

## **B35 Validity of digital food photograph series for portion size estimation aid among adults**

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The validity of portion size estimation aids is essential to enhance the accuracy of portion size estimates during dietary assessment. The objective of this study was to determine the validity of a digital food photograph series for portion size estimation aid among adults. This study was conducted through perception. A total of 20 types of food with digital image series were selected and validated among a group of adults. The number of subjects was 54, including 25 males and 29 females with a mean age of 29.6±6.9 years. Each set of digital photograph series has seven portion size images. A total of 40 pre-weighed portion sizes were used as references and presented for evaluation by each subject. It consisted of 20 portion sizes that were identical weight as a portion size image, while the remaining 20 portion sizes were presented with altered weight relative to a portion size image. Subjects were asked to match the presented portion sizes with one of the closest portion size images they perceived as displayed on the tablet screen. Overall, 2160 comparisons were made by all subjects in this study. Results showed that 97.8% of adults were able to select correct or adjacent portion size image on average. The weight discrepancy for all portion sizes presented was 10.6%. Significant differences ( $p < 0.05$ ) were found between the estimation accuracy of subjects with recipe-guided ( $p = 0.032$ ) and without recipe-guided ( $p = 0.027$ ) cooking experience except for sex, BMI and educational level ( $p > 0.05$ ). In conclusion, the overall performance of the digital food photograph series was good, although the correct classification for two food items was less than 50%. This study demonstrates the importance of a newly developed portion size estimation aid to be validated before use by health professionals and the public in the future.