ORIGINAL RESEARCH PAPER

Volume-8 | Issue-7 | July - 2019 | PRINT ISSN No. 2277 - 8179

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

REFRACTIVE ERRORS AMONG THE PATIENTS ATTENDING OPHTHALMIC OPD OF A GENERAL HOSPITAL

Ophthalmology

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ABSTRACT

Aim: To study the various types of refractive errors in different age groups of patients attending the out patient department of a general hospital.

Materials and Methods: This is a prospective cross sectional study conducted at the Department of Ophthalmology of Gandhi hospital attached to Gandhi medical college, Hyderabad. The study period was from January 2014 to June 2014. Out of 12600 out patients 3618 had refractive errors. Patients from 0 to 50 years who were having refractive errors were included in the study. Patients having eye diseases, who had undergone any eye surgery including cataract or injury to the eye and Presbiopic patients were excluded from the study. Informed consent was obtained from all patients included in the study. All patients were examined by an experienced Ophthalmologist using Snellens chart, Pin hole, slit lamp, direct and indirect Ophthalmoscopes, Auto-refractometer, Streak retinoscope, Trial set of lenses. Children below 14 years were subjected to Cycloplegic refraction using 1% Cyclopentolate eye drops . Streak retinoscopy was done to determine the refractive errors objectively. They were called back after 24 hours for PMT. Patients above 14 years were tried glasses subjectively using Auto-refractometer readings

Results: Out of 12600 patients attending out patients 3618 had refractive errors. 1464 were males 2154 were females. 1908 were myopes, 924 were hypermetropes and 786 were having astigmatism.

Conclusion: 12600 Patients attending Ophthalmic OP 3618(28.72%) had refractive errors. 1908 (52.74%) were myopes, 924 (25.54%) were hyperopes and 786(21.72%) were having Astigmatism.

KEYWORDS

Refractive errors, Myopes, Hypermetropes, Astigmatism, PMT(Post mydriatic test), Subjective corrections.

INTRODUCTION:

Refractive error is one of the most common cause of visual impairment and the second most common cause of blindness in the world. The global estimate of the total number of people of all ages with visual impairment is 253 million, of which 36 million are blind. The major causes of visual impairment are Cataract(62.6%) followed by uncorrected refractive errors (19.7%)[1]

Refractive error has been recognized as a public health problem in many countries including India as well as by the WHO in its global initiative VISION 2020 – the right to sight[2]. It may lead to a loss of education and employment opportunities, lower productivity, and impaired quality of life.The loss of sight causes enormous human suffering to the affected individuals and their families as well as economic losses globally. The global cost of correcting vision impairment from uncorrected refractive error has been estimated to be 2800 million US dollars[3]. Similarly, the potential productivity loss resulting from the global burden of uncorrected refractive error has been estimated to be 121.4 billion international dollars[4].

MATERIALS AND METHODS:

This is a prospective cross sectional study conducted at the Department of Ophthalmology of Gandhi hospital attached to Gandhi medical college, Hyderabad. The study period was from January 2014 to June 2014. Out of 12600 out patients 3618(28.72%) had refractive errors. Patients from 0 to 50 years who were having refractive errors were included in the study. Patients having eye diseases, who had undergone any eye surgery including cataract or injury to the eye and Presbiopic patients were excluded from the study. Informed consent was obtained from all patients included in the study. All patients were examined by an experienced Ophthalmologist using Snellens chart, Pin hole, slit lamp, direct and indirect Ophthalmoscopes, Auto-refractometer, Streak retinoscope, Trial set of lenses. Children below 14 years were subjected to Cycloplegic refraction using 1% Cyclopentolate eye drops . Streak retinoscopy was done to determine the refractive errors objectively. They were called back after 24 hours for PMT. Patients above 14 years were tried glasses subjectively using Auto-refractometer readings.

RESULTS:

Out of 12600 patients attending OPD 3618(28.72%) had various refractive errors. 1464 (40.45%) were males, 2154 (59.54%) were females. 1908 (52.74%) of patients was having Myopia. 924 (25.54%) were having Hypermetropia. 786 (21.72%) were having Astigmatism. 1356 (37.48%) belongs to 0-10 age group. 690 (19.07%) belongs to 11-20 age group. 576 (15.97%) belongs to 21-30 age group. 540 (14.93%) belongs to 31-40 age group. 456 (12.60%) belongs to 41-50 age group.

Table no.1

S.no.	Study	Sample size	Refractive errors	Myopia	Hypermetropia	Astigmatism
1	Tanie Natung et al	4582	2546(55.57%)	764(30%)	430(16.9%)	1510(59.3%)
2	Raju P et al	4800	2508(52.25%)	770(30.7%)	469(18.7%)	1269(50.6%)
3	Bourne RR et al	11624	8402(72.28%)	2469(22.1%)	2308(20.6%)	3625(32.4%)
4	Present study	12600	3618(28.71%)	1908(52.74%)	924(25.4%)	786(21.72%)

DISCUSSION:

In comparison with other studies the incidence of refractive error in present study is less than 50% where as studies conducted by Tanie Natung et al at North east medical college it is 55.57%[5], South india study conducted by Raju P et al is 52.25%[6], Bangladeshi study conducted by Bourne RR et al it is 72.28%[7].

Incidence of Myopia is 52.74% in present study, whereas it is 30% in North East India study, 30.7% in South India study and 22.1% in Bangladeshi study.

Incidence of Hypermetropia is 25.54% in Present study, whereas it is 16.9% in NE india study, 18.7% in South India study and 20.6% in Bangladeshi study.

Incidence of Astigmatism is 21.72% in present study whereas in NE india study it is 59.3%, in South India study it is 50.6% and in Bangladeshi study it is 32.4%.

CONCLUSION:

Difference in incidence in various studies may be because of local geographical factors and genetics factors and different age group

studied in that particular study. All studies showed that refractive errors formed major cause of diminution of vision. The number is considerable to cause loss in productivity of nation. Correction of refractive errors and distributing even free glasses is recommended to improve productivity of nation.

Ethics committee approval obtained
Financial support : Nil
Conflict of interest None

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