UNIVERSITI TEKNOLOGI MARA

THE VARIATION OF ACCOMMODATION RESPONSE AT NEAR AMONG NON-PRESBYOPES AND PRESBYOPES.

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DECLARATION

I declare that the work in this dissertation was carried out in accordance with the regulations of University Teknologi MARA. It is original and is 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 violet the conditions mentioned above, I voluntarily waive the right of conferment of my degree and agree be subjected to the disciplinary rules and regulations of University Teknologi MARA.

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ABSTRACT

The purpose of this study to assess the variation on the accommodation response at near among the non-presbyopia and presbyopia and to determine the difference in the variation of accommodation response at near. The sampling design that be used in this research was convenience sampling design. Twenty participants for each non-presbyopia and presbyopia were volunteered to participate in this research and pass all screening test, however only 18 participants on presbyopia were eligible the reading of variation accommodation response at near between the range -2.00D to -5.00D. The range of age of non-presbyopia was 20 to 40 years old (mean age: 26.95 ± 5.191 years). For the range of age on presbyopia was 41 to 55 years old (mean age: 47.85 ± 7.473 years). The variation readings of the accommodation response at near being taken by using infrared autorefractor. Root mean square method had being used to analyze the variation on the accommodation response over times on sinusoidal graph. In addition , the variation of accommodation response at near can be statistically processed and described through the mean and standard deviation of accommodation index error as descriptive analysis from parametric test. The mean and standard deviation reading was taken by removed the blink reading from the data automatically using Microsoft excel macro capabilities to get the actual reading of accommodation response. The mean ± standard deviation value of the accommodation index error on non-presbyopia and presbyopia were 1.03 1± 0.376 and 1.025 ± 0.365. The Independent T-test had being used by using SPSS for statistical method to compare the root mean square of the accommodation index error among the non-presbyopia and presbyopia. From the result, there was no significant difference ($p>0.05$) on the root mean square on non-presbyopia and presbyopia with $p = 0.623$ and $t = 2.365$. The p-value indicated the evidence was the null hypothesis. From this study, it can be concluded the non-presbyopia and presbyopia had similar level of variation on accommodation response at near with the target at 25cm with the accommodation demand range between -2.00D to -5.00D.

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