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Objective refraction measurement variations with off the axis retinoscopy

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Introduction: Retinoscopy is a technique that objectively determines eye's refractive error.**Aim:** Objective of this study is to find the effect of off-the-visual axis retinoscopy on objective refractive measurement in routine clinical practice**Material & Methods:** Study was based on 450 subjects, with age range – 15-30 years; male were 225 and female were 225, and the study was conducted from 01.03.2015-25.4.2016; 150 myopes > (-3.00Ds/-1.00dc), 150 hyperopes > (+3.00Ds/-1.00dc), 150 emmetropes were selected for the study. Spherical refractive error +/- 3.00Ds and cylindrical error - 1.00Dc and the subjects with ocular pathology and strabismus are excluded. Retinoscopy was carried out in +/- 0.12 steps on visual axis (0 degrees) and at 50,100,150,200 off the visual axis. Targets were selected from snellen chart and presented isolated optotypes are of 6/60 letter size and the letters are attached to a mirrored wall at different eccentricities at a distance of 3 meters from the subject.**Results:** Mean cylindrical error on off-the-visual-axis alignment was -0.32D,-0.40D,-0.51D,-0.72D at 50,100,150, 200 of eccentricity respectively which is statistically significant ($p=0.001$). Group wise comparisons for mean cylindrical change in emmetropes and hyperopes statistically significant for different eccentricities from the visual axis with P value of 0.001, 0.003 & 0.367 respectively. The mean spherical equivalent refractive error is -0.46,-0.55,-0.64,-0.56,-0.68 at 0, 5, 10, 15 and 20 degrees respectively and not statistical significant with p value of 0.98.**Conclusion:** Off the axis refractions, even at small degrees of eccentricities resulted in significant errors in refractions.

Biography

Amila Sampath Chandrasekera has completed the certificate of ophthalmic assistance in 2011 and completed diploma in optometry in 2015 from academy of Vision Care Optical Services Sri Lanka. He has presented oral and poster presentations in academic and international level poster and won the second place for best poster award in International conference in Clinical and Experimental Ophthalmology 2015. Currently, he is practicing at the retinal and glaucoma diagnostic unit at Vision Care Optical Services PVT LTD head office Sri Lanka.

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