Original Article

Visual Acuity Threshold for Cataracts Surgery at a Tertiary Eye Center in Iraq

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ABSTRACT

Purpose: To find out threshold of visual acuity for cataract surgery at a tertiary eye center of Iraq.

Study Design: Descriptive observational.

Place & Duration of Study: Ibn Al-Haitham Teaching Eye Hospital during the year 2022.

Methods: It was a retrospective descriptive study in which 6650 patients who complained of visual impairment due to cataract, 30 to 80 years of age and either gender were included. Any intraocular pathology that leads to visual impairment other than cataract and congenital cataract were excluded. The best corrected visual acuity (BCVA) and the state of the fellow eye was also determined. Visual impairment was defined as mild; 6/9 – 6/18, moderate; 6/24 – 6/36 and severe visual impairment; 6/60 or less.

Results: Data collected from 6650 cases showed 2625 (39.5%) males and 4025 (60.5%) females. Mild visual impairment was found in 875 (13.15%) patients, moderate was found in 175 (2.63%) patients, and severe visual impairment was the most common type in 5250 (78.95%) patients.

Conclusion: Most of the patients with cataract present late with severe impairment of visual acuity which requires national screening program with extra focus on risk groups. Nonetheless, these results are of potential use to planners of cataract screening outreach programs. It could be regarded as a preliminary study for further larger study on a national level to establish a scheme for patients' diagnosis and referral to cataract surgery to get early diagnosis and shorten the waiting lists.

Key Words: Cataract, Iraq, Visual impairment, Visual Acuity.

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INTRODUCTION

Senile cataract is clouding of the lens of the eye that affects people as they become older. This has the potential to have a significant impact on the quality of life of a great number of people.[1-3] The number of cataract procedures that are conducted each year is expressed as the cataract surgery rate (CSR), which is the number of cataract operations that are performed for every million persons in a given year. A CSR of 3000 has been determined to be the bare minimum required by the World Health Organization in order to completely eradicate cataract-related blindness.[4, 5] Yet, several wealthy nations, like Australia, Sweden, and United States have rates that are far higher than this one.[6,7]

The lower threshold for vision impairment that constitutes a reason for surgery helps to explain, in large part, why affluent nations have a greater CSR than the developing ones. As a consequence of advancements that have been made in contemporary

cataract surgery, the degree of visual acuity required to drive a car has decreased from the level required to be considered legally blind (6/60) some 30 or 40 years ago to the level required to be considered "on change" (6/6)[8].

This study was conducted to detect the visual acuity threshold for patients undergoing cataract surgery at a tertiary care center of Iraq.

METHODS

This was a retrospective study that was carried out at Ibn Al-Haitham Teaching Eye Hospital, Iraq during the year 2022. The study was approved by the scientific and ethical committee in College of Medicine, Al-Mustansiriyah University (IRB / 288). There were 6650 patients, who complained of visual impairment due to cataract. The patients were of both sexes, between the age of 30 – 80 years and attended ophthalmology department. Patients with any intraocular pathology that leads to visual impairment other than cataract e.g. retinal pathology and congenital cataract were excluded. Data collection was done by reviewing the patients' medical records who underwent cataract surgery and included name, age, sex, best corrected visual acuity (pre-operative BCVA) and the state of fellow eye. Following definitions were used for visual impairment:

Mild visual impairment: visual acuity of 6/9 – 6/18.

Moderate visual impairment: visual acuity of 6/24 – 6/36.

Severe visual impairment: visual acuity of 6/60 or less.[9]

RESULTS

Data of 6650 cases were analyzed and there were 4025 (60.5%) males and 2625 (39.5%)females. Looking at patients' age distribution, all patients of 20 – 40 years old were males. While those at 40 – 60 years old were 50% males and 50% females. Cataract in females of over 60 years constituted 27.5% of cases, which were more than their male counterparts 20% (as shown in figure 1.B). Distribution of visual impairment is shown in figure 2. Level of BCVA in terms of percentage of patients is shown in figure 3.

