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Setting-up a method based on digital photography to measure food intake in real meal situations - application to a geriatric institution

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Resume: Measuring food intake is an important issue in geriatric institution but requires to be integrated in a real sitting environment. Using standard methods like weighed food method is not well adapted especially when food items intakes (vegetables, meat, sauce...) have to be differentiated in order to investigate qualitative food choices. The aim of this exploratory study is to investigate for different types of food the reliability of a tool based on digital photography to measure food intake in geriatric institution; in allowing differentiating food items intakes. 3 independent non-trained raters evaluated food items and total intakes on the basis of 867 plate images taken before and after meal in the context of a geriatric intuition (4 different dishes). To test the reliability of the method based on photography, agreements between and within assessors were assessed using intra-class correlations. The results showed the raters provided repeatable ratings and agreed between them. In the light of these results we can assume that raters do not need specific training if clear reference images are available to self-calibrate the visual estimation. Further statistical studies have to be implemented to test the accuracy of the method based on photography compared to weighed food method and thus, to validate this tool in the context of a geriatric institution.

Keywords: food images, food intake, food items, geriatric institution

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