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The Role of Hearing Health Care Education on the Perceptions and Knowledge about Hearing Loss among African American Adults

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NORTHERN ILLINOIS UNIVERSITY

The Role of Hearing Health Care Education on the Perceptions and
Knowledge about Hearing Loss among African American Adults

A Thesis Submitted to the

University Honors Program

In Partial Fulfillment of the

Requirements of the Baccalaureate Degree

With Upper Division Honors

Department of Allied Health and Communicative Disorders

By

Kasey Twine and Sherise Garmon

DeKalb, Illinois

May 11th, 2013

University Honors Program

Capstone Approval Page

Capstone Title (print or type)

The Role of Hearing Health Care Education on
the Perceptions and Knowledge about Hearing
Loss in African American Adults

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Department of (print or type) Allied Health and Communicative Disorders

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HONORS THESIS ABSTRACT

Hearing loss negatively impacts a person's quality of life. Only 20% of 46 million Americans with hearing loss seek amplification treatment. It is imperative to address the disparity within the general public between those who have hearing loss and those who seek treatment for hearing loss. The goal of this research project is to determine whether education, through in-person presentations, can be used to improve their knowledge on hearing loss. Sixty African Americans between 50 and 90 years of age participated in the study. Participants were given a pre-presentation questionnaire, followed by a presentation that discussed: the types and causes of hearing loss, treatment for hearing loss, and the effects of hearing loss. Participants then filled in a post-presentation questionnaire and hearing tests were conducted to test their outer, middle, and inner ear functions. Results indicated that in-person presentations increased participants' knowledge about hearing loss and hearing health care. Participants responded to the presentations extremely positively, and indicated that further discussion about hearing health care is both wanted and needed. However, additional research needs to be done to determine whether the presentations have encouraged participants to seek treatment for hearing loss.

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ABSTRACT (100-200 WORDS):

Hearing loss negatively impacts a person's quality of life. Only 20% of 46 million Americans with hearing loss seek amplification treatment. It is imperative to address the disparity within the general public between those who have hearing loss and those who seek treatment for hearing loss. The goal of this research project is to determine whether education, through in-person presentations, can be used to improve their knowledge on hearing loss. Sixty African Americans between 50 and 90 years of age participated in the study. Participants were given a pre-presentation questionnaire, followed by a presentation that discussed: the types and causes of hearing loss, treatment for hearing loss, and the effects of hearing loss. Participants then filled in a post-presentation questionnaire and hearing tests were conducted to test their outer, middle, and inner ear functions. Results indicated that in-person presentations increased participants' knowledge about hearing loss and hearing health care. Participants responded to the presentations extremely positively, and indicated that further discussion about hearing health care is both wanted and needed. However, additional research needs to be done to determine whether the presentations have encouraged participants to seek treatment for hearing loss.

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The Role of Hearing Health Care Education on the Perceptions and Knowledge about Hearing Loss among African American Adults

Abstract

Hearing loss negatively impacts a person's quality of life. Only 20% of 46 million Americans with hearing loss seek amplification treatment. It is imperative to address the disparity within the general public between those who have hearing loss and those who seek treatment for hearing loss. The goal of this research project is to determine whether education, through in-person presentations, can be used to improve their knowledge on hearing loss. Sixty African Americans between 50 and 90 years of age participated in the study. Participants were given a pre-presentation questionnaire, followed by a presentation that discussed: the types and causes of hearing loss, treatment for hearing loss, and the effects of hearing loss. Participants then filled in a post-presentation questionnaire and hearing tests were conducted to test their outer, middle, and inner ear functions. Results indicated that in-person presentations increased participants' knowledge about hearing loss and hearing health care. Participants responded to the presentations extremely positively, and indicated that further discussion about hearing health care is both wanted and needed. However, additional research needs to be done to determine whether the presentations have encouraged participants to seek treatment for hearing loss.

