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Original Research Article

Mature Cataract A Catastrophe! What Is Needed? A Cross Sectional Study among Diagnosed Cataract Patients

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Abstract

Mature cataract is a leading cause of preventable blindness over the globe. Complications include secondary lens-induced glaucoma and ultimately loss of vision if left untreated. Lens leakage and enlarged lens size causes blockage of irido-corneal angle that disturbs the aqueous outflow and leads to increased intra ocular pressure. The objective is to access the barriers among patients for cataract extraction presenting in LRBT hospital, Lahore. A cross-sectional study was conducted in LRBT hospital, Lahore between March and June 2021. It includes sample of rural and urban population visiting the hospital of age above 50. Questionnaire consisting of problems assessing the knowledge about cataract, willingness for cataract extractions and barriers for cataract extraction were used. Out of 313 patients,154(49.0%) were males and 159 (50.26%) were females. 76(24.2%) patients had cataract diagnosed 1 year ago, 74(23.6%) patients were diagnosed more than 1 year, 67(21.3%) patients were diagnosed 2 years or before and 31(9.9%) were diagnosed 5 years or before. Out of 313 patients, 136(43.3%) patients were willing for cataract extraction and 177(56.4%) patients were not willing for cataract extraction. Out of 313 patients, 117(37.3%) were aware of complications of cataract if left untreated and 196(62.4%) were not aware. 29(9.2%) patients were guided by physician, 36(11.5%) patients were aware bysocial media, 36(11.5%) were guided by their relatives and 26(8.3%) patients were taught by community health workers. Out of 313 patients, 67(21.3%)were not willing for cataract extraction due to cost of surgery, 58(18.5%) patients were phobic to surgery, 132(42%) had no knowledge about complications of cataract and 56(17.8%) claim they don't need surgery as they can perform daily visual tasks easily. People visiting the hospital diagnosed with cataract age above 50 possessed poor knowledge about complications of cataract if it left untreated and their willingness for cataract extraction was poor due to barriers.

Keywords: Mature cataract, Lens-induced glaucoma, Phacolytic and phacomorphic glaucoma

INTRODUCTION

Disease in which clear lens gets cloudy and blocks light to reach the retina is cataract. Main cause of preventable blindness across the globe is cataract (Nizami, 202). In the whole world, every 5 seconds a person goes blind from which 75% are cataract cases. However 90% of people live in poor areas without proper treatment.

People don't visit eye care physicians for advice till it gets advanced or shows symptoms of lens-induced glaucoma (Abdullah and Abdullah, 2002). Over the globe, 10.8 million were blind and 35.1 million people had visual impairment due to cataract in 2010. Old age people and long life expectancy increases the burden of cataract (Shahdadi et al., 2018).

Approximately 20.5 million (17.2%) Americans more than 40 years of age have cataract in any of the eye. Number of people expected to rise to 30.1 million by the year 2020 (Congdon et al., 2004). Awareness lack, social and economic factors and low strategic screening plans by government in developing areas are barriers to cataract treatment (Abdullah and Abdullah, 2002).

Most cataract occurs due to aging of lens. New fibers of lens continue to lay but the old don't get replaced that cause cloudiness of lens.Different types of cataract includes nuclear cataract, posterior sub-capsular cataract and cortical cataract. Senile cataract is the common form that comprises of highest percentage of blindness (Shahdadi et al., 2018).

Cataract is basically a multifactorial disease which is due to malnutrition, UV exposure and age-related. Oxidative stress also seen as a cause of cataract formation. Steroids can cause lens opacification. Age-related cataract is common which can just be delayed by using topical drops (Shichi, 2004).

Intact cloudy mature cataract lens starts leaking lens matter that is a cause of secondary phacolytic glaucoma (Epstein, 1982). Trabecular meshwork obstructed due to protein particles and decreased outflow causes raised IOP. Patient presents with pain and redness in eyes with blurry vision (Kelly and Sarwat, 2016).

Phacomorphic glaucoma is a second (close angle) important victim of mature cataract that shows blockage of pupil due to increased lens size (Kelly and Sarwat, 2016). Blockage of pupil caused by push of iris due to increased lens size is pupillary block glaucoma. Shallow AC is the main factor to this. As with age, thickness of lens increases and suspensory ligaments loosen. This causes AC to lose its depth and pupil block (Papaconstantinou et al., 2009).

