upcoming event were posted, and brochures providing information on the purpose of InCHARGE were made available at the center's front desk or entry way. The health educator, who would be delivering the InCHARGE presentation, visited the center before the actual day of the event to introduce herself to the director and other center staff, address questions or comments that the staff might have, and become familiar with the room set-up where InCHARGE would be held.

The InCHARGE staff arrived at each senior center about one-half hour before the presentation began. In addition to the health educator who delivered the presentation, the staff consisted of two to three assistants who helped "meet and greet" InCHARGE attendees and assisted with distributing a short seven-item questionnaire to all attendees before the presentation began. The self-administered questionnaire asked about attitudes and beliefs with respect to issues involved in going to the "eye doctor" (i.e., ophthalmologist or optometrist), including "If you wanted to see an eye doctor, would it be hard to find one?", "If you had an appointment at an eye doctor, would you have a way to get there?", "Is the cost of having an eye exam a problem for you?", "If you need to get new eye glasses, would cost be a problem for you", "Are you comfortable talking to the eye doctor about your eyesight?", "Do you think it is important to go to the eye doctor every year?", and "Do you think the eye doctor cares about your eyesight?". The response options were "yes" or "no". Two additional items asked the respondent about the last time when he/she visited an eye doctor and about the quality of his/her eyesight (response options of excellent, very good, good, fair, and poor).

The InCHARGE presentation started immediately after all questionnaires were collected. The instructor stood in front of the group, who were seated in a semi-circle or similar arrangement in close proximity to the instructor. An easel was set up in front of the room and displayed a sequence of posters conveying key messages and themes of InCHARGE, which were synchronized in time with the instructor's remarks. The presentation lasted 30 to 45 minutes and was highly interactive in that the instructor posed questions and solicited comments from the audience to facilitate audience participation and rapport. As attendees left the event, each received a tote bag containing a booklet summarizing the key points made during the InCHARGE class, contact information for ophthalmologists' and optometrists' offices within or nearest to their community, and transportation services serving their areas.

The structure of the InCHARGE presentation was based on the empowerment model (Airhihenbuwa & Lowe, 1994), the Health Belief Model (Rosenstock, 1990), and Social Learning Theory (Bandura, 1986). The curriculum's content derived from the results of an analysis of focus group discussions with older African Americans residing in Alabama (Owsley, et al., 2006). The topic of discussion in these groups was attitudes and beliefs about vision and eye care and about the perceived barriers to care and strategies to reduces these barriers. Table 1 lists the key content domains addressed by the InCHARGE curriculum. The presentation began by emphasizing the need for each of us to take charge of our own eye health, including the message that the annual, dilated comprehensive eye examination is the key way to prevent or minimize vision impairment and eye disease. The presentation then covered common barriers to care and practical strategies

for removing or minimizing these barriers. The discussion then ended with a conversation with participants about goal-setting to seek annual eye care in the future and the concrete steps one takes to meet those goals.

Table 1. InCHARGE® curriculum

Key Components
Being InCHARGE of your eye health
Understanding prevention
What is prevention and why it is advantageous to health
How a comprehensive eye exam can be a way to prevent eye problems
Common eye problems for older African Americans
Blurry vision (near-sightedness, far-sightedness, presbyopia, cataract)
Glaucoma
Diabetic Retinopathy
What does a comprehensive eye exam involve
Parts of the eye your doctor may discuss with you
What does "dilated" mean; why is it important to have your eyes dilated
The difference between a comprehensive eye exam and a vision screening
Why it's important to get a comprehensive eye exam every year
Being InCHARGE of solving common challenges
How to find an eye doctor
What is an ophthalmologist; optometrist; optician
Resource list for eye doctors in your area.
Making and keeping the appointment
How to find transportation to the eye doctor
Transportation services in your area if you don't drive or family/friend can't take you
Covering the cost of your comprehensive eye exam
Medicare and Medicaid: What do they cover
If you don't have health insurance: a resource list for eye care services
Communicating with your doctor
Your rights as a patient
Being a good listener
If you have questions, ask them.
Before the doctor leaves the room . . .
Building trusting relationship with your doctor
Being InCHARGE of your eye care future
Setting a goal to have a dilated comprehensive eye exam every year
Be InCHARGE; Steps 1, 2, and 3
Making the commitment to your eye health

Three months after the InCHARGE presentation, the seven-item questionnaire was repeated. An interviewer telephoned attendees to administer the questionnaire, and also asked about whether the person sought a comprehensive eye exam in the three-months since the class, whether the exam was worthwhile, what they learned from the class, and what were their eye care plans for the next two years.

