

## FREQUENCY OF PREOPERATIVE VISUAL ACUITY OF PATIENTS UNDERGOING CATARACT SURGERY IN EYE UNIT, HAYATABAD MEDICAL COMPLEX PESHAWAR

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### ABSTRACT

**Objective:** To determine the frequency of pre-operative visual acuity among cataract surgery patients attending eye Unit Hayatabad Medical Complex, Peshawar.

**Material & Methods:** The study is descriptive hospital base study and was conducted in Eye Unit HMC Peshawar. The study was conducted in three-month duration from July to September 2015. All the patients (male / female), age 40 years and above were included in the study, coming to eye unit for cataract surgery during these three months. People not willing for surgery will be excluded from the study. Visual acuity of those patients undergoing cataract surgery was checked with vision chart and the lens was checked with pen torch for cataract and the questionnaire was filled in. Standard questionnaire was used.

**Results:** There were 104 participants in our study undergoing cataract surgery, 45 (43.3%) of them were female while 59 (56.7%) of them were male participants, 1% of the total having 6/12 visual acuity, 5 (4.85%) having 6/18 visual acuity, 13 (12.5%) having 6/24 visual acuity, 19 (18.3%) having 6/36 visual acuity, 17 (16.3%) having 6/60 visual acuity, 19 (18.35%) of them having 3/60 visual acuity and 30(28.8%) having <3/60 visual acuity.

**Conclusion:** On basis of the study, it is concluded that there were cases having very worst vision and some cases were having relatively good vision, majority of the cases undergoing cataract surgery were in the mid of the vision having visual acuity between 6/18 and 6/36 having obvious lens opacity.

**Key Words:** Cataract, Prevalence, Pre-Operative, Visual Acuity.

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### INTRODUCTION

The pellucid lens in the human eye is crystalline clear and lenticular. Cataract is a condition of eye which decrease lens transparency and cause opacity. Globally cataract is the leading cause of reversible vision problem. This is mostly seen in the people with low socioeconomic background.<sup>1</sup> Most common riskfactor for cataract is age. Nuclear cataract (occur in central lens fibre cells), posterior subcapsular (emerging from aberrantly distinguishing epithelial cells and the opacity occur at the posterior pole) and cortical cataract

(including the outer shell and covering more newly made lens fibre cells) are the types of age related cataract.<sup>2, 3</sup> Nuclear cataracts are linked with augmented light scattering causing from the lens proteins accumulation and insolubilization and their amplified link with membranes. In spite of, cortical cataracts are linked with wide distraction of cell structure and the general precipitation of intracellular proteins.<sup>4</sup> Posterior subcapsular cataract is mostly occur in diabetic patients and people with lower socioeconomic status, posterior subcapsular cataract effects

eyesight more than the nuclear and cortical cataract.<sup>5</sup> Diabetes mellitus is a risk factor of cataract.<sup>6</sup> It is assessed that above 68% of individuals having age overhead 79 years develop certain types cataract.<sup>2</sup> The particular treatment for cataract is cataract surgery.<sup>7</sup>

The utmost essential ophthalmological parameters in clinical practice is visual acuity.<sup>8</sup> Visual acuity measurement is done by using particular eye charts, mostly snellen charts use to measure visual acuity for the reason that it is easily accessible in addition to fast and simple to carry out.<sup>9</sup> Normal visual acuity 6/6 (means that a patient can see at a distance of 6m what an average person also sees at the same distance) or 20/20 vision (US notation measured in feet).<sup>9, 10</sup> Visual acuity tests give details that be able to be worn to find out the absence or presence of refractive error and pathology inside the visual pathway. The basic diagnostic measure of visual function is visual acuity used cross wise in a wide range of healthcare fields as well as in over-all practice, for example job-related testing, screening in school and for driving license.<sup>11</sup>

In patients with cataract the typical test of visual function is visual acuity. Though, some patients have good vision, however some poor vision. Contrast sensitivity (CS) is a visual function test which should be done in cataract patients. Intraocular light disperse due to cataract, which be able to diminish retinal image contrast and badly change contrast sensitivity.<sup>12</sup> Eye sight satisfaction is essential to the welfare of community and their efficiency. Though, in excess of light can create disability glare and uneasiness.<sup>13</sup> People having cataracts frequently grumble of glare, such as from shining daylight or headlights of car, some people get this glare too indispose otherwise a middling drop in visual acuity.<sup>12</sup> Visual function tests are helpful to measure the loss of visual function in early cataract in hold up surgical correction.<sup>14</sup>

