

## BARRIERS OF EYE CARE SERVICES FOR CATARACT PATIENTS IN AZAD JAMMU AND KASHMIR

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### ABSTRACT

**Purpose:** To find the barriers in eye care service for cataract patients in Azad Jammu and Kashmir.

**Design:** Cross-sectional study.

**Method:** 60 Cataract patients (30 males and 30 females) of Azad Kashmir. Log MAR Visual acuity chart was used to assess visual acuity. The confidence interval of 0.95 with  $\alpha$  of 0.05 was taken. Refraction was done and appropriate glasses

**Result:** The majority of people with school-level education have experienced cataracts. It may be due to a lack of awareness. 30/74 people with 1 year cataract have experienced decreased vision for 1 year. And 6/12 for 3 years ( $p=0.403$ ). 40/74 & 12/74 people housewives and labourers, respectively, experienced cataracts for 1 year. And 6/12 for 3 years of people related to laboring ( $p=0.012$ ). The majority of people living in rural areas were affected more, 58/74 for 1 year, 26/34 for 2 years, 10/ 12 for 3 years ( $p=0.947$ ). Most people with surgery phobia are affected more as compared to those who don't have issues with the surgery, 38/74 for 1 year, 22/34 for 2 years, and 8/12 for 3 years affected by cataracts ( $p=0.339$ ).

**Conclusion:** The majority of people with school-level education, living in rural areas, never examine their eyes due to surgery phobia, and doing housework or laboring have experience.

**KEYWORDS:** Visual acuity, Log MAR chart, Refraction, Awareness, Surgery phobia, Rural population, Educational level, Socioeconomic factors

## INTRODUCTION

In the late 20<sup>th</sup> century cataracts were an important problem globally but was not recognized widely as such as today. Now it is a significant problem and its significance is understood in a better way. Worldwide, cataracts are one of the major causes of blindness for 51% of total blindness <sup>1</sup> and there is regional variation also exists in it. Globally Americans have the least prevalence of blindness and south East Asian countries have the largest.<sup>2, 3</sup> Instead of the occurrence of the cataracts, there is also some other issues like hospital facilities and other to prevent the growing prevalence of the cataracts.<sup>4-6</sup> In contrary of the hospital-based studies, the population-based studies shown variety in term of post-operative visual outcomes, in both cases of intra-country and inter-country.<sup>7-10</sup> There is also much difference in habitat like urban and rural societies. This difference is mainly due to quality of surgery, surgical facilities, efficiency of surgeons and the use of spectacle in post-operative. These differences are due to reality that population-based studies include all type of cases of every age group but hospital-based studies provide only specific and limited cases. <sup>11</sup>The main challenge is to eradicate its causes so that it is no longer a big problem at the start of the next century. The chance of cataract increases with increasing age.

In a study conducted in Australia, it is come to know that the chances of cataract increase double with every 10<sup>th</sup> year of age after forty years, so everyone in their 90<sup>s</sup> is affected. The same results gathered from different studies conducted in other developed countries.<sup>12-15</sup> In a study conducted in India it is found that in twelve million people blindness is caused by cataract. In 1989-1996 there was increment in rate of cataract surgeries from 1.2 million to 2.7 million. The difference is very significant; however, the figure does not indicate the extent to which the problem of cataract blindness has been reduced. The main determinant of visual impairment is cataract worldwide, with approximately thirty seven million people affected according for forty eight percent of global blindness.

In South Indian States, avoidable blindness especially which is caused by cataract and refractive error such as myopia, astigmatism are main dilemma between older adults, females, the uneducated and the people in rural areas. Refractive errors with 33.8% and Cataract with 21.4% recorded for more than 1/2 of the OPD attendance at a military hospital in Ladakh, Kashmir. In 1999 the avoidable blindness was eliminated with the global strategy i.e. "The Right to Sight", that was commenced by World Health Organization in affiliation with a number of international nongovernmental organizations (NGOs) with the motto of vision 20/20.<sup>16-19</sup> As mentioned earlier, in diabetic patients, visual impairment is mainly caused by cataract. Patients with diabetes mellitus also have increased prevalence and development of

