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Clinical Profile of Visual Impairment in Patients Attending a Tertiary Care Centre.

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Abstract: *To study the profile of causes of visual impairment in patients visiting tertiary care centre. The study population included 200 patients residing near the tertiary care centre, who attended the Ophthalmology OPD. After institutional ethical committee clearance informed consent, patients were interviewed based on prescribed proforma.*
Socio-demographic details and history was obtained and a detailed ophthalmic examination was done.
Results: *43% were between 41-60 years of age; 55.5% were females, 44% had completed their higher education. 75% had no visual impairment, visual impairment Grade 1 and 2 was present in 16.5% and 4% respectively. 4.5% were grouped as blind. 86.5% had refractive errors, 5% had glaucoma, 5% had retinopathies, 2% had macular diseases 0.5% had corneal opacities, 20% had cataract, 4% had glaucoma, 2% had optic atrophy.*
Conclusion: *A high prevalence of refractive errors and cataract was noted, which are both causes of preventable blindness which can be prevented by creating awareness.*

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I. Introduction

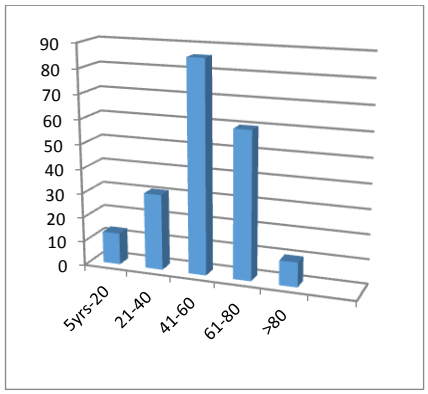
The global estimate of visual impairment (near and distant) is approximately 2.2 billion[1]. Most cases of visual impairment are avoidable in nature and can be prevented with timely detection and appropriate management. Most cases of visual impairment are avoidable in nature and can be prevented with timely detection and appropriate management[1]. Such cases include cataract (62.4%),uncorrected refractive errors (19.65%), glaucoma (5.83%),and corneal opacities (0.89%). Many studies have been conducted in urban areas in other Indian states to study the profile of visual impairment. Hence we conducted this study to study the profile of ocular morbidities in an urban area near the tertiary care centre.

Objectives: To study the clinical profile of causes of visual impairment in an urban community and to identify the socio cultural and demographic factors associated with the ocular morbidities.

II. Methods

A study was conducted from December 2019 to February 2020. The study included 200 patients attending our ophthalmology camps which were conducted fortnightly. Informed consent was obtained and the socio demographic details were noted down. History along with detailed ophthalmic examination was done which included assessment of visual acuity using Snellen's distance vision chart and Times New Roman near vision chart, tonometry, and fundus examination using direct ophthalmoscope.Eighty four patients reported to the medical college for further evaluation and management, which included slitlamp examination , indirect ophthalmoscopy ,fundus photography, visual field, OCT imaging

Results:-**Age distribution:** The majority of the participants (86, 43%)were middle-aged belonging to the age group of 41-60 years; within 61-80 years included (60,30%) of the study participants while the least (10, 5%) were those aged more than 80 years.



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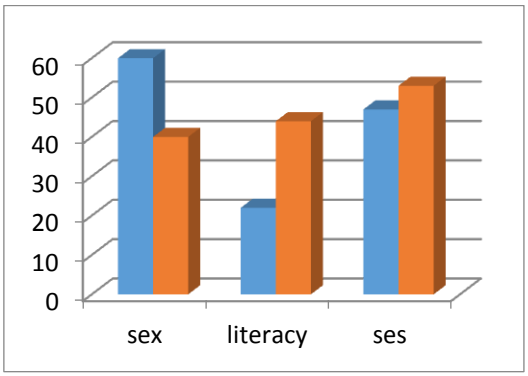
Sex distribution: 111 (55.5%) out of 200 participants were females, while 89 (44.5%) were males.
Level of education: The majority of the participants i.e.88 (44%) had completed higher secondary education or graduation, 44 (22%) were school dropouts and illiterates.



Visual acuity: The participants studied were categorised into ;no visual impairment i.e. 150 (75%), visual impairment Grade 1 i.e. 33 (16.5%), Grade 2 i.e. 8 (4%) or blindness Grade 3 i.e 7 (3.5%), Grade 4 i.e. 2 (1%) based on WHO classification of low vision.

table1

Categories of visual impairment	**Vision**	**Number of patients**	**Percentage(%)**
No visual impairment	>6/18	150	75
Visual impairment- category 1 category2	6/18-6/60 6/60-3/60	33 8	16.5 4
Blindness- category3 category4	3/60-1/60 1/60-PL	7 2	3.5 1
Total		***200***	***100***

Out of the 200 patients that were studied, majority i.e. 173 patients (86.5%) had refractive errors. In many cases, more than one type of refractive error was noted. Majority of the participants 56 (28%) had hypermetropia followed by myopia 44(22%) and astigmatism 26 (13%). 67% of individuals aged 40 years and above,and presbyopic.
Cataract: 40 patients i.e. 20% had cataract; out of which, 25 (12.5%)patients had bilateral cataract, and 15 patients had unilateral cataract.
Corneal opacity: One patient (0.5%) had a nebular corneal opacity, which had developed following trauma with an
iron nail.

