ABSTRACT

Malaysia comprises of multiple ethnic groups, each with a different skin color. The skin color type is related with risk factor of skin cancer and vitamin D deficiency. Thus, the device commonly used for skin color measurement are Fitzpatrick Skin Type Chart Measurement (FSTCM) and Mexameter (Mx 18). The objective of this study was to test the reliability of...
FSTCM in comparison to MX 18 in measuring skin color. A cross sectional study among first trimester pregnant mothers was performed at their first antenatal visit. The samples were taken from subjects from different ethnic backgrounds with different skin color who were currently living in one of the urban districts in Malaysia. A total of 396 (98%) respondents, aged 18-40 years old had completed the skin test using both MX 18 and FSTCM measurement. The mean age of respondents was 28.07 ± 4.09 years old. The skin type for Malays ranged from skin type I to skin type VI, Chinese ranged between skin type I to IV, meanwhile for Indians the skin type ranged from IV to VI. The Kappa value was 0.731 (p<0.001) for inter-researcher agreement for FSTCM measurement. Thus, the agreement was substantial as they agreed on 80% of the subjects. Meanwhile, for Mx 18, the intra-class correlation (ICC) for inter-researcher with average measure was 0.985 (95%CI-0.982-0.988). The intra-class correlation (ICC) between different time points was 0.99, estimating the reliability of Mx 18. Spearman correlation coefficient between FSTCM and Mx 18 was 0.88 (p<0.001). As a conclusion, the predominant skin color type for Malays is skin type III, while for Chinese is skin type II. The Indians skin are mostly in type V-VI. The ethnicity will not determine the skin type color as the skin types are overlapping between the ethnics. Hence, FSTCM which is a reliable and cheap device can be used for skin color screening purposes. Nevertheless, Mx 18 is an appropriate device to be used for diagnostic and cosmetic purposes.

Keyword: Pregnant Mothers, Fitzpatrick Scale, Mexameter (Mx 18), Reliability, Malaysia