

Barriers and perceptions related to cataract surgery in Ghana

BY MICHAEL CELONE

TULANE UNIVERSITY

Abstract

Cataract is a significant contributor to vision loss and blindness in low-income countries, especially Ghana. However, even when treatment is available, many patients will forego a sight-restoring cataract surgery. The aim of this study was to analyze the perception of cataract among cataract patients and to discern possible barriers to a free sight-restoring surgery. In depth interviews were used to explore the opinions of 152 cataract patients in Ghana during the months of June and July 2012. The mean age of participants was 72.1 years with a nearly equal distribution between male and female. A majority of participants (94.5%) were aware that something could be done to help their vision prior to attending the outreach, but only 45.0% were aware that surgery was an option. Some patients (10.7%) indicated that their family would not support them in having the surgery and 39.9% of patients stated that they would need the permission of a family member. Most participants (95.2%) with a mature cataract indicated that they wanted the free cataract surgery; among the six who declined, the most common reason was fear. This study suggests that further education may be necessary to increase awareness of the benefits of cataract surgery. However, more research is needed to determine how many participants will actually attend the surgery and ascertain the potential barriers that may appear on the scheduled surgical date.

Introduction: Rationale and specific aims

Cataract is a significant contributor to vision loss and blindness in low-income countries; “up to 75% of blindness (visual acuity below 20/400) is due to cataract, and cataract remains the most common treatable cause of blindness.”¹ Although cataract is ubiquitous globally, populations in remote regions of low-income countries are disproportionately burdened.² Such areas have inadequate medical infrastructure to diagnose and treat cataract, and individuals with operable cataracts often go untreated. Reported surgical coverage for cataract in developing countries is low,¹ and in countries including India, Brazil, and Malawi, 33–92% of cataract-blind patients remain blind, despite the availability of surgery.³

Despite the increased availability of diagnostics and treatment, many patients with operable cataracts decide to forego a sight-restoring operation. Past research demonstrates several reasons for patient refusal to attend cataract surgery, including cost,^{1, 2, 3, 4, 5, 6, 7} fear,^{3, 5} a lack of knowledge about cataract,^{1, 3, 6, 7} concerns about the quality of local services,^{1, 6} lack of desire to improve vision,^{2, 7} shortage of trained personnel,¹ cultural and social reasons,³ religious reasons,² and distance to a hospital.³ This study intends to analyze patient perception of cataract surgery and discern causes for the failure of rural Ghanaian patients receiving eye care from a local eye clinic to undergo surgery. It is anticipated that knowledge regarding cataract will be

high but fear will still remain a significant barrier to the uptake of surgery.

Methods

Approval for research on human subjects was granted by the Tulane University Institutional Review Board, project number 323613-1. A waiver of written informed consent was granted due to the language barrier and illiteracy of the patient population. Verbal consent was obtained for all participants.

This study was conducted in rural villages throughout Ghana, primarily in the Ashanti, Brong-Ahafo, and Greater Accra regions. The researcher was a volunteer with Unite For Sight, a “501(c)(3) non-profit global health delivery organization that empowers communities worldwide to improve eye health and eliminate preventable blindness.”⁸ Unite For Sight’s partner eye clinics’ outreach teams visit different villages daily to provide eye care and return to each village on a monthly basis, making eye care available to those living in extreme poverty throughout the country. Those who present with operable cataracts are referred to the clinic to receive a sight-restoring surgery free of charge.

Local Ghanaian eye doctors affiliated with local eye clinics examined patients during eye care outreaches. Based on the status of the cataract, patients were identified as candidates for surgery by the local ophthalmologist. Those who presented with mature cataract were eligible for a free surgery at local health facilities, with the surgical cost funded by

Unite For Sight. Candidates for this study were limited to adults (over 18) with an operable cataract. The cataract patients who met these criteria were directed to the researcher and were given the opportunity to participate in the study. Eligible participants were presented with a series of open-ended questions, read aloud with the assistance of a local translator coordinated by the Unite For Sight partner eye clinic’s ophthalmic staff. Staff members associated with the eye clinic were able to assist in translation at various times, but when they were not available, it was necessary to find a translator amongst the patients who was competent in English and willing to assist with the study. Each interview was approximately 15 to 20 minutes in length. Questions offered insight into participant knowledge of and willingness to pursue cataract surgery, and assessed the socioeconomic status of eligible patients using the Poverty Scorecard⁹. Participants were free to exclude any question they did not feel comfortable answering. No identifying information was recorded to maintain the confidentiality of responses. Descriptive statistics were used to summarize participant responses.