## MATERIAL AND METHODS

The study is descriptive hospital base study. The study was conducted in Eye Unit HMC Peshawar. Study was conducted in three-month duration from July - September 2015. 104 patients (male / female) visited the eye unit of Hayatabad Medical complex, Hayatabad Peshawar for cataract surgery during the three months duration of the

study. People of age 40 years and above were included in the study. People who underwent cataract surgery were included in the study. Both male and female were included in the study. People not willing for surgery were excluded from the study. Standard questionnaire was used for data collection. Visual acuity of those patients undergoing cataract surgery was checked with vision chart and the lens was checked with pen torch for cataract and the questionnaire was filled in. The study variables were age, gender, occupation (shopkeeper, farmer, merchant, teacher, doctor, engineer, driver, housewife, businessman and others), visual acuity (6/6, 6/9, 6/12, 6/18, 6/24, 6/36, 6/60, 3/60 and < 3/60), and education (school (primary, middle, high), college, university (graduate, postgraduate) and illiterate). Vision chart (tumbling E chart), pen torch, ophthalmoscope and a self-administered questionnaire were used to collect data. Ethical approval was obtained from ethical committee of Pakistan institute of ophthalmology (PICO) Peshawar.

## RESULTS

There were 104 participants in our study undergoing cataract surgery, 45 (43.3%) of them were female while 59 (56.7%) of them were male participants, 1% of the total having 6/12 visual acuity, 5 (4.85) having 6/18 visual acuity, 13 (12.5%) having 6/24 visual acuity, 19 (18.3%) having 6/36 visual acuity, 17 (16.3%) having 6/60 visual acuity, 19 (18.35) of them having 3/60 visual acuity and 30 (28.8%) having < 3/60 visual acuity.

The participants age 60 & above were 43 (41.3%) having a major percentage (16.3%) visual acuity of < 3/60, followed by the age group 50-60 years 35 (33.7%) having the major percentage (9.6%) of visual acuity < 3/60 and there were 26 patients of the age group 40-50 having the major percentage (7.7%) of visual acuity 6/24.

Majority of the study participants belongs to Peshawar, but about 60 percent of the participants were coming from other areas of the province, FATA and Afghanistan as well. Among the participants major percentage were from the rural. (**Table 1**)

The house wives were leading the percentage (35.6%), while there were 2.9% businessman, 3.8% doctors, 4.8% drivers 14.4% farmers,

16.3% shopkeepers, 12.5% teachers and 9.6% others by profession, the visual acuity <3/60 was in majority of cases (28.8%), followed by 3/60& 6/36 visual acuity (18.3%), while there were 16.3% with 6/60 and 12.5% with 6/24, 4.8% 6/18 and 1% with visual acuity of 6/12.

Having the visual acuity mentioned above, 38.5% of the participants were illiterate, 28.8% having education up to school level, 14.4% having college level education, and 18.3% having university level education. 9.6% of the participants were advised by the family members, 49% were advised by ophthalmologists, 5.8% were advised by optometrist, 23.1% were advised

by physician and 12.5% had come to undergo cataract extraction by their own choice. 57.7% had no awareness about the condition while 42.3% were having awareness about the condition.

Among the participants 13.5% were unable to afford the cost of the surgery, 20.2% had not undergone cataract extraction due to fear of surgery or poor result, 40.4% had not felt the need for cataract extraction, 9.6% had no access to the facilities, 16.3% were not aware till yet that the treatment of the condition is available.

**Table 1: Visual Acuity of participants in different areas**

	Address																		Total	
	Afghanistan	Bunir	Charsadda	Chatral	Dir	Karak	Khyber Agency	Kurram Agency	LakiMarwat	Malakand	Mardan	Mohmand Agency	Noshehra	Orakzai Agency	Peshawar	Swabi	Swat	Waziristan		
Visual Acuity	6/12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
	6/18	0	0	0	0	0	0	1	0	0	0	0	1	0	2	0	0	0	1	5
	6/24	0	0	1	0	1	0	1	2	0	0	0	0	0	6	1	1	0	13	
	6/36	0	2	0	0	0	0	1	2	0	1	0	0	0	8	3	1	1	19	
	6/60	0	0	1	0	1	0	1	1	0	0	0	0	0	12	0	0	1	17	
	3/60	1	0	1	0	0	1	1	1	0	3	0	0	0	9	1	0	0	19	
	<3/60	1	0	4	2	0	1	0	2	0	2	1	0	1	10	4	1	1	30	
<b>Total</b>		2	2	7	2	2	2	5	8	1	1	5	1	1	48	9	3	4	104	

## DISCUSSION

While the populaces of Pakistan like developing countries is rising quickly, there is huge need of providing essential eye care services to every one of the populaces particularly poor ones of the society. Insistence should be on sensible equipment and infrastructure, developing resources and training of eye care professional including ophthalmologists, optometrists and paramedics concerned in eye care.