Extraction of cataract is safe with or without implanting PC intra-ocular lens in patients presented with secondary glaucoma. Trabeculectomy is considered fruitful to control intra-ocular pressure in patients operated for cataract extraction within 2-3 weeks of symptoms (Mandal and Gothwal, 1998).

Intra-capsular cataract extraction is considered a global treatment for cataract removal (Lane et al., 1988). Cataract extraction plays a vital role in lowering IOP in patients presented with secondary open and closed angle glaucoma (Ling and Bell, 2018). Cataract surgery is a known, cost-effective treatment for cataracts with successful rates in which opacified lens is removed and a new artificial lens is implaced (Jain et al., 2019). Phacoemulsification and small-incision surgery are effective treatment ways for cataract extraction and important in treatment for lens-induce glaucoma (Jaggernath et al., 2013). Three common surgeries for cataract extraction includes extra-cellular cataract extraction, intra-cellular cataract extraction and phacoemulsification (Malik, 2020).

A study shows the results of cataract extraction in high and low economy countries to compare post-surgical complications with surgeons from local area and abroad. Good visual outcomes were marked irrespective of surgeon's place of practice and education (Javaloy et al., 2021).

Cataract surgery coverage study was conducted in Pakistan in different provinces. Coverage was high in urban areas than in rural areas and significantly in men and educated people (Jadoon et al., 2007).

Cost of surgery, distance from hospital, cultural and social barriers, awareness of complications of cataract if left untreated are the common barriers reported (Lewallen and Courtright, 2000). Main cause of blindness in Nepal was cataract and almost 80% is preventable. Main barrier to cataract extraction reported by 38% patients was cost of surgery (Brilliant and Brilliant, 1985). Fear to surgery mostly in female patients of anxiety and hypochondriacs is a barrier, too (Obuchowska and Konopinska, 2021).

Reducing the barriers by patient friendly approaches can increase CSC (Bettadapura et al., 2013). Decreasing cost of surgery, surgical programs in rural areas, educating the women, educating public that blindness is not important part of aging, educational efforts through all media resources and assuring patients about quality of surgery could reduce barriers to cataract extraction (Abdullah and Abdullah, 2002).

MATERIALS AND METHODS

It was a cross-sectional study conducted at LRBT eye hospital Lahore in 4 months. The sample size of 313 participants was calculated with 95% confidence interval and 5% margin of error with expected population of 33.33%.

Non-probability purposive convenient sampling technique was used in this study.

Inclusion Criteria

Both male and female patients of age above 40 and were cataract diagnosed.

Exclusion Criteria

Uncooperative, mentally retarded, congenital cataracts and patients of age less than 40 were excluded.