DISCUSSION

Cataract is one of the leading causes of preventable blindness.[10,11] It is a major public health problem since it restricts a person's ability to participate fully in the everyday activities and places a significant economic burden on society.[12]Moreover, it is mounting an overwhelming burden on health facilities and resources. In order for health authorities to make

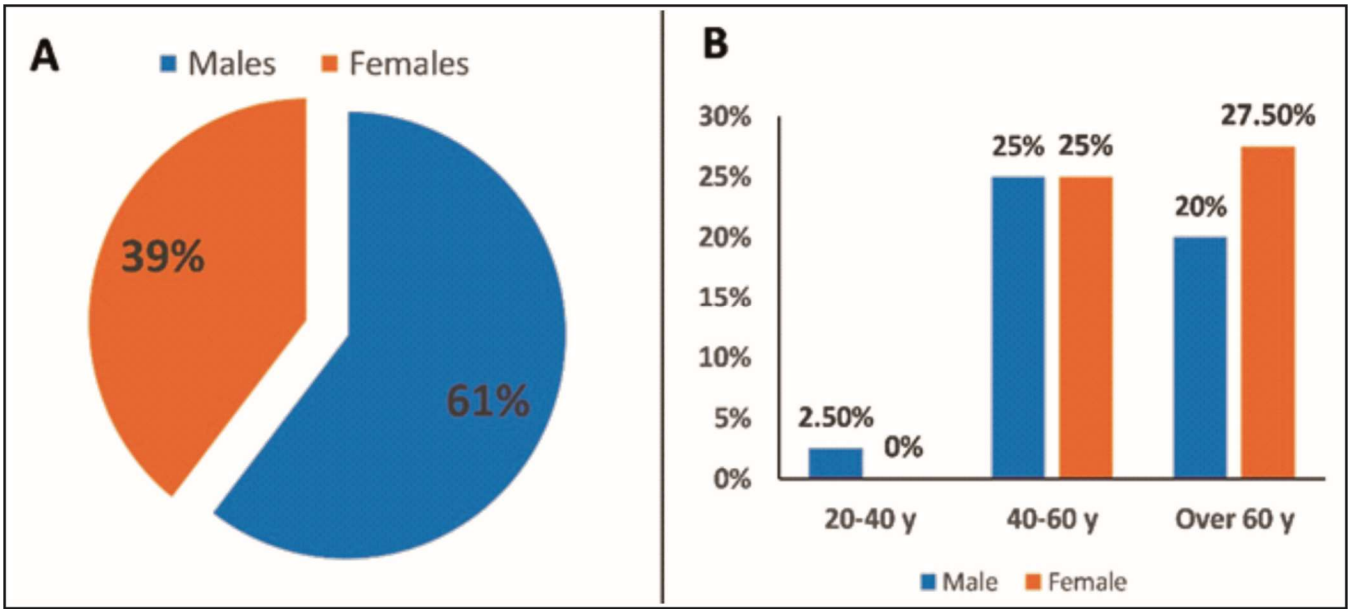

Figure 1: Percentage of distribution of patients according to gender and age. A: in general, B: according to age groups.

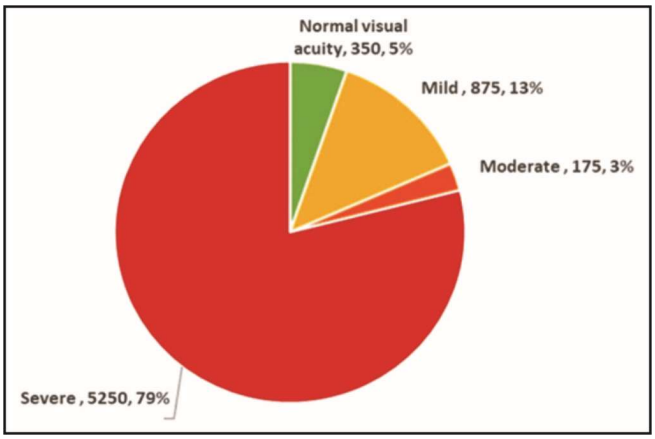

Figure 2: Distribution of patients according to severity of visual impairment.

