

UNIVERSITI TEKNOLOGI MARA

**RELATIONSHIP BETWEEN CENTRAL CORNEA
THICKNESS (CCT) AND INTRAOCULAR
PRESSURE (IOP) AMONG MYOPIC PATIENT**

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ABSTRACT

Glaucoma is the second leading causes of irreversible blindness in the world with Asian to be half of the world's glaucoma population. Central corneal thickness (CCT) and intraocular pressure (IOP) has become an important parameter in diagnosing, classify, and monitor the progression of the glaucoma. Besides that, it also important when planning cornea refractive surgery. The purpose of this study is to to find the mean value of central cornea thickness (CCT) and intraocular pressure (IOP) in young Malay adult and its relationship on myopic correction. A cross-sectional and descriptive in which a sample of 65 eyes either emmetrope or myope aged from 18 to 40 years old are selected from subject that attending UiVision Care Clinic. We studied CCT, IOP, degree of myopia and their relationship by calculating the mean, standard deviation and 95% confident interval for mean. In a young Malay adult, the mean overall CCT was $530.98 \pm 29.39 \mu\text{m}$. There is no significant difference in mean CCT either between genders or difference degree of myopia as $p > 0.05$. The overall mean for IOP $13.55 \pm 2.24 \text{ mmHg}$. There is negative correlation founds between CCT and age and also between IOP and age. As an age increases, CCT or IOP value is decreases. A linear relationship was found between CCT and IOP. IOP is increased 2.6 mmHg for each 100 μm in CCT. CCT influenced the IOP value by 12%. As a conclusion, the mean CCT found in young Malay is slightly lower comparable values in Caucasian and adult Spain. This information may be useful for refractive surgeon when selecting patients for refractive surgery.

CHAPTER 1

INTRODUCTION

1.1 BACKGROUND

Casson and friends (2012), stated that glaucoma is a term describing a group of ocular disorder with multi-factorial etiology united by a clinically characteristics intraocular pressure-associated optic neuropathy. Glaucoma is the second leading cause of blindness worldwide, with Asian accounting for approximately half of the world's glaucoma cases (Shen et al., 2008). Glaucoma is second to cataract and leading cause of irreversible visual loss with commonly due to primary open angle glaucoma (POAG) (Giangiacomo & Coleman, 2009). According to Giangiacomo and Coleman (2009), glaucoma accounted about 12.3% of global blindness while Shen and friends (2008) stated that prevalence of glaucoma in Asian population ranges between 2.4% to 5%. In a survey done in Chinese Singapore, 3.2% people age 40 to 80 years old have glaucoma, 50% are POAG cases and 30% have primary angle closure glaucoma (PACG) (Shen et al., 2008).

Myopia is a common refractive error and increasing in prevalence among the population of East Asian. Myopia in young population of Singapore range from 30% to 65% (Fam et al., 2006) and it could up to 95% in medical school student (Al-mezaine et al., 2008). One of the risk factor for POAG is myopia and according to Giangiacomo and Coleman (2009), two to threefold increased risk of having glaucoma among those with moderate to high myopia (spherical equivalent of -3.00 D or greater). Others possible risk factor include increasing age, African ethnicity, family history, increased