Gender equity is an issue in developing countries, the problems of the females is not addressed as it should be addressed. In this study the percentage of male attending the OPD for cataract (56.7%) is greater than the female (43.3%). Most of the attendants both male and female go for cataract surgery in late years of life, The participants age 60 & above were 43(41.3%) having a major percentage (16.3%) visual acuity of  $<3/60$ , followed by the age group 50-60 years 35(33.7%) having the major percentage (9.6%) of visual acuity  $<3/60$  and there were 26 patients of the age group 40-50 having the major percentage(7.7%) of visual acuity  $6/24$ .

Hayatabad medical complex is tertiary care hospital, people from all over the province get services here, not only the citizens of the province but people from the different agencies of FATA and Afghanistan get services here, majority of the study participants belongs to Peshawar, but about 60 percent of the participants were coming from other areas of the province, FATA and Afghanistan as well. Among the participants major percentage were from the rural areas which shows that the people from urban areas are not availing services at public hospitals, they opt for services at private hospitals, and second it shows the non-availability of the services at the rural areas.

The study results show that majority of the services are availed by the lower-class population like house wives, shopkeepers, school teachers etc. as the occupation go toward the white collar the percentage is decreasing, it is because the lower class population cannot afford the cost of the services in the private setup and upper class population do not trust in the services of the public hospitals. The housewives were leading the percentage (35.6%), while there were 2.9% businessman, 3.8% doctors, 4.8% drivers 14.4% farmers, 16.3% shopkeepers, 12.5% teachers and 9.6% others by profession in our study.

Majority of the participants attending the OPD for surgery both male and female were illiterate, and the percentage is decreasing as the education level increase toward School, college and university, Having the visual acuity mentioned above, 38.5% of the participants were illiterate, 28.8% having

education up to school level, 14.4% having college level education, and 18.3% having university level education. in my opinion the reason is that level of affordability is related to the level of education as the illiterate or up to school education population is either housewives, farmers, shopkeepers and they cannot afford the surgeries elsewhere, as the education level increases first the awareness of the prevention increases, second the level of affordability in private hospitals increases.

The referral system at our primary level is not up to the mark that why the reason for attending OPD in majority of the attendants was personal will, following by the referred cases, some of the attendants were coming as a companion with other patients and got their vision check-up got know that they themselves have cataract and need surgery.

There were cases having very worst vision and some cases were having relatively good vision, majority of the cases undergoing cataract surgery were in the mid of the vision having visual acuity between  $6/18$  and  $6/36$  having obvious lens opacity. Majority of the cases were advised to go for cataract extraction either by the health workers or by other persons followed by the cases having restriction in daily tasks. Major percentage of the attendants was advised by the ophthalmologists and physicians to go for cataract extraction followed by optometrists and other family members. The awareness level was lower especially in females about the condition that they are having cataract.

Majority of the population was illiterate and from rural areas so when they were asked that why surgery was not done yet, they told that need was not felt for surgery as they randomly need sharp vision for fine work. This category was followed by persons telling that they were afraid of the surgery, it is again due to lack of education and awareness in those areas. Some of the participants were unable to afford the minimal cost even in public hospital and others were unaware that the treatment is available due to lack of education and non-availability of the services at door step and low cost which are the basics of primary health care. Among the participants 13.5% were unable to afford the cost of the surgery, 20.2% had not undergone cataract extraction due to fear of surgery or poor result, 40.4% had not felt the need for cataract extraction, 9.6% had no access to the facilities, 16.3% were not aware till yet that the treatment of the condition is available.

The cross tabulation of awareness level about the condition and the Gender shows that the awareness level in both gender is lower but still male were more aware than the female about the condition, as major percentage of the participants in the female

were house wives both in rural and urban areas. The awareness level both in male and female was directly related to the education level, as the education level increases the awareness level about the condition increases.

## CONCLUSION

On basis of the study it is concluded that Most of the attendants both male and female go for cataract surgery in late years of life, The participants age 60& above were 43(41.3%)having a major percentage (16.3%) visual acuity of <3/60, followed by the age group 50-60 years 35(33.7%) having the major percentage (9.6%) of visual acuity <3/60 and there were 26 patients of the age group 40-50 having the major percentage(7.7%) of visual acuity 6/24.

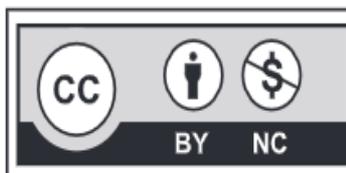
Hayatabad medical complex is tertiary care hospital, people from all over the province get services here, not only the citizens of the province but people from the different agencies of FATA and Afghanistan get services here, majority of the study participants belongs to Peshawar, but about 60 percent of the participants were coming from other areas of the province, FATA and Afghanistan as well.

The study results show that majority of the services are availed by the lower class population like house wives, shopkeepers, school teachers etc. as the occupation go toward the white collar the percentage is decreasing. Majority of the participants attending the OPD for surgery both male and female were illiterate, and the percentage is decreasing as the education level increase toward School, college and university.

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