cataract. Clinical epidemiology and basic research studies reveal association among these two major problems (diabetes and cataract). Because of the raised number of type 1 and type 2 diabetes the incidence of diabetic cataracts gradually increases worldwide.<sup>20, 21</sup> In developing countries, the diabetes and cataract have large health and financial concern because diabetes therapy is inadequate and cataract surgery is frequently unavailable.<sup>22</sup> In many parts of the globe, mainly the most cases of blindness are avoidable or manageable by surgery and or refractive error corrections (refraction), however, the availability of these resources cannot cope with demand for eye care. The main reason of this is because in many countries, eye care services are not readily available due to inadequacy of trained personnel or due to the fact that eye care practitioners are usually do not concentrated in the rural areas.<sup>23, 24</sup> There are three primary factors namely: availability, affordability and accessibility. These three A of eye care services could influence the prevention of visual impairment worldwide. Also, there are many secondary factors which can play a role as barrier to utilizing the present and easily accessible as well as affordable eye care services. These factors are: Demographic, Personal and Socio-economic. In a research it is found that, according to Andersen, health care services use is determined by social, health service system and individual factors. Individual factors include the need, enabling factors, and predisposing factors. The possibility of an individual's utilizing health care services is affected by the collaboration of these various factors. The usage of eye care services also concerns these factors.<sup>23, 25</sup> In this study we will focus on socioeconomic barriers of cataract patients for eye care services in Kashmir, Pakistan

## MATERIALS AND METHODS

A Cross sectional study of 60 Patients of cataracts was conducted in Azad Jammu and Kashmir. Non probability purpose sampling technique was used to collect the data. Self-made Performa was used for data collection. Instruments LogMar Chart, Pen torch was used. For data analysis SPSS softwear and paired sample T test was used.

## RESULTS

### Literacy \* Duration Cataract Cross tabulation

				Duration Cataract			Total
				1 year	2 year	3 year	
College	Count			16	12	2	30
	%	within		53.3%	40.0%	6.7%	100.0%
	Literacy						
no	Count			16	10	2	28
	%	within		57.1%	35.7%	7.1%	100.0%
	Literacy						
school	Count			30	10	6	46
	%	within		65.2%	21.7%	13.0%	100.0%
	Literacy						
university	Count			12	2	2	16
	%	within		75.0%	12.5%	12.5%	100.0%
	Literacy						
Total	Count			74	34	12	120
	%	within		61.7%	28.3%	10.0%	100.0%
	Literacy						

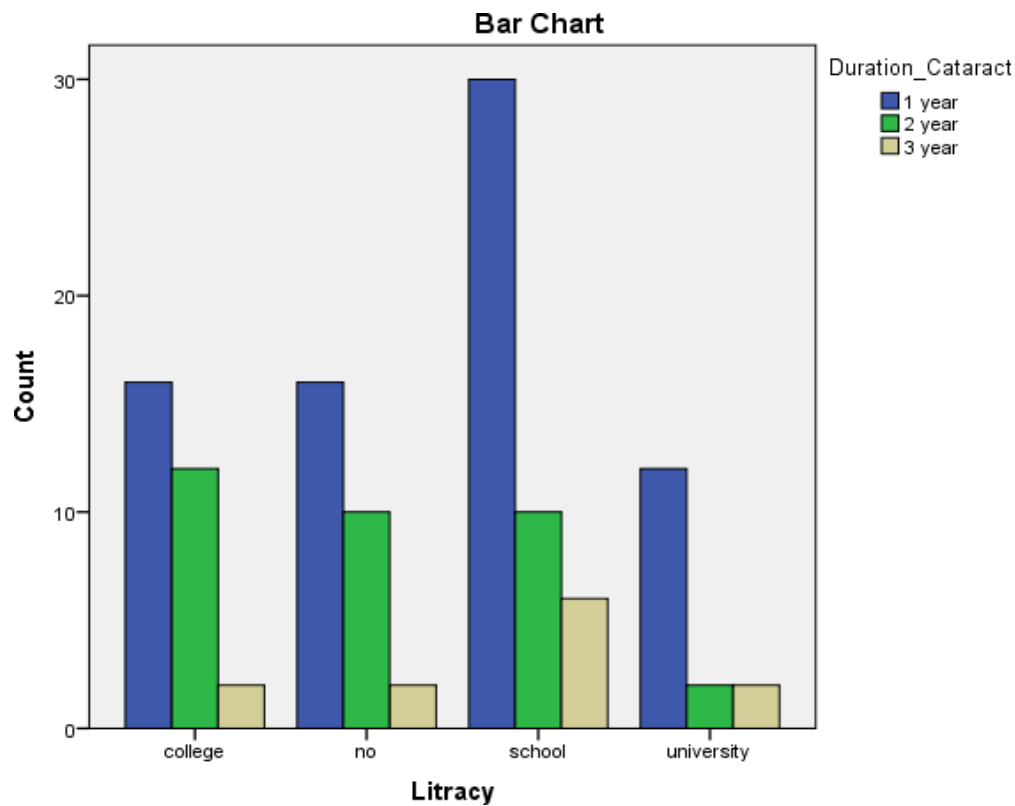
The literacy is compared across the duration of cataract. The majority of people with school level education have experience cataract. It may be due to lack of awareness. 30/74 people with 1 year cataract have experiencing decrease vision for 1 year. And 6/12 for 3 years.

### Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)
Pearson Chi-Square	6.175 <sup>a</sup>	6	.404	.414
Likelihood Ratio	6.421	6	.378	.433
Fisher's Exact Test	6.092			.403
N of Valid Cases	120			

a. 5 cells (41.7%) have probably count less than 5. The lowest estimated count is 1.60.

The fisher's exact test is used in this study. The result presented that there is no statistically significant difference between literacy ( $p=0.403$ ). However, people with school level education recorded more affected as compared to other.



### Occupation \* Duration CataractCross tabulation

				Duration Cataract			Total
				1 year	2 year	3 year	
Housewife	Count			40	14	2	56
	%	within		71.4%	25.0%	3.6%	100.0%
	Occupation						
Job	Count			16	6	2	24
	%	within		66.7%	25.0%	8.3%	100.0%
	Occupation						
Occupation Labour	Count			12	6	6	24
	%	within		50.0%	25.0%	25.0%	100.0%
	Occupation						
Nothing	Count			0	4	0	4
	%	within		0.0%	100.0%	0.0%	100.0%
	Occupation						
Teacher	Count			6	4	2	12
	%	within		50.0%	33.3%	16.7%	100.0%
	Occupation						
Total	Count			74	34	12	120
	%	within		61.7%	28.3%	10.0%	100.0%
	Occupation						

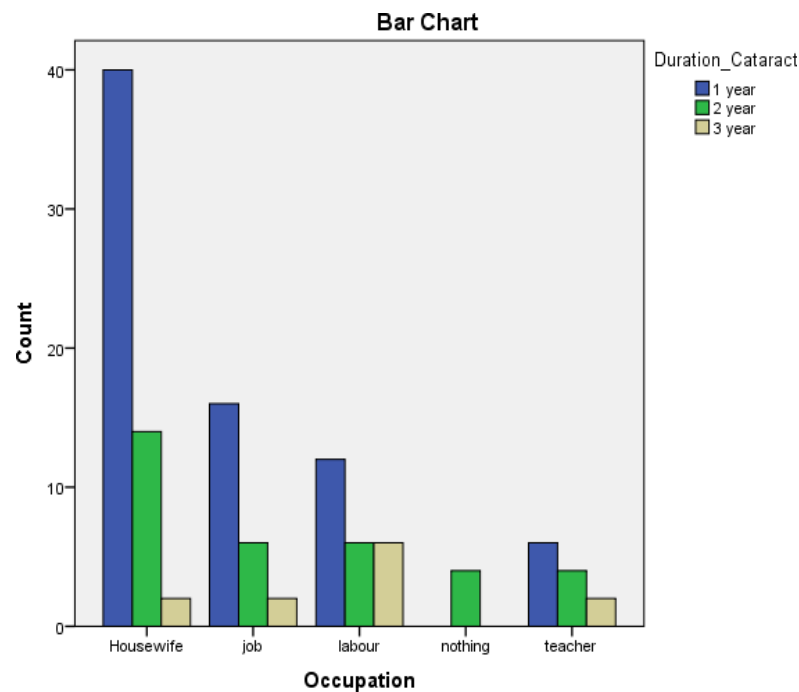
The profession is compared across the duration of cataract. The majority of people of housewife and laboring profession have experience cataract. It may be due to lack of awareness and clean environment. 40/74 & 12/74 people of housewife and laboring, respectively, experiencing cataract for 1 year. And 6/12 for 3 years of people related to laboring.

### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)
Pearson Chi-Square	20.703 <sup>a</sup>	8	.008	.010
Likelihood Ratio	19.773	8	.011	.015
Fisher's Exact Test	17.570			.012
N of Valid Cases	120			

a. 7 cells (46.7%) have expected count less than 5. The minimum expected count is .40.

The fisher's exact test is used in this study. The result showed that there is marked difference between profession and duration of cataract ( $p=0.012$ ). However, people with laboring and housewife, recorded more affected as compared to other.



### Habitat \* Duration CataractCross tabulation

				Duration Cataract			Total
				1 year	2 year	3 year	
Habitat	Count			58	26	10	94
	Rural	%	within	61.7%	27.7%	10.6%	100.0%
	Habitat						
	Count			16	8	2	26
	Urban	%	within	61.5%	30.8%	7.7%	100.0%
	Habitat						
Total	Count			74	34	12	120
	% within			61.7%	28.3%	10.0%	100.0%
	Habitat						

The Habitat is compared across the duration of cataract. The majority of people living in rural areas affected more, 58/74 for 1 year, 26/34 for 2 year, 10/ 12 for 3 year.

### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)
Pearson Chi-Square	.246 <sup>a</sup>	2	.884	.900
Likelihood Ratio	.256	2	.880	.900
Fisher's Exact Test	.225			.947
N of Valid Cases	120			

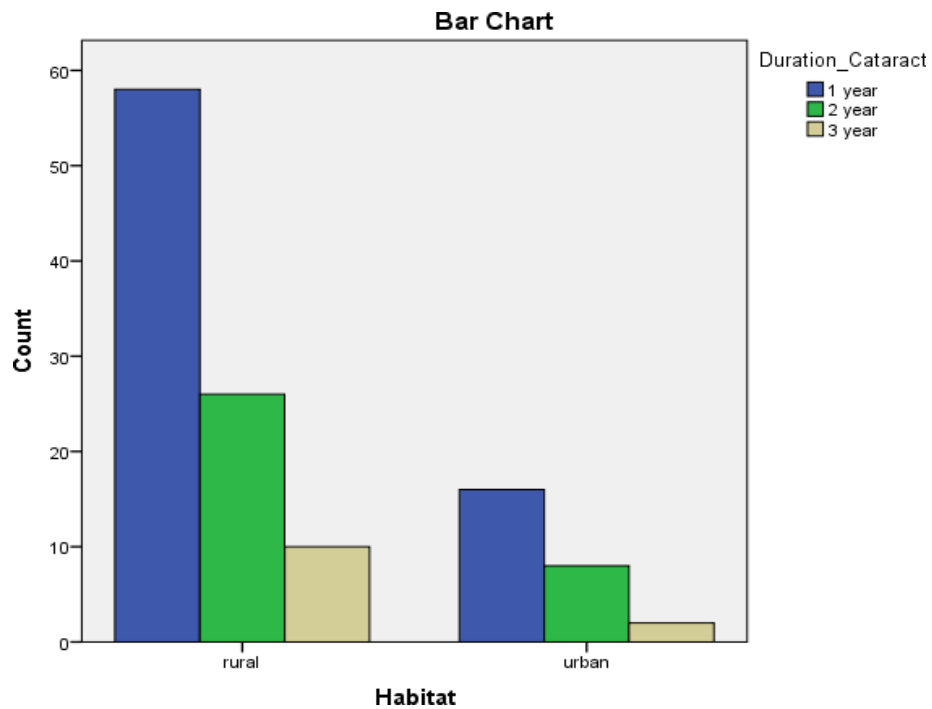
a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 2.60.

The fisher's exact test is applied to this study. The result showed that there is no statistically difference between Habitat and duration of cataract ( $p=0.947$ ). However, people living in rural areas affected more.