INTRODUCTION

Only 20% of 46 million Americans obtain beneficial treatment for hearing loss (Oyler, 2012). It is reported that the decline in hearing thresholds in older adults are correlated with the decline in cognitive functions. Uncorrected hearing loss can also lead to other impairments such as the inability to detect and localize sounds, difficulty in understanding speech, lower quality of life, less employment opportunities, and lower psychological, mental, and physical health (>1 citation). There is a disparity in health care received by the general population and minority groups. The National Institute on Deafness and other Communication Disorders (NIDCD) has acknowledged minorities as underrepresented in NIDCD-sponsored research and is working to reduce health disparities by increasing minority presence in their research projects (NIDCD, 2010).

The timeliness and potential benefits of this project are not limited to minority populations or underserved populations in general. The U.S. Preventative Services Task Force (USPSTF) recently released an article in the *Annals of Internal Medicine* concluding that there was insufficient evidence to determine the risks and rewards of recommending screening for hearing loss in asymptomatic adults age 50 years and older (Moyer, 2012). An older adult is considered "asymptomatic" by the USPSTF if he/she is unaware of the symptoms of his/her hearing problem, and therefore has not sought a screening or treatment for perceived hearing problems on his/her own accord. In other words, the person has not been treated for hearing loss and may not be aware of the presence of a hearing loss. The objective hearing screenings of which the

USPSTF seeks are intended to find evidence to support the hearing status of participants, instead of the commonly used subjective hearing screenings that ask participants to report their perceived symptoms of hearing loss (i.e., Do you have trouble hearing on the telephone?).

As the baby boomer population ages, there is an increasing need to address hearing health care related issues in order to have good quality of life and avoid negative consequences of untreated hearing loss. Not being able to hear, in addition to the previously mentioned effects of untreated hearing loss, can cause people to withdraw from society and avoid participation in social activities. The good news is by detecting and treating hearing loss early, these negative effects can be greatly reduced (Arlinger, 2003).

The purposes of this research project were 1) to examine the knowledge and attitudes of African Americans toward hearing health and hearing care; and 2) to determine whether in-person presentation was a viable means for raising awareness and for enhancing knowledge on hearing health care, and for encouraging participants to seek treatment if a hearing loss is present.

METHODOLOGY

Participants

Sixty African American research participants between 50 and 90 years of age participated in this study. Subjects for this research study were recruited from neighborhood churches in the city and suburbs of Chicago. The Pastors of the recruitment locations were informed about the study and asked for permission to post/hand out flyers and make announcements in their facilities, in order to increase awareness amongst potential participants.

40% of the participants were in the 50-55 age category, 67% were women, a high school diploma was the highest level of education for 50% of the participants, 37% were retired, 27% were full-time employees, and the primary language spoken in the home was English.

Procedures

Upon arrival, participants were asked to complete a pre-questionnaire (Appendix Form 1) that assessed their hearing health care practices, perceptions, and knowledge about hearing loss.

After the pre-questionnaire, participants listened to a presentation (Appendix Form 2) discussing the parts and functions of the ear, ear wax and how to clean the ears, types and causes of hearing loss, effects of hearing loss, treatment for hearing loss, and the impact of hearing loss on quality of life (Figure 1). Participants were encouraged to ask questions during the presentation.



Figure 1. Participants listening to an audio-visual presentation about hearing health care.

Afterward, they completed a post-questionnaire (Appendix Form 3) that mirrored the pre-questionnaire. This process helped us determine how the in-person presentation impacted participants' knowledge and perceptions about hearing loss, and to provide insight about their future hearing health care practices.

After the participants completed the post-questionnaire, we conducted a hearing exam (Figure 2, Appendix Form 4) that included: otoscopy, tympanometry, otoacoustic emissions and pure tone tests to examine participants' outer, middle and inner ear functions. All of these tests are standard hearing screening tests. Otoscopy is a process to visually inspect the ear canal and eardrum using an otoscope. Tympanometry is tests middle ear functions, and otoacoustic emissions tests examine the outer hair cell functions in the inner ear. If anyone fails any of the above tests, a pure tone audiometry was conducted to determine the person's hearing sensitivity.