Results

One hundred and fifty two patients were interviewed over a six-week period in 18 villages in Ghana. Patient gender was fairly evenly distributed with 78 females and 74 males. The mean age of interviewed patients was 72.1 years with a standard deviation of 11.6 years. One hundred and twenty-

five patients (82.2%) were diagnosed with a mature cataract while 27 patients (17.8%) were diagnosed with an immature cataract (Figure 1a). 34.1% of patients presented with bilateral cataracts while 65.9% presented with a unilateral cataract (Figure 1b). Eighty four and five tenths percent of patients stated that their vision interferes with their daily life.

Of the 125 patients with a mature cataract (i.e. requiring immediate surgical intervention), 119 patients (95.2%) wanted the free surgery, while only six patients (4.9%) said they would not attend (Figure

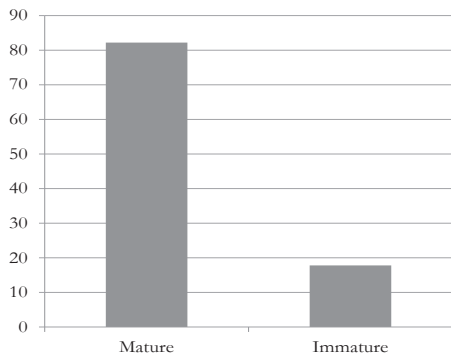


Figure 1a: Percentage of patients presenting with a mature vs. immature cataract

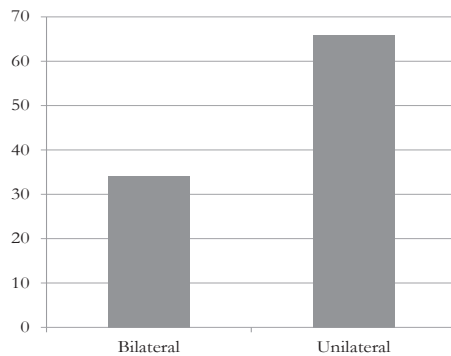
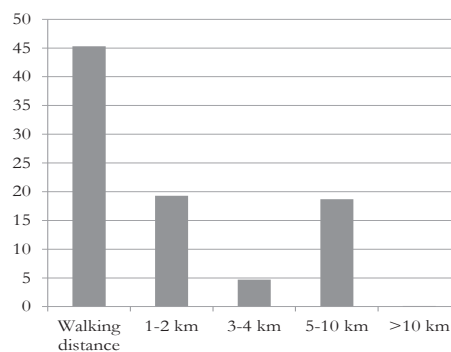


Figure 1b. Percentage of patients presenting with a bilateral vs unilateral cataract



Supplemental Figure 1. How far did you travel to reach the outreach?

2a). The most common reason for declining the surgery was fear, as indicated by three individuals. One patient cited transportation barriers as a reason for not attending the surgery while two patients said that their children were not present and thus they could not get permission to attend surgery (Figure 2b). Of the 27 patients presenting with an immature cataract, 24 (88.8%) said they would want the surgery should their cataract get worse in the future.

The survey assessed the impact of family member involvement in the decision to pursue surgery: 77.2% of patients indicated that they believed their family would support their decision to have the cataract surgery, while 10.7% of patients said that their family would not support them. Twelve and one tenth percent of patients were unsure of their family's position regarding the surgery (Figure 3a). In addition, 39.9% of patients indicated that they would need the permission of a family member before having the surgery (Figure 3b). Of those who required family permission, 57.9% said that they would consult their children, while 26.3% said they would consult a spouse (Figure 3c).

More than half of patients (59.2%) indicated that they had attempted something to improve their vision in the past (Figure 4a). Of those who had done so, the most common remedy was eye drops (46.9%). Only 3.1% of patients had tried a traditional remedy to improve their vision (i.e. rubbing a leaf in the eye) (Figure 4b). Patients who had attempted to improve their vision in the past had done so with varying results: 55.6% of patients stated that past treatment helped their vision, while 43.2% stated that it did not.