Previous Examination \* Duration CataractCross tabulation

					Duration Cataract			Total
					1 year	2 year	3 year	
Previous examination	no	Count			50	24	10	84
		% within Examination	Previous		59.5%	28.6%	11.9%	100.0%
	yes	Count			24	10	2	36
		% within Examination	Previous		66.7%	27.8%	5.6%	100.0%
Total		Count			74	34	12	120
		% within Examination	Previous		61.7%	28.3%	10.0%	100.0%



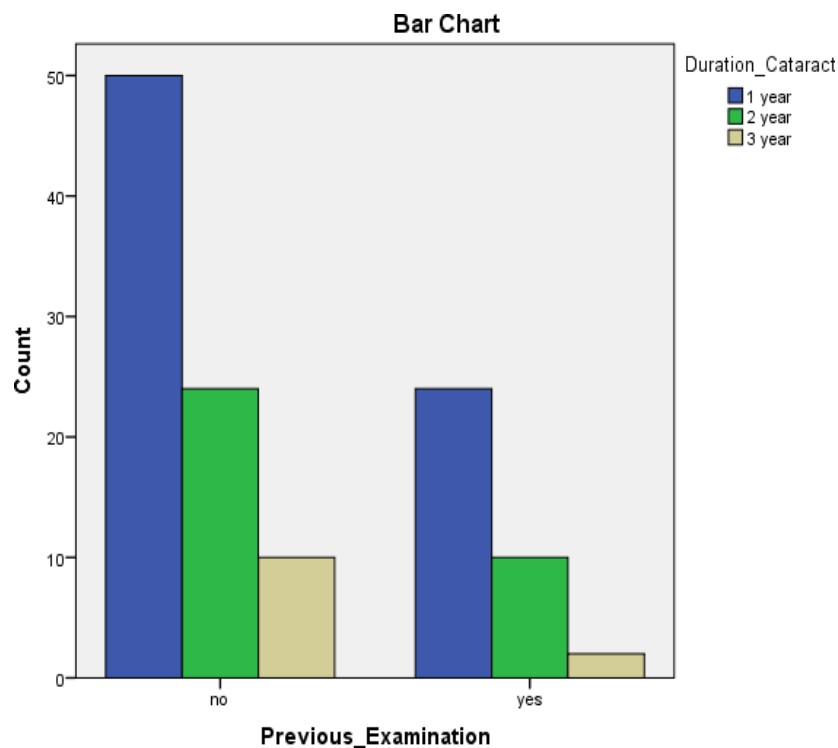
Duration of cataract is compared with the pervious examination history. Majority of people who never examine their eyes affected more, 50/74 for 1 year, 24/34 for 2 year and 10/12 for 3 year.

### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)
Pearson Chi-Square	1.230 <sup>a</sup>	2	.541	.551
Likelihood Ratio	1.347	2	.510	.551
Fisher's Exact Test	1.072			.604
N of Valid Cases	120			

a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 3.60.

The fisher's exact test is applied to this study. The result showed that there is no statistically difference between those who examine their eye previously and those who never (p=0.604). However, people who never examine affected.



### Surgery Phobia \* Duration Cataract Cross tabulation

					Duration Cataract			Total
					1 year	2 year	3 year	
Surgery Phobia	no	Count			36	12	4	52
		% within Surgery Phobia			69.2%	23.1%	7.7%	100.0%
	yes	Count			38	22	8	68
		% within Surgery Phobia			55.9%	32.4%	11.8%	100.0%
Total		Count			74	34	12	120
		% within Surgery Phobia			61.7%	28.3%	10.0%	100.0%