Figure 2. Participant receives otoscopy portion of hearing screening.

RESULTS

Participants' answers to the pre- and post-questionnaires were compared.

After listening to the presentations, participants' knowledge about hearing and hearing loss has increased in general. Figure 3 shows the percentage of participants 1) who name three or more parts of the ear; 2) who could state more than one correct function of ear wax; and who provided three or more correct answers to the question "What problems are related to hearing loss?" The increases in percentage were 53.8%, 8.3%, and 21.8%, respectively.

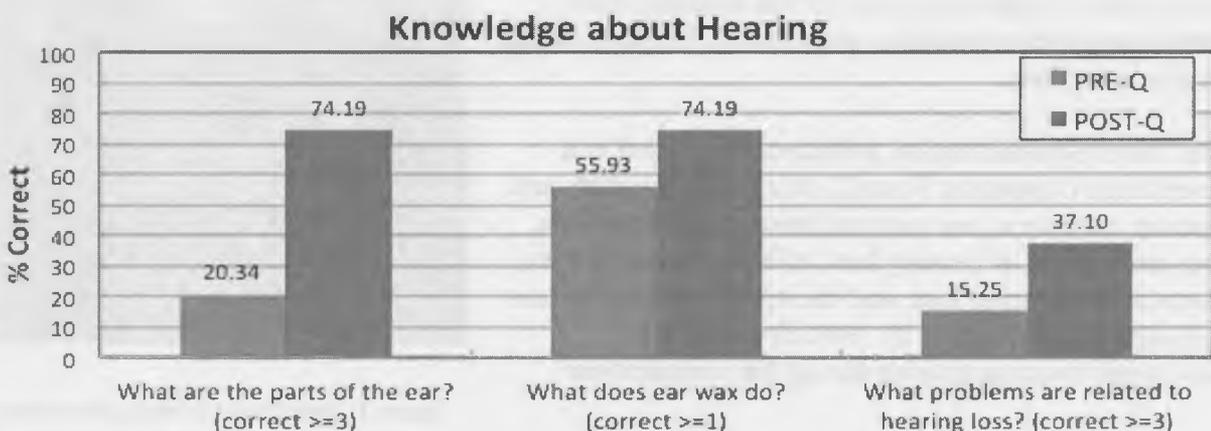


Figure 3. The percent of participants responded to different questions correctly in the pre- and post-questionnaires.

Participants' health seeking behaviors were also examined. Figure 4 displays the percentage of participants who selected 'all that applied' amongst the following responses: a) as soon as they think they have hearing loss, b) when it affects their daily activities, c) when it affects their job, d) when it affects their family lives, e) when they have money to seek help, f) when their friends tell them to seek help, and g) when their family members tell them to seek help. After listening to the presentation, participant response increased greater than 10% for e) when they have money to seek help, and when their friends (f) or family members (g) tell them to seek help.

