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Observation of Factors Associated with Non-Compliance to Post-Operative Follow-up after Cataract Surgery

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Abstract **Original Research Article**

Background: Blindness is a substantial concern in Bangladesh, which is part of the South East Asia region under the World Health Organization. Cataracts are a major contributor to blindness, accounting for a significant percentage of cases. However, the outcomes of cataract surgery in the region are worrisome, with many postoperative eyes experiencing poor visual acuity. Compliance to post-operative care, especially timely follow-ups, is crucial for optimal outcomes, but non-compliance is a significant issue, particularly in rural areas. This study examines the reasons for non-compliance to post-operative follow-ups in cataract surgery patients at a district hospital in Bangladesh. ***Methods:*** This study was conducted at District Sadar Hospital, Jhalakathi, spanning a year. It included 278 cataract surgery patients. Detailed patient histories were collected, and patients were counseled about the surgery and the importance of follow-ups. A single surgeon performed the surgeries according to established protocols. Post-operative medication and follow-up appointments were prescribed. Reasons for missed follow-ups were documented, and data were recorded in tables and figures. ***Result:*** During the operative period, there were 123 males and 155 females. The first follow-up had 80 males and 95 females, while the second follow-up had 16 males and 17 females. Key factors for non-compliance by the second follow-up were identified, including transport cost, absence of an attendant, improved vision with no complications, severe weakness, loss of discharge letter, uncooperative hospital staff, lack of improved vision, and a combination of factors. ***Conclusion:*** The study recommends public awareness programs and dedicated hospital counselors to improve understanding and compliance with post-operative follow-ups. This approach could significantly enhance the effectiveness of cataract surgery outcomes and restore post-operative vision effectively. However, it's important to note that this study was limited by its small sample size and single-hospital focus, so its findings may not be fully representative of the entire population.

Keywords*:* Cataract, Surgery, Compliance, Follow-Up.

INTRODUCTION

Bangladesh is a component of the South East Asia region of the World Health Organization, encompassing a quarter of the global population, yet estimated to represent a third of the world's 45 million individuals afflicted with blindness [1, 2] Cataracts are accountable for 50-80% of the cases of blindness in this particular region. A combination of low cataract surgical output in certain countries and the rapid growth of the population, particularly among the elderly, has resulted in an increasingly expanding cataract backlog. There is a mounting concern about the outcomes of cataract surgery in the developing world. Recent surveys conducted on the population have revealed that between 40 to 75% of postoperative eyes exhibit a presenting visual acuity of worse than 6/18, and a significant proportion, possibly up to 50%, fare worse than 6/60 [3- 7] While fewer surveys have gauged outcomes based on the best corrected visual acuity, several studies have documented rates of up to 20% of eyes with corrected visual acuity lower than 6/60 [8]. In Bangladesh, eye care services are provided by governmental entities, local and international non-governmental organizations (NGOs), as well as charitable organizations. The NGO sector plays crucial roles in terms of funding, collaboration, and logistics in conjunction with the service providers in Bangladesh. Trained and qualified ophthalmologists in the country operate within either the government or the private sector, with the majority being concentrated in urban

centers. Optimum visual outcome after cataract surgery depends on several factors. Of them, compliance to post-operative medication, strict adherence to post-operative rules and timely management of post-operative complications are the most important. Timely post-operative follow-up is the key factor to properly address the above-mentioned issues. But, a good number of Bangladeshi patients, especially from sub-urban and rural areas, are often not compliant to follow-ups after cataract surgery. Various factors like distance to hospital, travel cost, lack of reliability in hospital system, lack of communication and even ignorance act as the key factors in this unsatisfactory compliance to follow-ups. This in turn leads to unsatisfactory visual outcomes in cataract patients despite a successful surgery. The present study was conducted to find the common causes of non-compliance to post-operative follow-ups in patients who underwent cataract surgery in a district level hospital in Bangladesh.

METHODS

This prospective observational study was conducted at District Sadar Hospital, Jhalakathi, spanning from January 1st, 2017 to December 31st, 2017. The study included a cohort of 278 patients who underwent cataract surgery during this time frame. Upon enrollment for surgery, comprehensive patient histories were obtained, with special attention given to documenting their current addresses and contact numbers. Before the surgical procedure, patients received thorough counseling regarding the surgical process, potential outcomes, and the significance of post-operative follow-up. Informed consent was obtained from either the patients themselves or their caregivers, allowing them to be enrolled as study participants. Each cataract surgery was performed by a single proficient surgeon who adhered to established surgical protocols. Following the surgeries, patients were discharged with prescriptions for standard post-operative medications and were advised to attend follow-up appointments at one week and six weeks post-operation. For those who missed their scheduled follow-ups, attempts were made to contact them via phone to ascertain the reasons, and these reasons were documented based on their statements. All pertinent data were meticulously recorded on a pre-designed data collection sheet and subsequently presented through appropriate tables and figures.