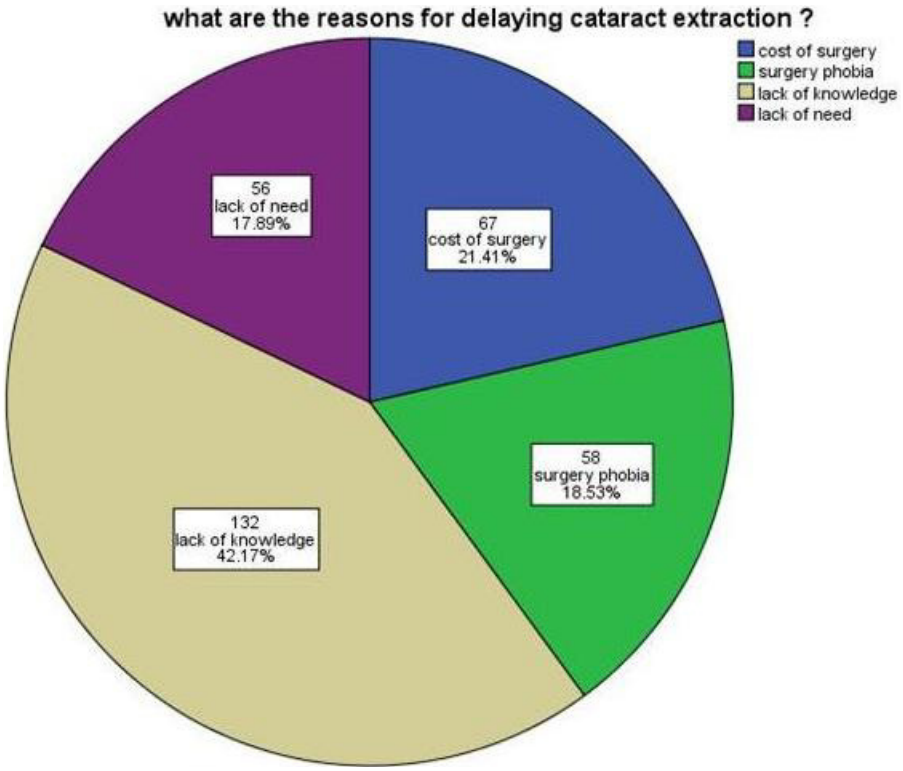

Figure 1. Reasons for delayed cataract extraction

Data Collection Procedure

Sampling data was collected from patients visiting to LRBT hospital, Lahore after approval by the Institutional Board of Review of Superior University, Lahore. Data was collected after informed consent. Data collection was made after self-made questionnaire consisting of basic questions related to their visual health, reduced vision due to cataract, asking about barriers to cataract extraction and their knowledge about complications of cataract if it left untreated.

Data Analysis Procedure

All of the data collected from the study participants was later be entered into statistical software i.e. Statistical Package for Social Sciences software (i.e. SPSS version 25). Appropriate descriptive statistics were calculated pertaining to the nature of the variables. Frequency tables were used to determine the knowledge and awareness of patients about disease and complications if left untreated. Pie charts were used to express gender and willingness of patients for cataract extraction.

RESULTS

This study was conducted at LRBT hospital, Lahore Punjab, Pakistan. Participants selected for this study were age-related cataract diagnosed. The aim of this study was to find out the frequency of barriers to patients for cataract extraction and to aware them about the complications of mature cataract if left untreated. A well-designed questionnaire comprising of patients knowledge about cataract and complications, if left untreated was used to collect data.

Out of 313 patients 154(49.0%) were males and 159 (50.6%) were females as shown in figure 1. Out of 313 patients 104(33.1%) were house wives, 46(14.6%) patients had their personal business, 79(25.2%) possesses rural jobs and 84(26.8%) works in different offices shown in figure 1. 87(27.7%) patients had visual acuity ranges between 6/12 to 6/36, 93(29.6%) patients had visual acuity ranges from 6/36 to 6/60, 82(26.1%) ranges from 3/60 to CF and 51(16.2%) had visual acuity ranges from HM to PL as shown in table 5.3. Out of 313 patients selected for study 249 patients knows that they have cataract and 64 patients had no idea that they have cataract even diagnosed as shown in table 5.4. 76(24.2%) patients had cataract diagnosed 1 years ago, 74(23.6%) patients were diagnosed more than 1 year, 67(21.3%) patients were diagnosed 2 years or more and 31(9.9%) were diagnosed 5 years before shown in table 5.5.

Out of 313 patients, 136(43.3%) patients were willing for cataract extraction and 177(56.4%) patients were not willing for cataract extraction shown in figure 1. Out of

313 patients 117(37.3%) were aware of complications of cataract if left untreated and 196(62.4%) were not aware shown in table 5.7. 29(9.2%) patients were guided by physician, 36(11.5%) patients were aware by social media, 36(11.5%) were guided by their relatives and 26(8.3%) patients were taught by community health workers as shown in table 5.8. Out of 313 patients 67(21.3%) were not willing for cataract extraction due to cost of surgery, 58(18.5%) patients were phobic to surgery, 132(42%) had no knowledge about complications of cataract and 56(17.8%) claims they don't surgery as they can perform daily visual tasks easily as shown in figure 1.

Interpretation: Out of 313 patients 67(21.3%) were not willing for cataract extraction due to cost of surgery, 58(18.5%) patients were phobic to surgery, 132(42%) had no knowledge about complications of cataract and 56(17.8%) claims they don't surgery as they can perform daily visual tasks easily.

DISCUSSION

Presentation of patients with cataract is usually seen in eye OPDs. It is really challenging to aware the patients about the complications of cataract if it left untreated. However, findings of this study indicates most of the patients are unaware of complications of cataract if left untreated so they were not willing for cataract extraction.

