

An exploratory study of visual aids using life-sized photographs of serve/portion sizes of foods and their effectiveness in recording dietary intakes

ABSTRACT

The aim of the present study was to develop life-sized food photographs as a tool for dietary intake assessment. This was an experimental study and used weighed record method to measure the dietary intake of subjects and a one-day 24-hour recall method was used to compare with the weighed record method. A total of fifteen subjects of Universiti Putra Malaysia staff with monthly household income below than MYR2300 (low income) were selected. From a hundred and sixteen food items were photographed, eleven of them were chosen for validation. A paired samples t-test showed that the percent weight differences between weighed record and 24-hour recall methods was between -10.7 to 5.3%, and foods that had definitive shape and form couldn't be estimated by the subjects. A correlation analyses between the two methods shows that there was a significant correlation ($p < 0.01$) between these two methods. Nutrient intake analyses show that macronutrient intakes differed between 8.1 to 11%, while for other nutrients the differences were between -2.0 to 3.1%. Findings showed that there was no significant difference between both methods for nutrients ($p \geq 0.05$), while vitamin A and C ($p \leq 0.01$) and iron ($p \leq 0.05$) had positive correlation. An accurate estimation of micronutrient intakes for 24-hour recall method shows that these photographs can be used in dietary intake assessment to reduce the error and increase the accuracy in food and nutrient intakes estimation.

Keyword: Food photographs; Weighed record; 24-hour recall, Dietary assessment; Exploratory