Some of the patients were returning for a second cataract surgery: 19.7% of the patients had been offered a cataract surgery in the past, and 69.0% of those patients had accepted the surgery (Figure 5a and 5b). Of the nine patients who did not accept surgery

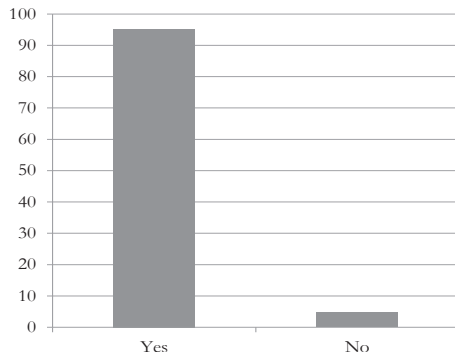


Figure 2a. If your cataract is mature will you want the surgery?

in the past, four (44.4%) cited financial reasons as a barrier.

Data regarding patient knowledge of cataract treatment were collected: 94.5% of patients indicated that they believed something could be done to help their vision before attending the outreach; however, before attending the outreach, only 45.4% of patients were aware that surgery could help them (Figure 6a). A majority of patients with relatives or acquaintances who had undergone the surgery indicated that the surgery was beneficial: 30.9% of patients knew someone who had undergone cataract

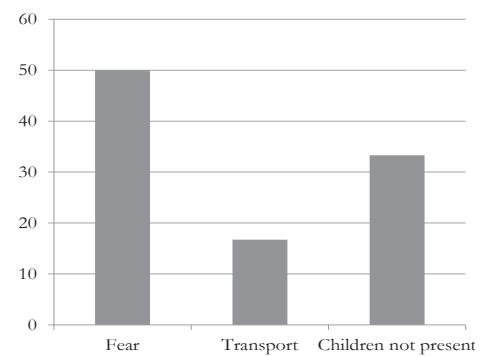


Figure 2b: If no, why do you refuse surgery?

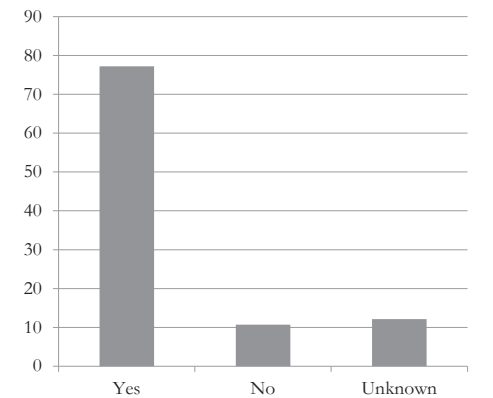


Figure 3a. Will your family want you to have the surgery?

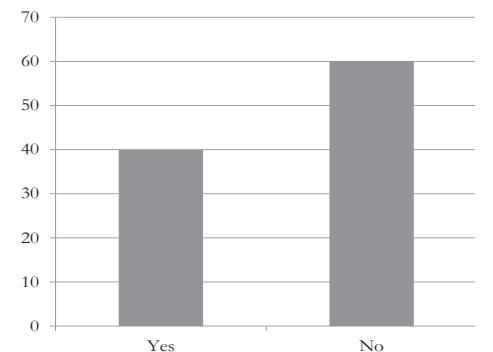


Figure 3b. Do you need permission to have surgery?

surgery, and, of that group, 88.4% stated that the surgery helped their relative or acquaintance.

Sixty four and four tenths percent of patients had not attended any form of schooling, while 14.8% had attended primary school and 20.1% had attended high school. Only one patient had attended university. The most common patient occupation was farming (56.9%), with unskilled labor following at 13.9%. Sixteen and seven tenths percent of patients had no occupation.