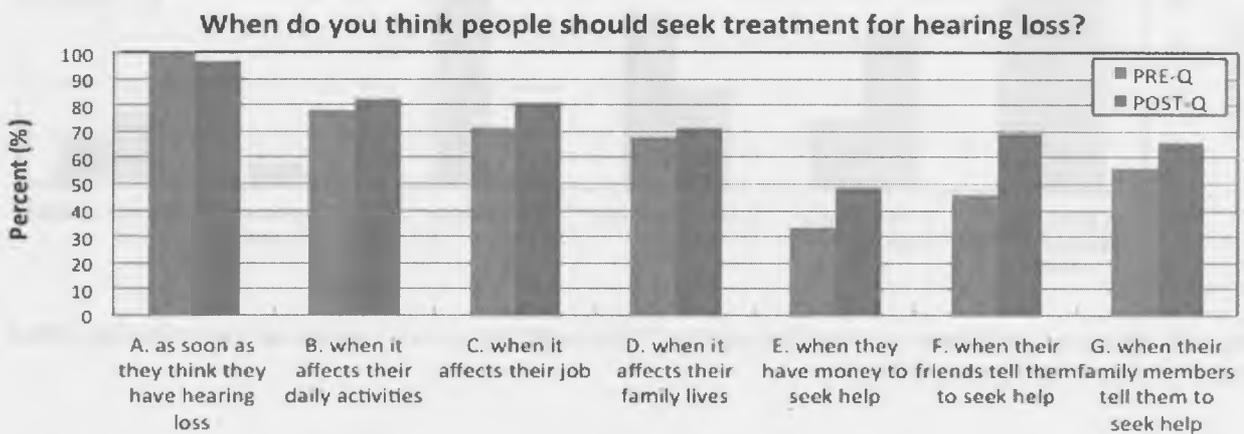


Figure 4. The percent of participants who answered the question “When do you think people should seek treatment for hearing loss” in the pre- and post-questionnaires.

Results displayed in Figure 5 show that participants' awareness of who would need a hearing aid has increased post-presentation. A greater than 10% increase was observed in a) people who are old and c) people who have acquired a hearing loss.

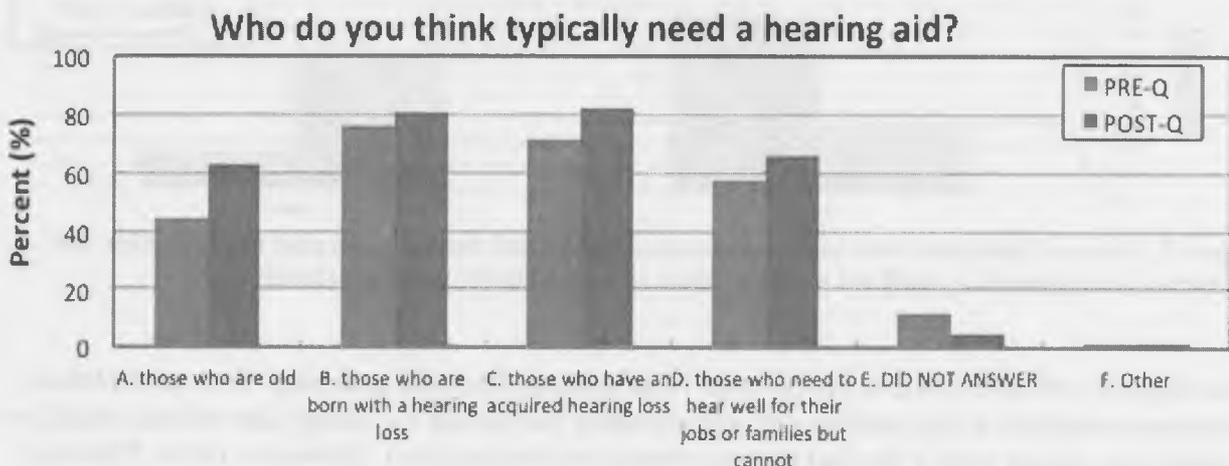


Figure 5. The percent of participants who answered the question “Who do you think typically need a hearing aid in the pre- and post-questionnaires.

Figure 6 shows participants' responses when they were asked, "Who would you go to if you had ear wax or hearing related issues." Their use of non-specific terms such as "hearing specialist" to refer to hearing health care professionals decreased after listening to the presentation. Additionally, participants' reference to audiologists and ear, nose and throat doctors for hearing care increased drastically by 40% and 15% respectively.

