

Perspectives of food intake estimation using digital photography

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The method calculates the food intake of adults and children under dietetic/medical guidance/monitoring. Dieticians apply this method, to keep in contact and guide patients/clients; still, can be applied in community-nutrition services, to support public health. For community reasons a platform may be developed for participants to receive nutritional recommendations; achieve weight loss and health promotion goals. Images of the actual food plates before and after the meal are recorded and transmitted using mainly cell phones or tablets, or computer applications; to be further analyzed and compared to standard pre-calculated meals. Applications are developed, to calculate energy and nutrient intake, including macronutrients, as protein, lipids. Data may be transferred and analyzed retrospectively, in near real-time, or even in real time. The method may be incorporating computer automation to improve accuracy. However, reliability and validity of food intake measurement must be examined, in each case of integrated applications, since the technical aspects of the recording, as well as the transfer and analysis software may affect the overall results. The ability to compare a participants' dietary intake, first with the reference food (i.e. the accuracy of these food composition); the comparisons within a group or between groups etc., represent major challenges. Furthermore, the benefit as well as the limits of the involvement of experts that cooperate with integrated intelligent systems, on the basis of not only the nutritional analysis but the nutritional guidance and even clinical nutrition support also, remains an area of applied dietetics to be further studied.