RESULTS

Table 1: Distribution of male and female study participants at different follow-up periods (n=278)

Assessment Period	Male (n=123)	Female (n=155)	Total
Operative Period	123	155	278
1st Follow-up	80	95	175
2nd Follow-up	16	17	33

Table 1 presents the distribution of study participants based on gender across various follow-up periods, with a total sample size of 278 participants. During the operative period, there were 123 male and 155 female participants, summing up to the total study sample. Subsequent to the surgical intervention, the first follow-up saw 80 male and 95 female participants, making a total of 175 individuals. Similarly, during the second follow-up, there were 16 male and 17 female participants, resulting in a combined total of 33 participants. This table provides a comprehensive overview of the gender-wise distribution of participants throughout the study's different assessment periods.

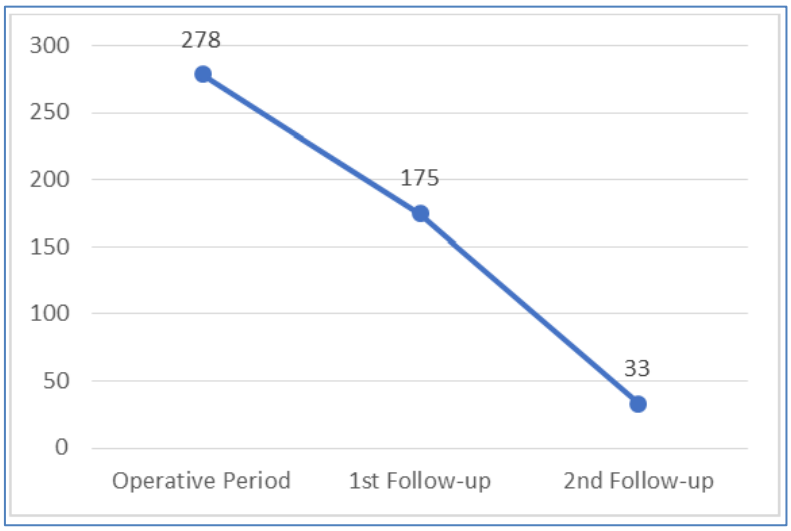

Figure 1: Distribution of male and female study participants at different follow-up periods (n=278)

Table 2: Distribution of important factors responsible for non-compliance by 2nd follow-up (n=245)

Factors	Number	Percentage
Transport cost	80	32.77%
Absence of attendant	52	21.15%
Improved vision with no complication	42	17.08%
Severe weakness	28	11.54%
Discharge letter lost	15	6.23%
Non-co-operative hospital staff	11	4.62%
Vision not improved	8	3.41%
Combination of multiple factors	8	3.20%

Table 2 illustrates the distribution of significant factors contributing to non-compliance with the second follow-up assessment, comprising a total of 245 participants (excluding the 33 attendees who had 2 follow-ups). The table presents both the absolute numbers and the corresponding percentages for each factor. Among the key factors identified, transport cost accounted for the highest proportion at 32.77%, followed by the absence of an attendant at 21.15%, and cases where participants experienced improved vision with no complications at 17.08%. Additional factors included severe weakness (11.54%), loss of discharge letter (6.23%), uncooperative hospital staff (4.62%), lack of improved vision (3.41%), and a combination of multiple factors (3.20%). These data offer valuable insights into the primary reasons for non-compliance with the second follow-up among the study participants.

