

**UNIVERSITI TEKNOLOGI MARA**

**POST-NEARWORK MYOPIC SHIFT BETWEEN  
NON-PRESBYOPIA AND PRESBYOPIA**

**NURUL NAQUIAH BINTI SULAIMAN**

**Bachelor of Optometry (Hons)**

**Faculty of Health Science**

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## **AUTHOR’S DECLARATION**

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

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Name of Student : Nurul Naquiah binti Sulaiman

Student I.D. No. : 2011222142

Programme : Bachelor (Hons) of Optometry – HS 226

Faculty : Faculty of Health Science

Project Title : Post-Nearwork Myopic Shift Between Non-  
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Signature of Student : .....

Date : 13 JULY 2015

## ABSTRACT

### Study on Post-Nearwork Myopic Shift Between Non-Presbyopia and Presbyopia

The purpose of the current study was to determine and compare the post-nearwork myopic shift between non-presbyopia and presbyopia. Post-nearwork myopic shift refers to the small, transient, pseudomyopic shift in the far point of the eye after a period of sustained near work. Post-nearwork myopic shift was also defined as short-term myopic far point shift immediately following a sustained near visual task. The previous studies had been done regarding the comparison between post-nearwork myopic shift in refractive errors and visual discomfort but less was done among early and late presbyopia population (>35 year old). This was a study in determining the initial magnitude of post-nearwork myopic shift between non-presbyopia and presbyopia and to assess the different of initial magnitude of post-nearwork myopic shift between these two groups. This research was conducted in UiTM Puncak Alam, Selangor involving 14 non-presbyopes with no addition power and 9 presbyopes whom at least need +1.00 DS in either eye for near vision in addition to their best corrected distance correction. To allow for dissipation of any residual accommodative transients, subjects remained seated in total darkness for 5 min. After dark adaptation, subjects viewed binocularly at distant target (6 m) for 2 min and immediately focus at near task which was done using the spot-the-difference target for about 5 min with additional lens (if needed). The distant target (6 m) was introduced after the near viewing for about 2 min upon removal of addition lens (if any). Post-nearwork myopic shift was calculated as the difference in five measurements of post-near task distance refractive state compared with the five measurements of pre-near task distance refractive state. The post-nearwork myopic shift initial (mean  $\pm$  SD) analysed by the Mann-Whitney U test was  $-0.67 \pm 0.61$  DS (mean rank = 16.72) for non-presbyopes and  $-0.15 \pm 0.09$  DS (mean rank = 8.96) for presbyopes by statistically significantly difference of  $p = 0.005$ . At the end of this study, it can be concluded that there was initial magnitude of post-nearwork myopic shift present in all individuals and it was higher in non-presbyope group compared to the presbyope group.

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