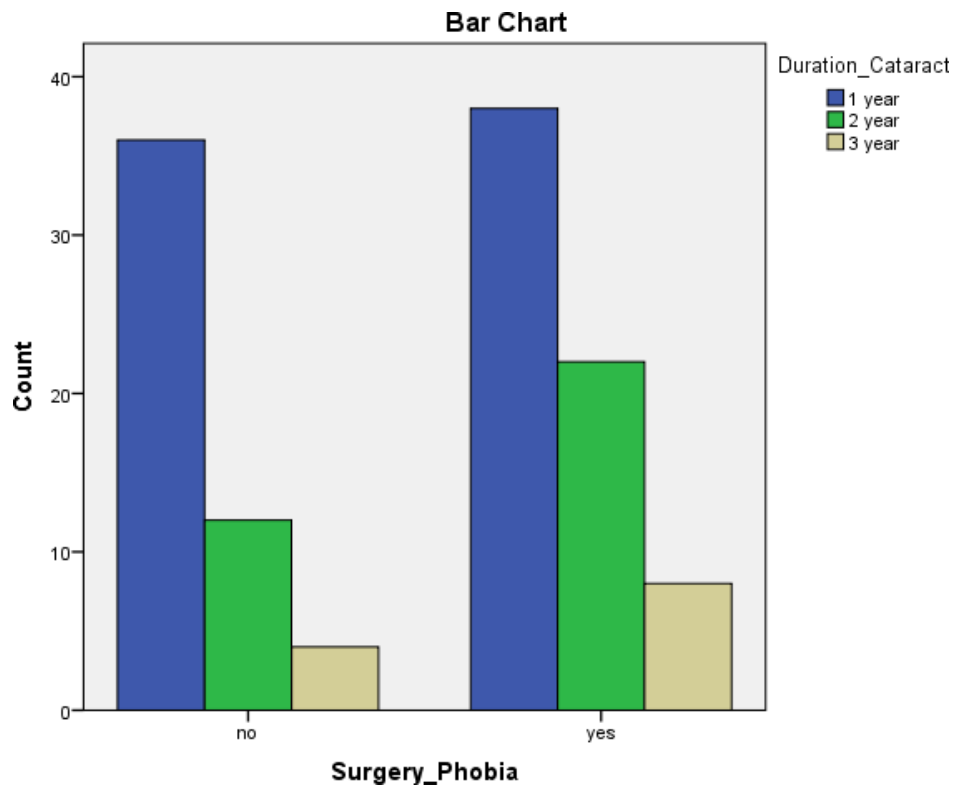
The duration of cataract is compared between those with surgery phobia and those who don't. Most people with surgery phobia affected more as compared to those who don't have issue with surgery, 38/74 for 1 year, 22/34 for 2 year and 8/12 for 3 year affected by cataract.

### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)
Pearson Chi-Square	2.235 <sup>a</sup>	2	.327	.339
Likelihood Ratio	2.259	2	.323	.353
Fisher's Exact Test	2.171			.339
N of Valid Cases	120			

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.20.

The fisher's exact test is applied to this study. The result showed that there is no statistically difference between those who have surgery phobia and those who don't ( $p=0.339$ ). However, people with surgery phobia affected more.



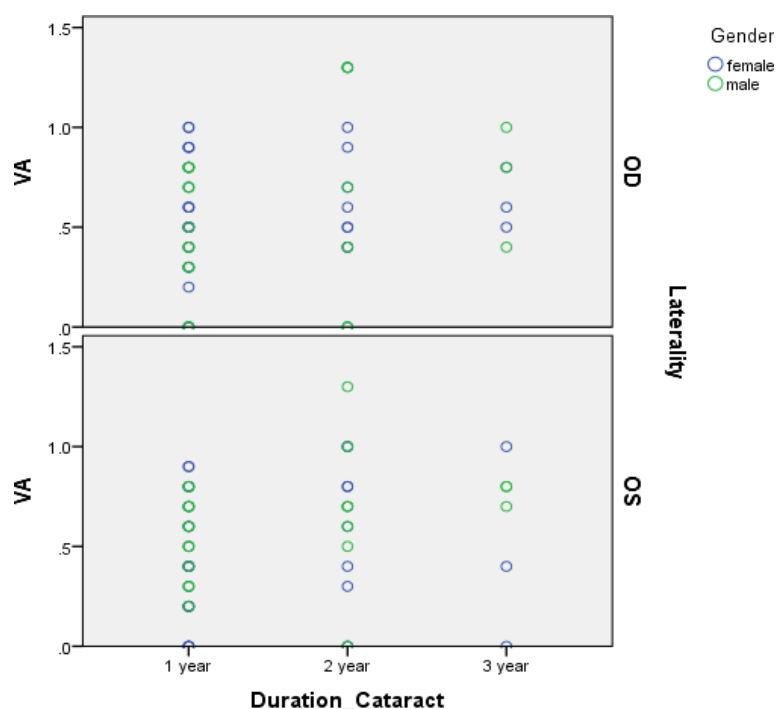
The visual acuity was compared across the duration of cataract. The independent sample kruskalWallis test will be applied. The result showed that there is no statistically significant difference between them ( $p=0.093$ ).

