

Original Article

EFFECT OF SEASONAL VARIATION ON NUMBER OF CATARACT SURGERIES PERFORMED IN A TRUST HOSPITAL OF LAHORE

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ABSTRACT

Background: There are different factors which control patient access to surgery for cataract. These include locality, gender, literacy rate, monthly income, season, availability of ophthalmologists and operative facilities.

Material and Methods: The place of study is the Ophthalmology department of Akhter Saeed trust hospital, EME Society, Lahore. A Cross-sectional survey was conducted and sample was taken through non-probability conventional sampling method. The results were analyzed by SPSS 20. The frequencies were presented in form of a bar chart and graph. The data of cataract surgeries performed over the last five years from January 2016 to December 2020 was collected. A retrospective data regarding the number of cataract surgeries performed over the last five years was collected. There were 675 patients included in the study who presented in the outpatient department (OPD) and admitted to the eye ward for cataract surgery. After taking written consent these patients were screened for hepatitis B and C and scheduled for cataract surgery. The monthly data of several cataract surgeries performed in the hospital was noted, and patients were followed as per routine.

Results: The data of 675 patients were collected, operated for cataracts over the last five years, from January 2016 to December 2020 in a trust hospital where most patients were operated free. According to data the top three months with a maximum number of surgeries were November, March, and October. The number of patients operated in these three months was 87(12.88%), 86 (12.74%), and 80 (11.85%) respectively. The months which showed the lowest number of patients were August, July, and June 34 (5.04%), 32 (4.74%), and 24 (3.55%) respectively.

Conclusion: Most patients presenting with cataract for surgery chose some specific months (March and November) over others for their cataract operations, depending upon personal believes, preferences, and economical resources.

Key Words: Cataract, Seasonal, Surgery

INTRODUCTION

The opacification of the crystalline lens is called a cataract and mostly it is an age-related process.¹ It is a major cause of reversible blindness and a simple operation can restore eyesight.^{2,3}

According to statistics of the Global Burden of Diseases 2017 report, 1.34 billion people are suffering from blindness and vision impairment.⁴ The poor vision of a patient adversely affects the quality of life and it is a major health problem. In addition to the government and private sector, a major contribution in cataract surgical management is done by camps organized by charitable organizations. The trust hospitals also facilitate non-affording cataract patients by providing surgical treatment free or at minimal charges.⁵

There are different factors which control patient access to surgery for cataract. These

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include locality, gender, literacy rate, monthly income, availability of ophthalmologists, and operative facilities.⁶ Out of these different factors, major factor hindering cataract surgery is the financial resource so that even if the patient has access to the doctor, he/she is unable to afford surgical expenses. The charity hospitals are providing great services to these poor patients in developing countries like Pakistan.

Pakistan is the 6th most populous country in the world. According to World Bank income classification, it's included in the category of "low-middle" income country so a lot of people are dependent on trust hospitals to get either free treatment or at subsidized rates.^{7,8}

MATERIAL AND METHODS

Retrospective data regarding several cataract surgeries performed over the last five years from January 2016 to December 2020 was collected. There were 675 patients included in the study, who presented in the outpatient department (OPD) and admitted for cataract surgery. Out of these 56% (378) were males and 44% (297) were females. After taking written consent these patients were screened for hepatitis B and C and scheduled for cataract surgery. Monthly data was recorded

for several cataract surgeries and patients were followed as per routine. In this trust hospital most of the patients belong to low socioeconomic status and cataract surgery was either free or on minimal charges (3000 PKR).

RESULTS

The data of 675 patients was collected, who were operated for cataracts over the last five years, from January 2016 to December 2020 in a trust hospital where most patients were operated free. According to data, the top three months with a maximum number of surgeries were November, March, and October. The number of patients operated in these three months was 87(12.88%), 86 (12.74%), and 80 (11.85%) respectively. On average, it makes 18, 17 and 16 patients per month respectively. Three months that showed the lowest number of patients are August, July and June showing 34 (5.04%), 32 (4.74%) and 24 (3.55%) patients. On average these months showed 7, 6 and 5 patients per month who had their cataract surgery done. The bar charts in Figure 1 show the total number of patients operated over one year from 2016 to 2020. The line graph in Figure 2 shows the average numbers of patients for the last five years.