Discussion

This research has many implications for the provision of cataract care to rural Ghana. More than 95% of patients with a mature cataract expressed a desire to undergo the free surgery, suggesting that there may be relatively few barriers to the uptake of surgery when the patient is initially informed of the need for surgery. However, the validity of this statistic is questionable; the clinic staff (one ophthalmologist and three nurses) expressed the opinion that this statistic is misleading and that the number of patients actually attending surgery may be

lower. This idea is supported by the fact that only 69.0% of patients previously offered surgery had attended. Several factors may be at play:

- **Patients were not honest in their responses to the researcher.** The researcher's status as a Caucasian-American may have automatically introduced an insurmountable cultural barrier. Local ophthalmic staff suggested that patients may have provided answers that they assumed were expected of them, i.e. they desired cataract surgery. It is evident that social research introduces an 'insiders' and 'outsiders' dynamic, whereby differences in race, language, socioeconomic status, and education between researchers and participants may impede research.¹⁰
- **Transportation Barriers.** Barriers related to transport are possible but not likely. Transportation to the cataract surgery is arranged by local Community Health Workers affiliated with Unite for Sight, and patients are expected to contribute to the cost of transport, unless it is determined to be a barrier for that particular patient. If the local Unite for Sight doctors determine that the patient is unable to fund the cost of transport, they will cover this expense. However, one patient did refuse surgery, citing transportation issues as the reason.
- **Duty to provide for family.** The cataract surgery is a two-day process involving one day of surgery and one day of recovery, both occurring at the clinic. Some members of the ophthalmic staff felt that patients may be reluctant to miss two days of work. This sentiment was echoed in South Africa, where the socioeconomic costs of missing work emerged as a barrier to

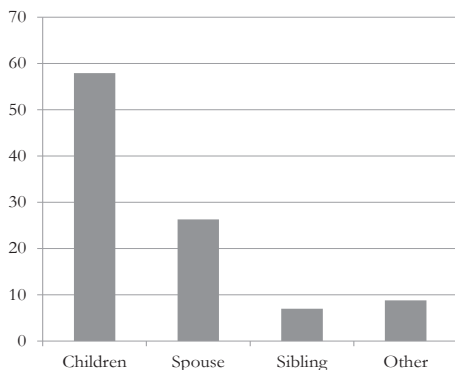


Figure 3c. If yes, whom will you ask?

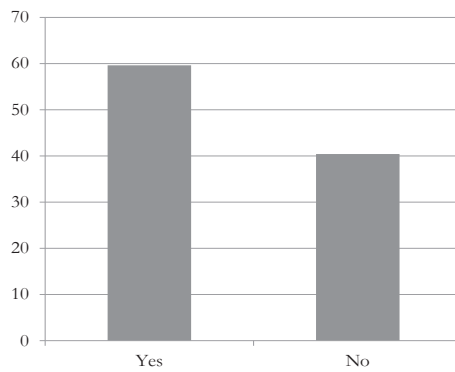


Figure 4a. Have you previously attempted to correct your vision?

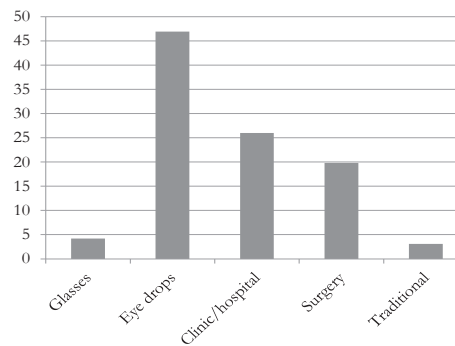


Figure 4b. If yes, what methods did you use to attempt to correct your cataracts?

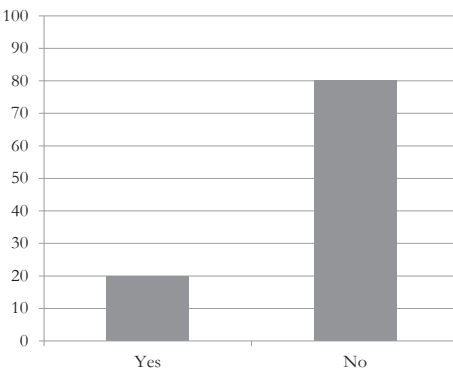


Figure 5a. Have you been offered cataract surgery in the past?

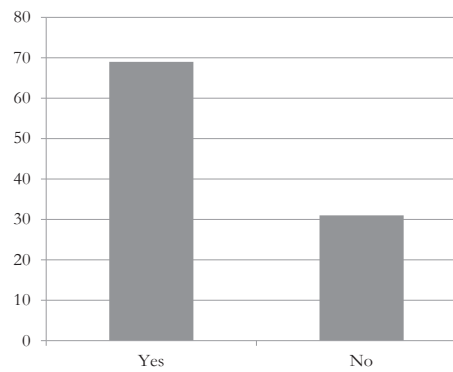


Figure 5b. If yes, did you accept the surgery?