Statistical Analysis

Responses on the seven-item questionnaire before and three-months after the InCHARGE class were compared using the McNemar's test to account for the pair-matched nature of the data. P-values of ≤0.05 (2 sided) were considered statistically significant.

RESULTS

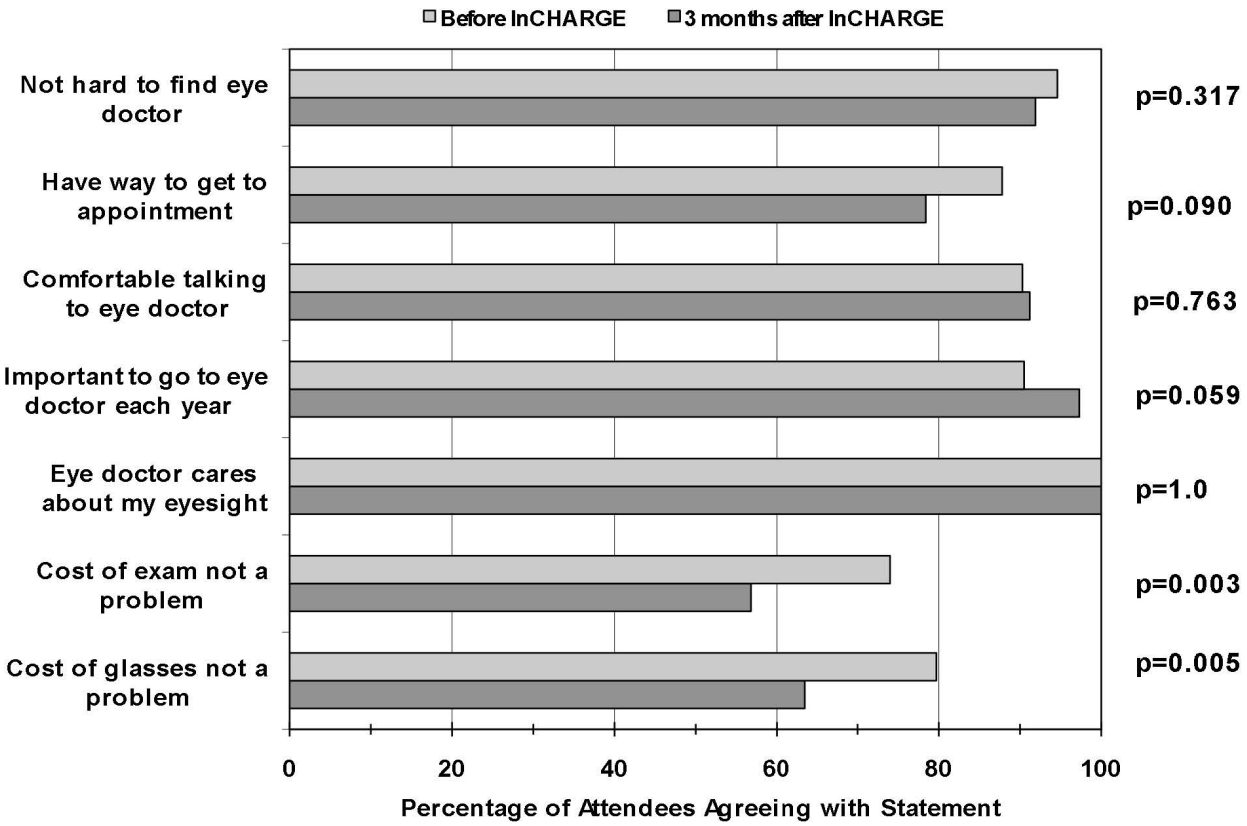
Group size for the InCHARGE presentation at the five senior centers varied from 14 to 33 persons (mean = 22), with a total of 111 persons attending. All those who attended the senior activities at the center that day participated in the InCHARGE class. The average age was 74 years old (SD = 8 years) and ranged from 61-96 years old; 73% were women and 27% were men. When asked when was the last time they visited an eye doctor for an eye exam, 52% of attendees reported that it was within the last year, 27% reported within one to two years, 16% reported more than two years ago, and 4.5% indicated never having been to an eye doctor. Participants' self-rating of their eyesight was 6.3% reporting excellent, 26.1% very good, 38.7% good, 24.3% fair, and 4.5% poor.