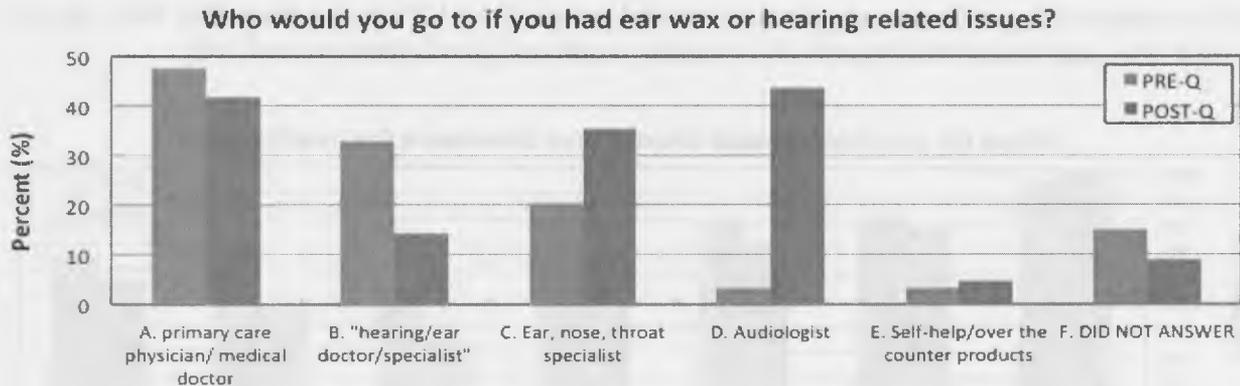


Figure 6. Percent of participants answered the question "Who would you go to if you had ear wax or hearing related issues" in the pre- and post-questionnaire.

Participants (n=25) were asked if they had talked to others about their hearing health before the presentation and were asked if they would after the presentation. Figure 7 shows that 30% did not talk to anyone before the presentation and 76% would do so after the presentation.

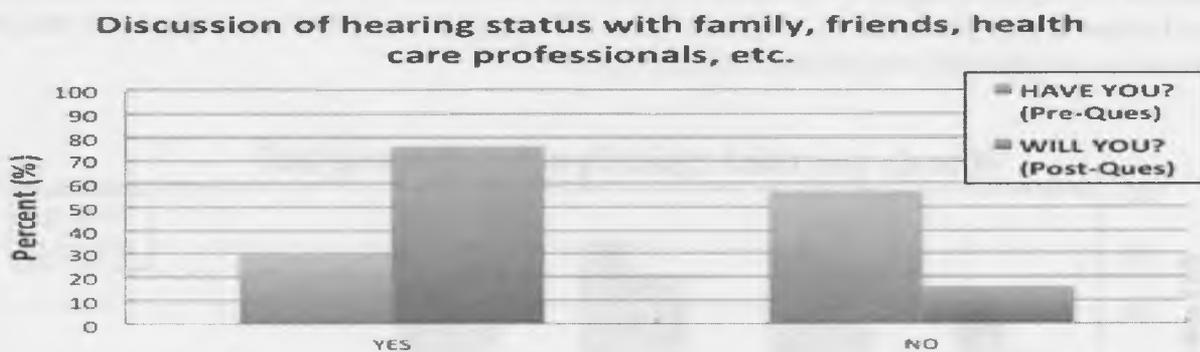


Figure 7. Percent of participants who had or had not spoken about their hearing status prior to presentation, and percent of participants who would and would not speak about hearing status after presentation.

Participants' attitudes towards people who wear hearing aids were assessed. Post-presentation, responses remained either positive (eg: commending the person for taking care of their health) or neutral (eg: simply stating the fact that the person has hearing loss). However, of the 5% who initially responded negatively, none of them had negative responses on the post-questionnaire

Participants were asked to select various treatment options for someone who cannot hear well.

After the presentation, participants' ability to identify assistive listening technologies that can help them visualize the presence of sounds (i.e.: flashing lights to signal a doorbell) increased.

Pre- and Post- presentation, participants were asked about hearing screening recommendations from their primary care physician. Before the presentation, 10% of the participants indicated that their primary care physician recommended them to take a hearing screening. After the presentation, 84% of the participants indicated that they would seek hearing health care if their primary physician recommended it.

When asked about future hearing health care practices, 40% of the participants indicated that they would seek hearing health care within 1 week or 6 months if they thought they had hearing loss.