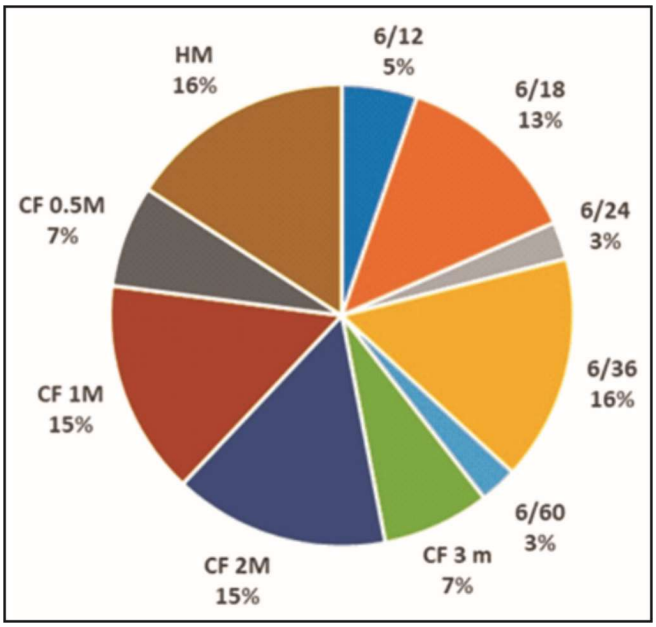

Figure 3: Distribution of patients according to the level of pre-operative best corrected visual.

prudent judgments on preventive and management initiatives, they must be aware of the prevalence of cataract and its impact on society. Results of current study reveals that we are lagging behind in terms of early detection of cataract as most cases are diagnosed late with severe visual impairment. This necessitates a screening program to ensure early detection.

Subjects with cataract that are identified by screening outreach tend to have lower incomes, lower levels of education and are more likely to be female.[13] There is a correlation between a lesser degree of understanding and an unwillingness to undergo cataract surgery.[14] Through screening outreach, patients who are not actively seeking treatment at medical institutions may be brought into contact with the health care system, which may help eliminate visual impairment caused by cataract.[13]

Primary health care personnel are in a position to play a role in raising awareness among general community. They should be able to carry out this duty. However, the most important goal of primary health-care programs in low-income areas is to increase the survival of children. Nutrition, vaccination, prenatal care and early treatment of acute illnesses are the primary focuses of these programs. This indicates that primary care providers seldom interact with older patients who are experiencing gradual eyesight loss not accompanied by any discomfort.[15,16] The training of community workers to do the specialized role of detecting cataract patients and assisting their referral to hospital is an alternate method that has been proposed. Those who have undergone cataract surgery on themselves or persons who work in the medical field might be among them.[17] Going from house to house or setting up eye screening camps are also viable options for accomplishing this goal. According to one research, employing cataract patients who had had surgery in the past was the most cost-effective method of identifying individuals who needed cataract surgery and persuading them to get it.[18]

It is necessary to have a close cooperation between community and eye care professionals, regardless of the technique that is used.[19] In certain countries, promotion of cataract surgery via use of mass media, notably radio, has proved successful.[20]

There are certain limitations of this study. We did not base our findings on a population. It is likely that our strategy of convenient sampling, which was required at the screening location because of time restrictions, had resulted in the chosen individuals not being representative in other significant ways. In addition, there was no data available to suggest whether the members of the clinic group were comparable to the overall population of the clinic. The findings may thus only be generalized with extreme care to the population of Iraq as a whole. Thus, we need a research that is conducted at several centers in order to increase the breadth and depth of our understanding of the impact that cataract have on our society.

CONCLUSION

Most cataract patients are diagnosed late presenting with severe impairment of visual acuity, which requires national screening program with extra focus on risk groups. Nonetheless, we feel that these results are of potential use to planners of cataract screening outreach programs. It could be regarded as a preliminary research for further larger study on a national level to establish a scheme for patients' diagnosis and referral to cataract surgery to get early diagnosis and shorten the waiting lists.

Conflict of Interest: Authors declared no conflict of interest.

Ethical Approval: The study was approved by the Institutional review board/Ethical review board **(IRB / 288).**

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Authors' Designation and Contribution

Zainab Nadom Hamoodi Al-Khafaji; Specialist Ophthalmologist: *Concepts, Design, Literature Search, Statistical Analysis, Manuscript Preparation, Manuscript Editing, Manuscript Review.*

Mohammed Suhail Najam Al Salam; Specialist Ophthalmologist: *Concepts, Design, Data Acquisition, Data Analysis, Manuscript Review.*