Seventy-four persons completed the post-InCHARGE questionnaire at three months. The remaining did not complete the questionnaire because they were deceased (n = 3), declined to participate (n = 2), had no telephone number where they could be reached (n = 2), could not be contacted by telephone even after ten call-attempts (n = 19), or could not communicate over the phone because of severe hearing or cognitive impairment (n = 11). Figure 1 displays the results from the seven-item questionnaire on attitudes and beliefs about eye care, before and three-months after InCHARGE. Results are presented for only those persons who completed both the pre- and post-InCHARGE questionnaire. Before the presentation, the vast majority of participants said that it would not be hard to find a doctor (94.6%), they could find a way to get to the eye doctor (87.8%), they were comfortable talking to the doctor (90.3%), and it was important to go to the eye doctor every year (90.5%). All indicated that they believed the doctor cares about their eyesight (100%). With respect to the cost of care, 26% indicated that the cost of the exam was a problem and 20.3% indicated that the cost of eyeglasses was a problem. When the cost items are considered together, about ¼ of participants (28%) indicated that the cost of the exam and/or eyeglasses was problematic. Three months following InCHARGE, the percentage of attendees reporting that it was not hard to find a doctor, they could find a way to get to the doctor, they felt comfortable communicating with a doctor, it was important to go annually to the doctor, and that the doctor cares about their eyesight remained at high levels. After InCHARGE, the percentage of participants indicating that the cost of the exam was a problem increased from the pre-InCHARGE percentage of 26% to 43.2% (p=.003). Also, the percentage indicating the cost of glasses was a problem increased from the pre-InCHARGE percentage of 20.3% to 36.5% (p=.005).

With respect to eye care utilization in the three months following InCHARGE, 47% (35 of 74) of those interviewed indicated that since the InCHARGE presentation they either had a comprehensive eye exam by an ophthalmologist or optometrist (28), or had made an appointment for one (7). All 28 of those persons who had undergone a comprehensive exam since InCHARGE reported it worthwhile with 65% reporting they learned something about their eyes or vision that they did not already

know. Seventy-five percent reported receiving a new prescription for eyeglasses during the exam, and most (86%) who received a prescription reported getting it filled. Compared to those who did not seek or schedule eye care in the 3-month post-InCHARGE period, those who reported seeking or scheduling eye care during this period were more likely to be persons who reported at the baseline pre-InCHARGE interview that they had seen an eye care provider within the past year (p =.0064). However, of the 21 persons who at baseline reported not having seen an eye doctor in the previous year, eight of these persons reported seeking care or making an appointment for care during the 3-month post-InCHARGE period.

Figure 1. Percentage of attendees agreeing with statements about eye care before and 3 months after participating in InCHARGE®.



*Probability value refers to the comparison of the percentage of attendees agreeing with statement before versus 3 months after the InCHARGE class.

Of those who did not undergo an exam or did not set up an appointment after InCHARGE (n =39), their reasons for not doing so were that they could not identify any reasons why they did not get an exam or they saw no reason to go for a comprehensive eye exam (18), they had not gotten around to it yet (10), they went to the eye doctor shortly before the InCHARGE class (8), or they indicated that transportation or cost problems prevented them from seeking care (3).

Table 2 lists how participants responded to the question "What was the most important thing you learned from the InCHARGE class?" Responses fell into six categories, with 50% of respondents (37 of 74) identifying messages presented in the InCHARGE curriculum. The most frequent messages

conveyed involved the importance of getting an eye exam and specific information on eye care and common eye conditions. Other common messages conveyed were that the eye exam should occur every year and strategies for reducing the barriers to care. Fifty percent of respondents (37 of 74) were unable to identify what they learned, even though they attended the class.

