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Correlation of Central Corneal Thickness and Axial Length in Myopes, Emmetropes and Hypermetropes

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A B S T R A C T

Aims and objective*:** To compare central corneal thickness and axial length in emmetropes, myopes and hypermetropes. ***Methods and Material: A cross sectional study was carried out in patients presenting to ophthalmology OPD for routine eye checkup at new Civil Hospital, Surat. ***Result and Conclusion*:** The study showed no statistically significant difference between CCT in myopes, emmetropes and hyperopes. Changes in axial length were significant in myopes, emmetropes and hyperopes. There was no statistically significant difference between central corneal thickness in myopes, emmetropes and hyperopes.

Keywords: Central Corneal Thickness, Axial Length, Myopes, Emmetropes, Hyperopes.

INTRODUCTION

- Approximately two thirds of optical refraction is due to cornea and its relation to myopia which has been studied since long time.
- Myopia is increasing in prevalence among the population of East Asian origin.
- Refractive surgery have become popular.
- Central Corneal thickness is an important consideration.
- Purpose of study is to determine correlation between CCT and degree of myopia, corneal curvature, axial length and age of patient.

MATERIALS AND METHODS

- Patient presenting to Ophthalmology OPD for routine eye checkup were evaluated.
- Exclusion criteria–Patients with previous ocular surgery, glaucoma or any other disease affecting the central corneal thickness.
- Central Corneal Thickness- Ultrasound pachymeter.
- Axial length-A-Scan (Appascan Max, Biomedix)
- Corneal Curvature-Keratometer
- A probability of 0.05 was considered statistically significant.

RESULTS

- Total of 150 eyes
- Mean age of 18-45 years

Total eyes	**150**
Myopes	66
Hypermetropes	33
Emmetropes	51
Male	54
Female	67

Refractive error	**No. ofParticipants (%)**	**Mean CCT+/-SD**	**Mean AL+/-SD**
Myopia (n=66)		549.16+/-27.07	24.01+/-0.88
2-4	33(50)	551.51+/-21.5	23.72+/-0.69
>4-6	26(39)	543.34+/-27.4	24.25+/-0.75
>6	7(11)	552.51+/-46.17	24.50+/-0.79
Hypermetropia (n=33)		549.84+/-31.75	21.67+/-1.30
2-4	27(82)	551.44+/-30.15	21.58+/-0.39
>4	6(18)	542.66+/-60.62	22.75+/-2.95
Emmetropia (n=51)		545.68+/-27.02	22.37+/-0.83
Total	150	547.80+/-28.665	22.97+/-1.33

CONCLUSION

- The study showed no statistically significant difference between CCT in myopes, emmetropes and hyperopes
- Changes in axial length were statistically significant in myopes, emmetropes and hyperopes
- Changes in mean of corneal curvature in myopes, emmetropes and hyperopes
- There was no statistically significant association between CCT and age.

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