After the post-presentation questionnaire, participants were given a pass/fail hearing screening (Figure 8). The results indicated that 61% of participants (n=51) tested negatively for hearing loss and reported that they did not have hearing loss, and 10% tested for positively for hearing loss and reported that they do have hearing loss. This indicated that approximately 70% of people were able to correctly assess their hearing status. However, 15% tested negatively for hearing loss but reported they had hearing loss, 12% tested positively for hearing loss but reported that they did not have hearing loss, and 2% reported not sure. These results suggested that about 30% of people were not able to correctly assess their hearing status.

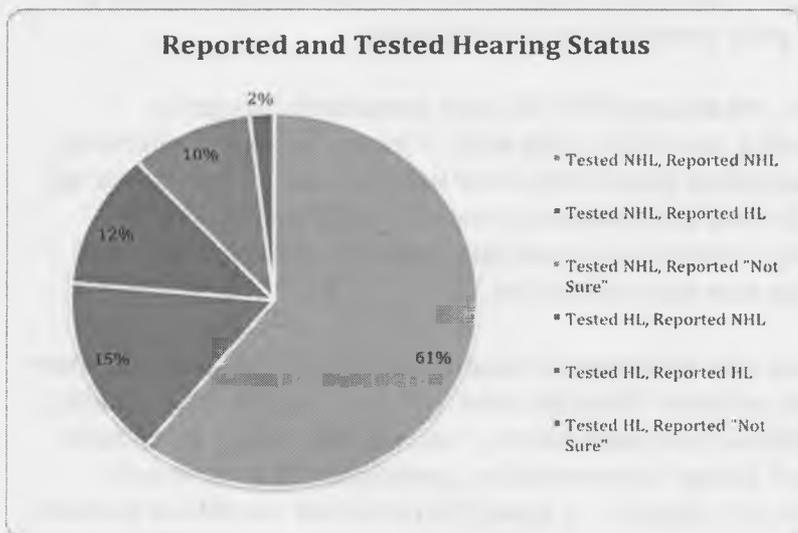


Figure 8. The percent of participants who correct or incorrectly reported their hearing status.

Lastly, participants rated the usefulness of the educational presentation for helping them understand: the hearing system, the effects of hearing loss, and hearing health care options, using a 10-point scale. Figure 9 shows the mean responses as 9.6, 9.7, and 9.6 respectively, indicating that in-person presentations are highly useful for enhance participants' knowledge on hearing and hearing health care.

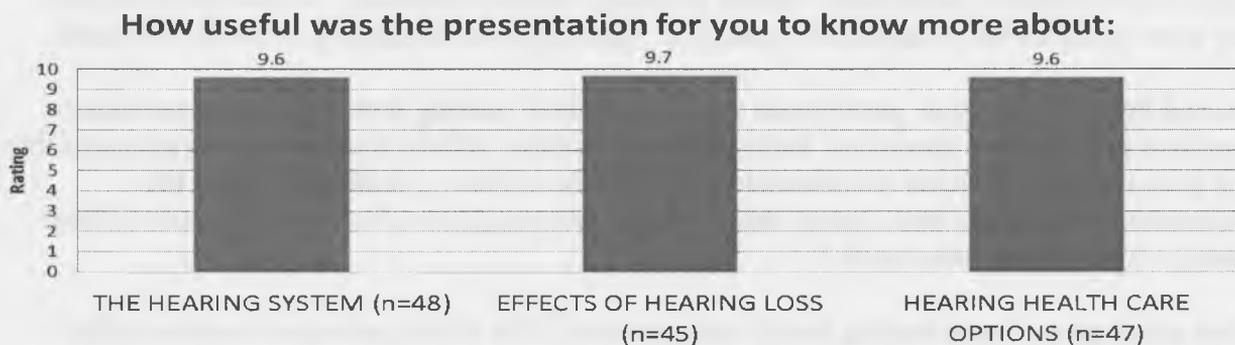


Figure 9. Participants' rating of the usefulness of the presentation as it is related to three categories.