## Descriptive Statistics

Duration Cataract				N	Minimum	Maximum	Mean		Std. Deviation
				Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
1 year	VA	Valid N (listwise)		74	.0	1.0	.499	.0330	.2840
2 year	VA	Valid N (listwise)		34	.0	1.3	.638	.0713	.4156
3 year	VA	Valid N (listwise)		12	.0	1.0	.650	.0830	.2876

The mean value visual acuity is  $0.499 \pm 0.284$  (SE. 0.033),  $0.638 \pm 0.4156$  (SE. 0.0713) and  $0.65 \pm 0.2876$  (SE. 0.083) for cataract duration of 1 year, 2 year and 3 year, respectively. However, the visual acuity increases as the duration of glaucoma increase.

Graphical Presentation of Table 6:



## DISCUSSION

In this research 60 (30 male and 30 female) cataract patients were examined and their history recorded. The parameters compared were their profession, habitat and education level. The literacy is compared across the duration of cataract. The majority of people with school level education have experienced cataract. It may be due to lack of awareness. 30/74 people with 1 year cataract have experienced decrease vision for 1 year. And 6/12 for 3 years. The Fisher's exact test is applied to this study. The result showed that there is no statistically significant difference between literacy ( $p=0.403$ ). However, people with school level education recorded more affected as compared to other. The profession is compared across the duration of cataract. The majority of people of housewife and laboring profession have experienced cataract. It may be due to lack of awareness and clean environment. 40/74 & 12/74 people of housewife and laboring, respectively, experienced cataract for 1 year. And 6/12 for 3 years of people related to laboring. The Fisher's exact test is applied to this study. The result showed that there is marked difference between profession and duration of cataract ( $p=0.012$ ). However, people with laboring and housewife, recorded more affected as compared to other. The Habitat is compared across the duration of cataract. The majority of people living in rural areas affected more, 58/74 for 1 year, 26/34 for 2 year, 10/12 for 3 year. The Fisher's exact test is applied to this study. The result showed that there is no statistically difference between Habitat and duration of cataract ( $p=0.947$ ). However, people living in rural areas affected more. Duration of cataract is compared with the previous examination history. Majority of people who never examine their eyes affected more, 50/74 for 1 year, 24/34 for 2 year and 10/12 for 3 year. The Fisher's exact test is applied to this study. The result showed that there is no statistically difference between those who examine their eye previously and those who never ( $p=0.604$ ). However, people who never examine affected more. The duration of cataract is compared between those with surgery phobia and those who don't. Most people with surgery phobia affected more as compared to those who don't have issue with surgery, 38/74 for 1 year, 22/34 for 2 year and 8/12 for 3 year affected by cataract. The Fisher's exact test is applied to this study. The result showed that there is no statistically difference between those who have surgery phobia and those who don't ( $p=0.339$ ). However, people with surgery phobia affected more.

## CONCLUSION

As per my observation it is concluded that the people living in rural area, have education level of school or less, doing housework and not doing appropriate things of cleanliness and those who are surgery phobic



affected more. The majority of people with school level education have experience cataract. It may be due to lack of awareness. 30/74 people with 1 year cataract have experiencing decrease vision for 1 year. And 6/12 for 3 years ( $p=0.403$ ). 40/74 & 12/74 people of housewife and laboring, respectively, experiencing cataract for 1 year. And 6/12 for 3 years of people related to laboring ( $p=0.012$ ). The majority of people living in rural areas affected more, 58/74 for 1 year, 26/34 for 2 year, 10/12 for 3 year ( $p=0.947$ ). Most people with surgery phobia affected more as compared to those who don't have issue with surgery, 38/74 for 1 year, 22/34 for 2 year and 8/12 for 3 year affected by cataract ( $p=0.339$ ).

### RECOMMENDATION

My study found that the majority of people with school level education, living in rural areas, never examine their eye due to surgery phobia and doing housework or laboring have experience. It is recommended to create awareness in the society and provide them basic facilities to control cataract and other major causes of blindness.

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