Glaucoma: Ten patients (5%) that were studied were found to have glaucoma. Eight patients were aged more than 40 years and had primary open angle glaucoma. Two male patients aged 65 years one found to have narrow angle glaucoma and angle recession glaucoma was found in one patient.
Optic atrophy: 4 patients (2%) had optic atrophy due to other causes than glaucoma.
Retinal and macular diseases: 10 participants (5%) presented with retinopathy due to diabetes or hypertension. 4 patients i.e 2% had macular diseases such as age related or hereditary macular degeneration .

Table2.

Ocular morbidities	No.of patients	Percentage(%)
Refractive errors	173	86.5
Cataract	40	20
Glaucoma	10	5
Retinopathies	10	5
Macular diseases	4	2
Optic atrophy	4	2
Corneal opacity	1	0.5
Total	***200***	***100***

III. Discussion

90% of the world's visually impaired live in developing countries , with the main causes of blindness being cataract, trachoma ,glaucoma, xerophthalmia, onchocerciasis diabetic retinopathy and age related macular degeneration[2]. Therefore it is important that changes are detected at their earliest so that visual disability can be prevented[1].

In this study 86.5% of the study participants i.e. 173 were found to have refractive errors. The study findings are similar to the findings of a study by Agrawal et al where 86.4% participants had refractive errors[4]. Another study by Dandona et al, where they found that the proportion of uncorrected refractive error was higher among the lower educated individuals than the higher educated individuals which was also similar to this study[7]. Out of the study participants 20% of the patients who had cataract were illiterates and 55.5% belonged to lower socio economic background. . One female patient aged 65 years was found to have narrow angle glaucoma. The prevalence of glaucoma in our study is lower than that found by Baldev et al in their study (11.1%)[9]. A single participant (0.5%) had a nebular corneal opacity, which he had developed following trauma with an iron nail. Similar results (0.4%) were found by Agarwal et al in their study[4]. This shows greater level of awareness about ocular injuries and their prevention in the urban community, as well as good healthcare facilities and promptness to report to the ophthalmologist in the event of trauma[6]. However this value is much lower than that found in a study by Baldev et al in Northern India (30.5%)[9]. This shows greater level of awareness about ocular injuries and their prevention in the urban community, as well as good healthcare facilities and promptness to report to ophthalmologist in the event of trauma[11].

Forty patients i.e. 20% had cataract; out of which 25 patients had bilateral cataract, and 15 patients had unilateral cataract. Our findings are similar to that reported by Dandona et al in Southern India (25.3%)[8]. The highest rates of cataract were among elderly individuals, those from lower social classes using coal wood and cow dung as fuel, and among illiterates. Younger individuals who presented with cataracts were those following trauma, or other complicated cataracts following uveitis, or keratitis. 29.5% of the patients who had cataract were illiterates , suggesting lower socio economic background. Similar results were found by Haq et al, where 32.8% were illiterates and 24.9% belonged to low socio economic background[5]. The high percentage of patients with cataract is probably due to higher average life expectancy, low socio economic status, illiteracy and lack of awareness about the treatable nature of cataract.

Ten patients (4%) were found to have glaucoma. Six patients were more than 40 years and had primary open angle glaucoma. Two patients aged more than 65 years were found to have narrow angle glaucoma. The prevalence of glaucoma in our study is lower than that found by Baldev et al in their study (11.1%)[9].

In our study, 2% patients had optic atrophy due to causes other than glaucoma, these included one patient who developed optic atrophy secondary to traumatic optic neuropathy, one who had developed optic atrophy secondary to tobacco and alcohol usage, and two who had developed optic atrophy secondary to optic neuritis in the past ,this findings was similar to Dandona et al[10].

IV. Conclusion:

From the study, we have found a high prevalence of refractive errors and cataract, in the urban communities which are both causes of preventable blindness. The high percentage of patients with cataract is probably due to higher low socio economic status, illiteracy and lack of awareness about the treatable nature of cataract. Health education and creating a greater awareness among the population were the means by which they were and can be identified at the earliest and treated accordingly. This will reduce the burden of visual impairment and blindness, which will in turn reduce the economic burden on our society.

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