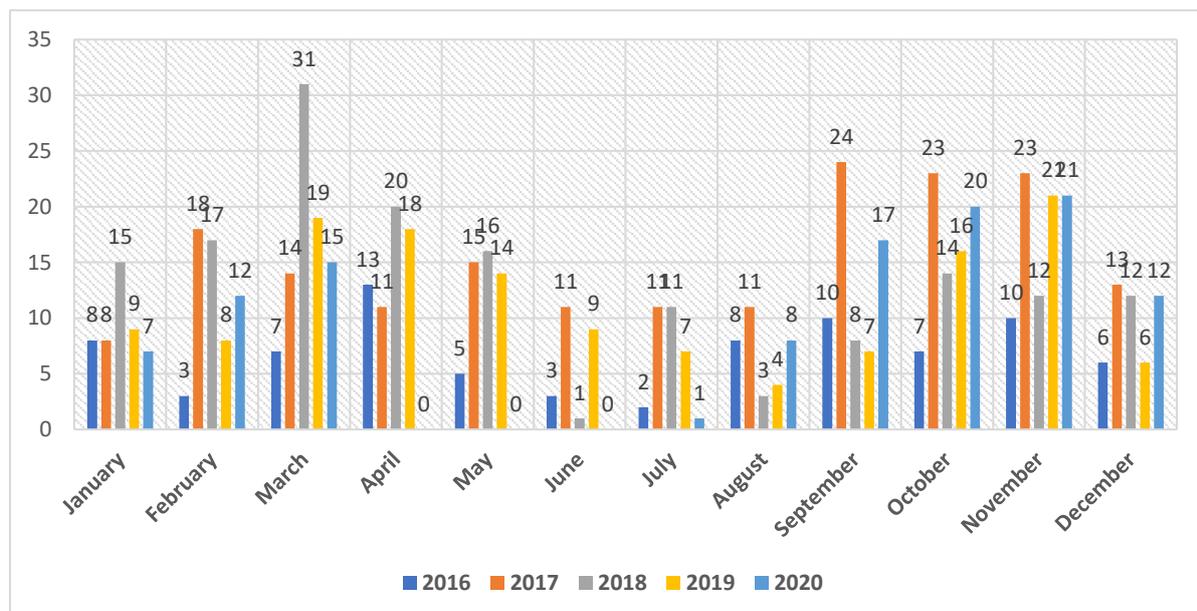


Figure-1: Total number of patients over the 12 months

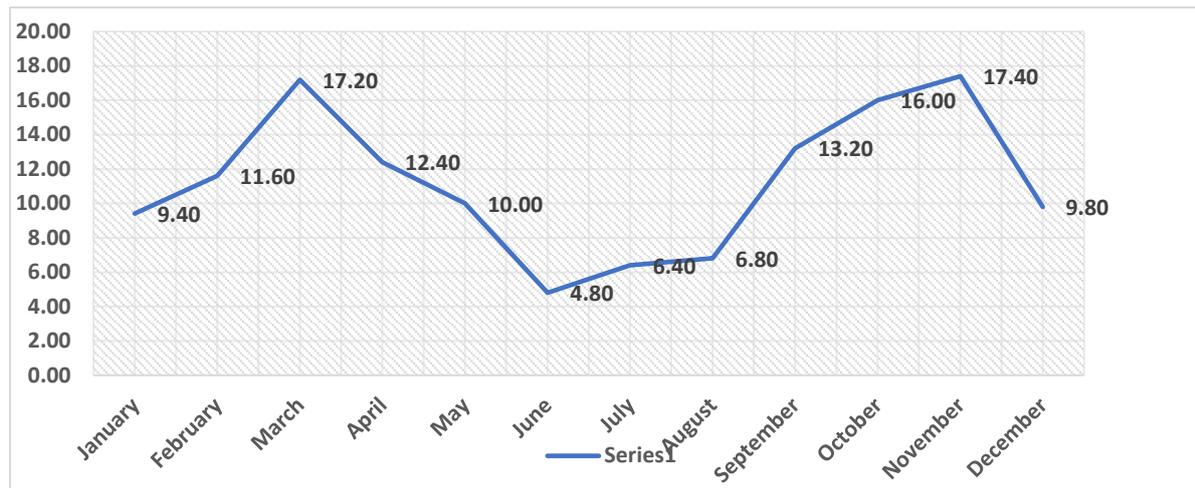


Figure-2: Average number of patients in 5 years

DISCUSSION

More than 90% of cases of preventable blindness burden is contributed by cataract in developing countries.^{9,10} It is observed that most patients preferred certain months of the year for elective ocular surgery. There are four different seasons in our country, summer, winter, autumn, and spring.^{11,12} The climate changes have strong economic, social, and environmental impacts as the majority of people in Pakistan are related to agriculture, directly and indirectly. More than 70% population in rural areas is dependent on agriculture for their livelihood.^{13,14} The province of Punjab is vastly populated and the biggest food provider as it contains agricultural land. There are two crops seasons in a year, one is Rabi (winter crops, grown November to April, including crops like wheat, barley, peas, mustard, and gram) and Kharif (summer crops, harvested from May to October, include crops like rice, maize, cotton, soya bean and sugarcane).¹⁵⁻¹⁸

The increased number of elective ocular surgeries like cataract operation may be associated with the harvesting season which is months of March/April for Rabi crops and October/November for Kharif. An economic boom is observed in the agriculture sector at end of the harvesting season and people acquire a better economic condition to plan for elective surgeries like cataracts. This may be a contributing factor to an increased

number of surgeries observed in March, November, and October.

Extreme high or low weather conditions like June or December showed a lower number of cataract surgeries when the graph of cataract surgeries touches to minimal. The range of higher temperatures in the summer season is 34 C° to 48 C°. Similarly, the temperature range in winters is 3 C° to 15C°.¹⁹ People chose either March, April where the temperature was moderate or October, November when the weather is pleasant.

A decline in the number of surgical procedures is also observed in the Holy month of Ramadhan (month of fasting for Muslims) and on two major religious occasions, Eid ul Fitr and Eid ul Adha. The patients in our region avoided elective surgeries like cataract during monsoon months which starts in July and ends in August in Pakistan with a temperature range of 23°C to 36°C believing that wound healing gets impaired in the rainy season. This presumption was also supported by studies from Southeast Asian countries which showed more cases of postoperative endophthalmitis in the humid and rainy season.²⁰

Moreover, most of the patients presenting in eye OPD believed that winters was safer for cataract surgery than summer season as more sweating could be harmful to lid hygiene.⁶ The limitations of the study were a small number of patient's data only from one

hospital. There is no financial interest of authors.

CONCLUSION

Most patients presenting with cataracts for surgery chose some specific months for their operations, over the year, depending upon their believes, preferences, and economical resources.

AUTHOR'S CONTRIBUTION

SR: Writing, Literature review, data organization

MTK: Concept of study

MS: Data collection, Proof reading

AMM: Editing

MA: Editing

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