Table 2. Three months after InCHARGE®, how participants responded to the question "What was the most important thing you learned from the InCHARGE class?" (N=74)

Categories of Response and Examples	Frequency of Category
Importance of getting eye examination	11
"Don't put off your eye doctor appointment."	
"It is important for seniors to have their eye exams regularly."	
"Make sure you go to the doctor to have your eyes dilated."	
Obtained information on eye care and common eye conditions in older adults	11
"No one ever explained the eye problems to me before."	
"Glaucoma: I didn't know you had to have a doctor tell you if you had it. I didn't know it was something you couldn't tell you had."	
"Be more careful taking care of your medication when the doctor says you should."	
Importance of getting eye examination every year	6
"Old people should see their eye doctor every year."	
"I thought I didn't have to go to the eye doctor every year, but I learned that I should because there could be a change in my sight over the course of a year."	
"Reminder – once each year be sure to see your eye doctor."	
Strategies for reducing barriers to care	6
"Information about getting transportation to the doctor."	
"Be comfortable talking to your eye doctor. Don't hold back asking the doctor questions about your eyes."	
"Being in a rural area, we don't always get information as quickly as the larger areas. I learned that if I am having problems there are places throughout the state like in Birmingham where they will treat me."	
Other	3
"I took my totebag to my family reunion in Tennessee last weekend. I enjoy the workbook."	
"I like that you all used a picture of the eye to explain."	
"Don't know", "Can't remember", or no response	37

Table 3 lists how participants responded to the question "What plans do you have for your eye care in the next two years?" Responses were grouped into two categories, those that were consistent with the main messages of the InCHARGE curriculum, and those that were inconsistent. Results were that 46% of respondents (34 of 74) identified plans for the future consistent with InCHARGE's key messages, with most centering on a plan for seeking routine eye care by an eye specialist. The remaining 54% (40 of 74) did not provide a response in line with InCHARGE's key message of preventive routine eye care (e.g., "none", "I don't know").

Table 3. Three months after InCHARGE®, how participants responded to the question "What plans do you have for your eye care in the next two years?" (N=74)

Categories of Response and Examples	Frequency of Category
Responses consistent with InCHARGE	34
"Follow up with my eyes."	
"Have my eyes checked regularly."	
"I will call my eye doctor rather than waiting to the last minute."	
"Make sure I keep my eyes checked once a year."	
"To go to the eye doctor once a year and stay on top of caring for my eyes."	
"Watch my cataracts. I found out I have cataracts. I will continue going to my eye doctor; at some point in the future I will have them removed."	
Responses inconsistent with InCHARGE	40
"None."	
"I don't know."	
"I know I should go to the doctor but I just have not."	

DISCUSSION

One of the most striking findings is that even before participating in an eye health education class, older African Americans living in rural Alabama displayed positive attitudes about the importance of annual eye care and their ability to find a doctor and to get to the doctor. Almost all interviewed also indicated that they could communicate with and had trust in the doctor. These findings are similar to our results from a previous study with older African Americans in an urban area in Alabama (Owsley, et al., 2008). Our findings are encouraging in that, in spite of the absence of eye care providers practicing in their rural communities, these individuals remain optimistic that seeking eye care on a routine basis is not impossible. It also suggests that InCHARGE's curriculum need not devote a great deal of time trying to improve attitudes about eye care, since they are generally positive to begin with.

Before InCHARGE, cost was identified as a barrier to care by about ¼ of the participants. The concern about cost was not alleviated by the InCHARGE presentation, but rather, after InCHARGE, there was a significant increase in the number of individuals (almost half) who identified the cost of examination and/or eyeglasses as a concern. Given this finding, it is useful to consider what the InCHARGE curriculum covers with respect to cost. The presentation includes a discussion of what Medicare and Medicaid covers. In addition, the point is made that eyeglasses are not covered