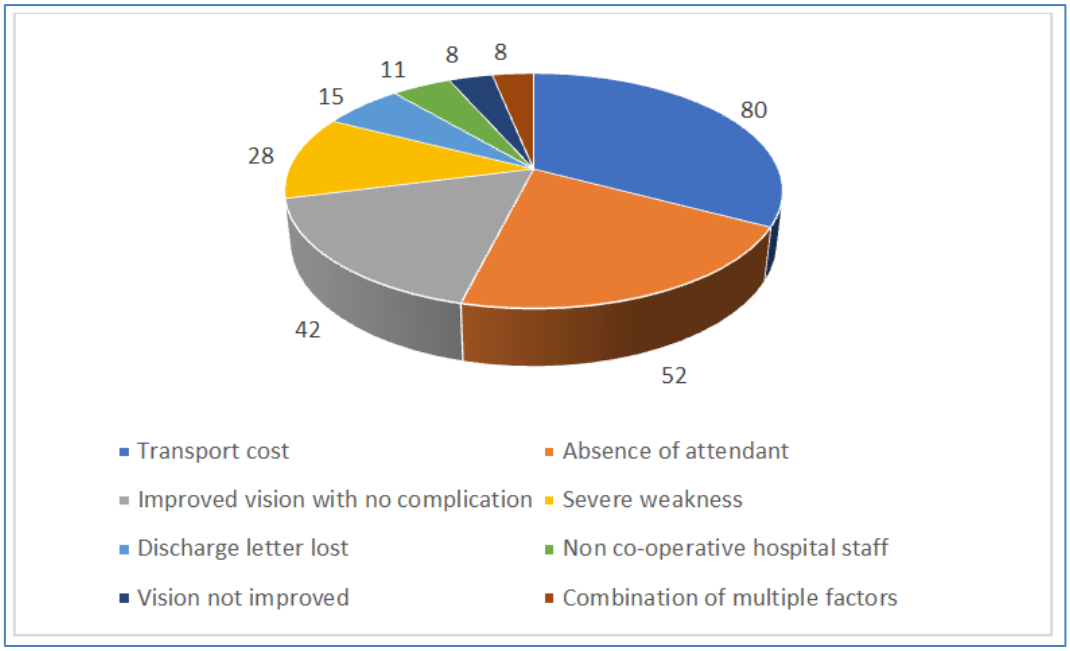

Figure 2: Distribution of important factors responsible for non-compliance by 2nd follow-up (n=245)

DISCUSSION

The understanding and implementation of postoperative guidelines significantly influence the recovery process following surgical procedures. Patient education about postoperative care has been noted as a pivotal factor not only in reducing postoperative morbidity but also in enhancing the quality of life during the recovery phase [9, 10]. The presentation of care instructions by healthcare professionals, either verbally or in written form, along with the socio-cultural background of the patients, can impact the comprehension of these instructions [11, 12]. In the present study conducted at a district sadar hospital in a remote region of Bangladesh, it was inferred that the majority of patients attending such facilities hailed from lower middle or low socio-economic strata. This socio-economic context, coupled with ignorance and lack of motivation for adhering to healthcare advice, highlighted the common challenges faced in post-operative compliance. The gender-balanced representation observed during the operative period in our study, involving both male and female participants, is consistent with previous findings [13- 15]. The subsequent follow-ups, however, revealed a substantial drop in attendance, with only a fraction of participants attending the second follow-up. This decline echoes the findings of other studies, emphasizing the need to understand and address barriers to follow-up compliance [16, 17]. Our data analysis highlighted

various factors contributing to this downward trend. Transport cost emerged as a prominent obstacle, aligning with studies indicating the financial burden associated with accessing healthcare services [18, 19]. Lack of attendants further hindered follow-up attendance, emphasizing the importance of social support systems. Notably, a subset of participants expressed satisfaction with their improved vision without complications, underscoring a perceived lack of necessity for further assessment. The complex nature of non-compliance factors in post-operative follow-up becomes apparent upon deeper analysis. Issues such as physical weakness, loss of discharge letters, interactions with uncooperative staff, and lack of improved vision all contribute to non-compliance. These findings resonate within the broader context of healthcare systems in developing regions, where challenges to accessing care are multi-dimensional [20, 21]. Addressing these barriers requires multifaceted strategies, including financial assistance, strengthening support networks, and comprehensive patient education. These insights underscore the significance of patient-centered approaches in optimizing post-operative care strategies and ultimately improving patient outcomes.

Limitations of the Study

The study was conducted in a single hospital with a small sample size. So, the results may not represent the whole community.

CONCLUSION

The study suggests that public awareness program should be taken by government health policy makers, and that every hospital should have a counselor for mass understanding of the population about the importance of post-operative follow-ups after any type of surgery. This will have significant impact on restoring the effective post-operative vision of cataract surgery patients.

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CONFLICT OF INTEREST: None declared

ETHICAL APPROVAL: The study was approved by the Institutional Ethics Committee

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