

**UNIVERSITI TEKNOLOGI MARA**

**THE VARIATION OF ACCOMMODATION  
RELAXATION AT DISTANCE AMONG NON-  
PRESBYOPES AND PRESBYOPES**

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**Project submitted in fulfillment of the requirements  
for the**

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## AUTHOR'S DECLARATION

I declare that the work in this dissertation was carried out in accordance with the regulations of Universiti Teknologi MARA. It was original and was the results of my own work, unless otherwise indicated or acknowledgement as referenced work. This topic has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

In the event that my dissertation be found to violate the conditions mentioned above, I voluntarily waive the right of conferment of my degree and agree to be subjected to the disciplinary rules and regulations of Universiti Teknologi MARA.

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## ABSTRACT

**Purpose:** Relaxation of accommodation at distance was not perfectly constant while fixating at an immobile object. A small fluctuation normally presents at various distance viewing which was termed as variation of accommodation. The purpose of this study was to find out the variation of accommodation at distance between the non-presbyopia and presbyopia in Puncak Alam, Selangor. **Methods:** This study used convenient sampling method with a sample size of 26 persons in this study. The research instrument used was experimental to the non presbyopic and presbyopic patient in Puncak Alam age between 20 to 55 years old who came for ophthalmic care in Optometry Clinic, UiTM Puncak Alam. Variation of accommodation at distance were gathered for one-minute duration using infrared open field autorefractor with the subjects fixated on distant target at 6 meters. **Result:** The root mean square (RMS) value for variation of accommodation at distance amongst non-presbyopia and presbyopia groups were 0.3508 and 0.3027, respectively. This showed that the variation was higher in non-presbyopia than presbyopia. In analyzing the statistical difference, Power and Sample Size (PSS) software was used. Nevertheless, Mann-Whitney U test showed that there was no significant difference in the variation of accommodation relaxation at distance among the non-presbyopia and presbyopia ( $p>0.05$ ). **Conclusion:** The findings from our study suggested that the reduced capability to accommodate in presbyopia might not significantly affect accommodation relaxation with zero accommodation demand (at infinity).