DISCUSSION

In this study, participants filled in a questionnaire that assessed their knowledge and perceptions about hearing loss and hearing health care before listening to an audio-visual in-presentation. Afterward, a follow-up questionnaire and hearing screening was given. Participants' responses to the presentations were extremely positive and indicated that further discussion about hearing health care is both wanted and needed. This notion is supported by significant differences in many accessed items on the pre- and post- presentation questionnaires.

When we originally began the project, we assumed that the most prominent changes in knowledge and perceptions about hearing loss in the older adult African American community would occur in participants' perception about people who wear hearing aids. However, we see that participants' perception toward hearing aids remained generally positive and neutral, insinuating that older adults' knowledge about hearing aids and hearing health care has more impact on their help-seeking behaviors than their perception.

Participants responded that they would seek treatment for hearing loss when they had the money to seek help (Figure 4). Although this indicates financial constraint as a factor in help-seeking behavior, after learning about the effects of untreated hearing loss, hearing aids as a treatment option, and the other topics mentioned during the presentation, participants may now seek treatment for hearing loss when financially feasible. It should be noted that we did not mention expenses for hearing aids during the presentation, and hearing aids may be assumed as expensive in this community.

After the presentation, more participants also responded that they would seek treatment for hearing loss when their friends and family tell them to seek help (Figure 4). The format of the presentation, which allowed participants to be actively engaged by asking questions as they learned about hearing health care, may have helped participants become more comfortable discussing a difficult topic and more open to acknowledging others' awareness about their hearing loss. Furthermore, the format of the presentation may have contributed to the remarkable increase in participants who will discuss their hearing status with family, friends, health care professionals, etc. (Figure 7).

Although general information about hearing health care was beneficial for the participants (Figure 9), participants displayed a marked increase in their awareness of the need for hearing aids to treat age-related hearing loss after listening to the presentation (Figure 5). The post-presentation increase in their response could indicate that in the African American community, hearing loss may be seen as a natural progression of life. Therefore, either no treatment exists for it or correcting the hearing loss is not considered as “needed.” Also, participants may have initially been reluctant to associate hearing aids with being “old.”

Another interesting finding is that many participants indicated that they were more likely to seek hearing health care if their primary care physicians recommend hearing screenings, suggesting that primary care physicians are essential for raising awareness about hearing loss and hearing health care practices. This is also supported by the fact that even though there was a 40% increase on the post-questionnaire for participants’ identifying an Audiologist as the professional they would see for ear wax and hearing related issues, 42% still said that they would go to their primary care physicians for these issues as well- only a 5 % decrease from the pre-questionnaire. If primary care physicians are considered a *primary* resource for health issues in the African American community, primary care physicians can also be a *primary* resource for early intervention and treatment for age-related hearing loss.

Before participants were able to identify an Audiologist as one who would treat earwax and hearing related issues, non-specific terms such as: “ear doctor,” “hearing specialist,” “hearing doctor” or “ear specialist,” were the next most commonly used terms. These terms are strongly reflective of a “hearing instrument specialist.” This suggests that participants are either confused about whom to go to for hearing health care or are unaware of the profession of Audiology. Not only do testimonials from participants support the latter, only 3% of the participants were able to identify an Audiologist on the pre-questionnaire (Figure 6). The educational presentation has clearly raised awareness about Audiologists- from 3% pre-presentation to 40% post-presentation; however, further advocacy needs to occur that distinguishes Audiologists as the primary and appropriate professional to go to for hearing health care.

Although the findings are preliminary, they suggest that perception may not be the primary barrier for adults in seeking treatment for hearing loss. They just may not know who to go to, what treatment options are available, or the effects of hearing loss and how they compromise quality of life. In-person presentations can raise awareness and inform older adults about hearing health care, which may have greater determining abilities in whether or not they seek hearing health care. In other words, the results suggest that the more knowledgeable older adults are about hearing loss and hearing health care, the more likely they are to discuss their hearing status with others, to seek treatment at the recommendation of others, to seek treatment when financially feasible, and to seek treatment from the appropriate professionals.

It is our hope to conduct further research that strives to increase awareness amongst older adults about hearing loss and hearing health care in an effort to enhance their quality of life.

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