313 patients visiting LRBT hospital, Lahore diagnosed with cataract were selected to access the barriers for cataract extraction.Out of 313 patients 154(49.0%) were males and 159 (50.6%) were females. Out of 313 participants, 117 patients were willing for cataract extraction and 196 patients were not willing for cataract extraction. Out of 313 patients selected for study, 117(37.3%) were aware of complications of cataract if left untreated and 196(62.4%) were not aware. Out of 313 participants 67(21.3%) patients were not willing for cataract surgery due to cost of surgery, 58(18.5%) were phobic to ocular surgery, 132(42%) had no knowledge about treatment of cataract and its complications if left untreated and 56(17.8%) claims that their vision is good enough to perform routine tasks without surgery.

A study on socio-economic barriers of cataract surgery in Nepal was held by T Snellingena andB R Shrestha. This study was conducted to investigate socio-economic barriers in unaware people. 319 cataract patients were selected for study from which interview of 96 unaware patients was conducted after a year which includes question regarding vision, quality of life, awareness about surgery, social and economic status. 319 cataract patients distinguished just 45.5% acknowledged surgical procedure, with men tolerating more promptly than women. Of 96 non-acceptors met just a further 13% acknowledged a medical procedure following a subsequent guiding. The most regular reasons given for not tolerating a medical procedure were financial (48%) and strategic (44.8%) imperatives followed by dread of a medical procedure (33.3%) and absence of time (18.8%) (Snellingen et al., 1998).

A descriptive study was conducted by Dhaliwal and Gupta to understand barriers to uptake cataract surgery.Questionnaire was circulated in patients written in local language. There were 100 patients (53 men and 47 ladies). Cost of surgery was the main barrier comprises 76%, not knowing anyone else undergone surgery were 26%, no one to attend patient were 20%, distance from hospital was a barrier to 20% of patients and absence of transport was 9% (Dhaliwal and Gupta, 2007).

A study on awareness of cataract and treatment options available for patients who needs surgery was conducted in China by J.B. Zhou, H.J. Guan. 251 patients were selected to screen out desired eye disease. A questionnaire was developed in China which was applicable in Aravind eye hospital, India. A sum of 89.6% of patients had known about their condition for over 1 year. Just 49.8% of all patients had known for over 1 year that their eye illness could be dealt with. The significant hindrances for those looking for eye treatment included remaining practical vision (49.0%), monetary issues (36.7%), no interest for the activity (8.8%), and doubt about the activity (8.8%) (Zhou et al., 2008).

A study was conducted in Ghana byME Gyasi, WMK Amoaku and DK Asamanyto understand the main barriers to patients for cataract surgery. Table discussions and interviews were conducted to expose the opinions of 66 cataract patients between July and August2003. Mean age was 67.6 years. 12% and 15% had barrier of fear and absence of caretaker. 8% had their socio-cultural beliefs as barriers and 9% were habituated with their vision.Cost of surgery 90% was the dominant barrier to patients of Ghana for cataract extraction (Gyasi et al., 2007).

Shaheer Aboobaker and Paul Courtright conducted a literature based systemic study to study barriers of cataract surgery in Africa. PubMed and Google Scholar were the engines used for this research. A total of 86 articles were studied. Variables related to awareness were more common than acceptance. 5 main qualitative barriers were obtained which included financial reasons, lack of interaction with family, need for surgery, gender inequality, knowledge about surgery. Cost was the common barrier in most of articles studied. Trust to outcomes of surgery was the least highlighted barrier that significantly creates fear in patients (Aboobaker and Courtright, 2016).

CONCLUSION

In this study I concluded that 132(42%) of 313 people visiting the hospital diagnosed with cataract possessed

poor knowledge about complications of cataract if it left untreated. Out of 313 patients 67(21.3%) were not willing for cataract extraction due to cost of surgery. Reducing the barriers could increase the cataract surgical coverage

REFERENCES

Abdullah KN, Abdullah MT (2002). Management and planning for primary eye care of the elderly: the need to create public awareness of age-related cataract in Pakistan. Community eye health. 15(43):45.

Aboobaker S, Courtright P (2016). Barriers to Cataract Surgery in Africa: A Systematic Review. Middle East Afr J Ophthalmol.;23(1):145-9.

Bettadapura GS, Datti NP, Donthi K, Ranganath B, Ramaswamy SB, Sangeetha T (2013). Barriers to the uptake of cataract surgery in a rural population of south Karnataka, India. Int J Cur Res Rev.;5(12):77-82.

Brilliant GE, Brilliant LB (1985). Using social epidemiology to understand who stays blind and who gets operated for cataract in a rural setting.