by Medicare or most insurers (except after cataract surgery). It is possible that a frank discussion about cost, including aspects of care not covered that they were not previously aware of (e.g., cost of eyeglasses, co-pay for the cost of refraction), contributed to an increased number of attendees being concerned about cost following InCHARGE. For those without Medicaid, Medicare, or private insurance, InCHARGE also provides information about clinics and programs in Alabama where comprehensive eye care can be obtained either on a reduced-fee basis or free of charge. However, these programs are mostly located in the large metropolitan areas (e.g., Birmingham) or consist of outreach clinics that visit rural areas on a very sporadic basis, which may make them inaccessible to many. Learning this may have prompted the realization in attendees that cost is more of a concern than they originally thought before InCHARGE. We were also interested in whether the persons who said after InCHARGE that the cost of the exam and/or eyeglasses was a problem were more likely to be persons who had undergone an eye examination during the three-month post-InCHARGE period; they would have been personally confronted with the cost very recently. However, there was no association between saying cost was a problem and having had an examination ($p=0.96$). Regardless of the specific reasons underlying their responses to the cost issue, it is clear that for older African Americans surveyed in these rural areas, cost is perceived as the primary barrier to care, which is not surprising given the high poverty rate in the Black Belt region.

Before InCHARGE, about half of the participants (52%) reported having an eye examination by an eye doctor in the previous year, which is similar to that reported by older African Americans living in urban areas in Alabama (Owsley, et al., 2008) and in other regions of the U.S. (Bazargan, et al., 1998; Orr, et al., 1999). Given the higher rate of vision impairment among older African Americans compared to whites, it is concerning that half of our study sample were not receiving annual eye care. Our data are self-report of eye care utilization so the question remains as to whether self-reports of eye care by older African Americans reflect actual use, an issue that has not been addressed by studies to date. Previous work on self-reported use of health care (not just eye care) in older adult populations has highly variable accuracy (Bhandari & Wagner, 2006). It is possible that participants in our study may have been reluctant to reveal the true nature of their eye care utilization history since they were not anonymous. In a study currently underway, we are studying the validity of self-reported eye care by older African Americans by comparing these data against medical records, which could clarify the actual extent to which they seek comprehensive eye care.

About half of our participants could not identify a key message of InCHARGE three months following the presentation, nor could they state any plans for the future with respect to seeking eye care. This is lower than our findings with an urban population of older African Americans where 75% could identify a key message and almost 90% could state eye care utilization plans for the future (Owsley, et al., 2008). Although we did not collect data on the general health of participants in either study, it was our impression that the InCHARGE participants in the rural regions appeared more medically frail. This impression is consistent with health statistics for counties in the Black Belt as compared to urban counties in Alabama (Alabama Center for Health Statistics, 2007). It is possible that aging-associated health problems (e.g., dementia, cardiovascular disease, diabetes) were more likely to be present and thus interfere in our rural sample with their retention of InCHARGE's key points or in their devising plans for future eye care. In addition, the educational level of persons living in rural counties in Alabama is on average lower than those living in urban areas. (United States Census Bureau, 2000) Owing to these considerations, we need to consider alternative strategies for imparting the key messages of InCHARGE to this population, such as asking family or caregivers to attend the classes with the older adult and/or scrutinizing how to improve communication of InCHARGE's key messages.

Both strengths and limitations of the study must be addressed. Strengths include the focus on a population at high-risk for vision-impairing eye conditions who live in an economically-challenged rural area and the use of an educational curriculum and delivery method specifically designed for this population. Limitations include the loss to follow-up of about one-third of participants mostly because of our inability to communicate with them by telephone. Analyses revealed that those lost to follow-up were more likely to have trust and communication problems with the eye doctor and to view cost as a problem, as compared to those who were successfully followed at three months. This implies that those who were lost to follow-up may have been those at greatest need for an educational intervention. Another limitation is reliance on self-report of eye care utilization. The purpose of this study was to gather preliminary information on responsiveness and feasibility; our ongoing research on the efficacy of eye health educational programs in this population has developed strategies to overcome these methodological limitations.

CONCLUSIONS

Cost remains a primary barrier to eye care for older African Americans in the rural Black Belt of Alabama and is not effectively mitigated by our educational program. Our findings are consistent with the position that economic development of the region is critical for improving health in the population, including eye health (Birmingham News, 2002). Although health education and promotion programs can impart or reinforce positive attitudes and strategies about comprehensive eye care, educational initiatives must be combined with economic approaches in order to reduce and ultimately remove barriers to eye care.

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