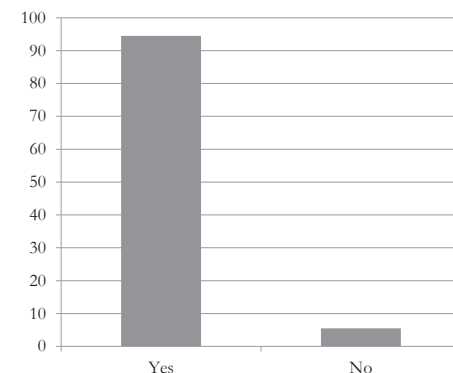


Figure 6a. Did you know something could be done to help your cataracts?

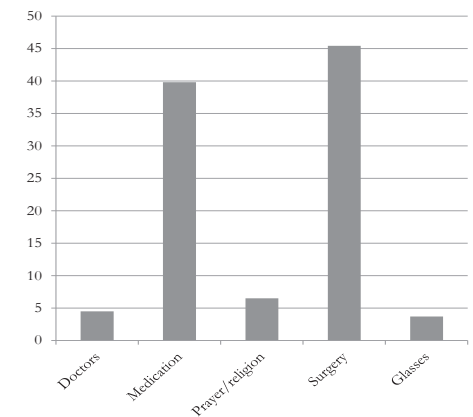


Figure 6b. If yes, what did you think could be done to help your cataracts?

cataract surgery.¹¹

- **Fears about surgery.** Misconceptions regarding surgery persist in Ghana. Despite education, some patients believe that their eye will be replaced with a cat's eye during surgery, or that doctors will remove their eye during the operation. These misconceptions were discussed repeatedly by the clinic nurses and doctors. Such misconceptions lead to fears that may manifest prior to surgery, prompting the patient to avoid the operation.

Based on these considerations, the researcher proposes a follow-up study to better assess the barriers to the uptake of cataract surgery in rural Ghana. It is evident that some patients who are referred for cataract surgery do not ultimately proceed with surgery. In order to properly assess the reasons for not attending surgery, a retrospective study should be conducted after the scheduled surgery date. Future researchers should examine clinic data to identify cataract patients who did not attend their scheduled surgery. By comparing the list of referred patients and the list of those attending surgery, researchers can easily determine the patients who declined surgery from a given town. Those who were referred but declined to attend should be interviewed to determine the specific reasons for declining surgery. This method reduces the possibility of patient dishonesty. It also allows the researcher to document barriers that emerged prior to surgery.

It is also important to mention the language barrier and associated complications. The majority of cataract patients involved in this study were speakers of a local Ghanaian dialect. As a result, a translator was required to interpret the responses of study participants. The languages encountered throughout the course of this study prominently included Twi, and to a lesser extent, Ga and Ewe. The presence of a translator may have introduced bias to the study and should be considered when interpreting results.

Regardless of the limitations of this study, valuable information was revealed that could be useful during the implementation of an eye health program in Ghana and other low-income regions. Health education campaigns may increase awareness of cataract surgeries and reduce misconceptions. Before coming to the outreach, only 49 patients (32.2%) were aware that surgery could help them; this suggests that awareness of surgical intervention as a treatment for cataract is low. Based on the researcher's observations, those patients who were returning for a second cataract surgery were very effective in reducing misconceptions and easing

the fears of first time patients. Increasing dialogue between those who have undergone the surgery and those who are considering it could alleviate fears.

Overall, the number of patients who indicated a desire to undergo surgery was higher than expected; of the 125 patients presenting with mature cataracts, only six rejected surgery. While half of the mature cataract patients who rejected surgery cited fear as the reason, this only constituted three patients. Additionally, it appears that the patient population could benefit from increased education regarding the benefits of surgery: while a majority of participants (94.5%) were aware that something could be done to help their vision prior to attending the outreach, only 45.0% were aware that surgery was an option. Furthermore, family dynamics may impact surgical uptake, based on the percentage of patients (39.9%) who stated that they would need the permission of a family member and the percentage of patients (10.7%) who indicated that their family would not approve of surgery. More research is needed to determine the true proportion of patients who ultimately attended surgery as well as the possible barriers that may emerge prior to surgery.

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