Congdon N, Vingerling JR, Klein BEK, West S, Friedman DS, Kempen J, et al. (2004). Prevalence of cataract and pseudophakia/aphakia among adults in the United States. Arch Ophthalmol.;122(4):487-94.

Dhaliwal U, Gupta SK (2007). Barriers to the uptake of cataract surgery in patients presenting to a hospital. Ind. J. Ophthalmol. 55(2):133-6.

Epstein DL (1982). Diagnosis and management of lens-induced glaucoma. Ophthalmology.;89(3):227-30.

Gyasi M, Amoaku W, Asamany D (2007). Barriers to cataract surgical uptake in the upper east region of Ghana. Ghana medical journal.;41(4).

Jadoon Z, Shah SP, Bourne R, Dineen B, Khan MA, Gilbert CE, et al. (2007). Cataract prevalence, cataract surgical coverage and barriers to uptake of cataract surgical services in Pakistan: the Pakistan National Blindness and Visual Impairment Survey. Br J Ophthalmol. 91(10):1269-73.

Jaggernath J, Gogate P, Moodley V, Naidoo KS (2013). Comparison of Cataract Surgery Techniques: Safety, Efficacy, and Cost-Effectiveness. Eur. J. Ophthalmol. 24(4):520-6.

Jain S, Rajshekar K, Aggarwal A, Chauhan A, Gauba VK (2019). Effects of cataract surgery and intra-ocular lens implantation on visual function and quality of life in age-related cataract patients: a systematic review protocol. Syst Rev. 8(1):204-.

Javaloy J, Signes-Soler I, Moya T, Litila S (2021). Cataract surgery in surgical camps: outcomes in a rural area of Cameroon. International Ophthalmology. 41(1):283-92.

Kelly LM, Sarwat S, MD, FACS, (2016). Lens-Induced Glaucoma: Diagnosis and Management. October

Lane SS, Kopietz LA, Lindquist TD, Leavenworth N (1988). Treatment of Phacolytic Glaucoma with Extracapsular Cataract Extraction. Ophthalmology. 95(6):749-53.

Lewallen S, Courtright P (2000). Recognising and reducing barriers to cataract surgery. Community Eye Health.;13(34):20-1.

Ling JD, Bell NP (2018). Role of Cataract Surgery in the Management of Glaucoma. Int Ophthalmol Clin. 58(3):87-100.

Malik U (2020). Types of Cataract Surgery – Knowing Your Options Better May28, [Available from: https://irisvision.com/types-of-cataract-surgery/.

Mandal AK, Gothwal VK (1998). Intraocular pressure control and visual outcome in patients with phacolytic glaucoma managed by extracapsular cataract extraction with or without posterior chamber intraocular lens implantation. Ophthalmic Surg Lasers.;29(11):880-9.

Nizami A (202). cataract 2020 [updated 11/18/2020. Available from: https://www.statpearls.com/ArticleLibrary/viewarticle/19005.

Obuchowska I, Konopinska J (2021). Fear and Anxiety Associated with Cataract Surgery Under Local Anesthesia in Adults: A Systematic Review. Psychol Res Behav Manag. 14:781-93.

Papaconstantinou D, Georgalas I, Kourtis N, Krassas A, Diagourtas A, Koutsandrea C, et al. (2009). Lens-induced glaucoma in the elderly. Clin Interv Aging. 4:331-6.

Shahdadi H, Aminifard MN, Balouchi A, Rafiemanesh H, Allahyari J (2018). Frequency of Cataract in Iran: A Meta-Analysis and Systematic Review. Middle East Afr J Ophthalmol.;25(1):40-6.

Shichi H (2004). Cataract formation and prevention. Expert Opinion on Investigational Drugs. 13(6):691-701.

Snellingen T, Shrestha BR, Gharti MP, Shrestha JK, Upadhyay MP, Pokhrel RP (1998). Socioeconomic barriers to cataract surgery in Nepal: the south Asian cataract management study. Brit. J. Ophthalmol.;82(12):1424-8.

Zhou JB, Guan HJ, Qu J, Yang XJ, Peng D, Gu HY (2008). A Study on the Awareness of Cataract Disease and Treatment Options in Patients who Need Surgery in a Rural Area of Eastern China. Eur. J. Ophthalmol.;18(4):544-50.