

Efficiency of Mobile Applications for Diet Monitoring in Weight Loss: A Cross-Sectional Study

Darius DÎRPEȘ*, Sergiu URSACHE, and Mirela FRANDEȘ

“Victor Babeș” University of Medicine and Pharmacy, Timișoara, 2 Eftimie Murgu, 300041 Timișoara, Romania

E-mails: dariusdirpes@gmail.com; ursachesergiu@gmail.com; mirela.frandes@umft.ro

* Author to whom correspondence should be addressed

Abstract

Background and Aim: The increasingly advanced evolution of technology has allowed research that aims to observe very carefully the level of satisfaction of people who use mobile applications for monitoring the consumed calories. Certain people were tracked to see the evolution of weight loss and weight gain using their smartphones. The aim of this study was to present how artificial intelligence can help people with basic medical advice. *Materials and Methods:* The study was conducted online in 2023. To achieve the results, the questionnaire technique was used, being one of the most important tools used in market research, having several advantages compared to other types of similar studies. A sample of 100 people, 50 men and 50 women, aged between 18 and 50 years old, agreed to participate to the study. *Results:* The mobile applications serve as a diet and exercise tracker with the objective of helping to set weight gain or loss goals, counting calories, keeping a food diary. It also tracks carbohydrates, proteins, fats, vitamins and minerals, being able to establish specific diets, such as keto or vegan. It has the role of serving as a mini personal trainer that a person can have at any time of the day. It provides nutritional information of the products consumed that can appear with a simple scan of the barcodes. The applications were predominantly used by adults up to 35 years old, with a higher educational level. People usually spend around 10 minutes a day with it. BMI values have a tendency to be normal or increased. The desired weekly caloric deficit varies between 2000-4000 calories and up to 96% from the participants see a full or partial correlation regarding caloric deficit and intended weight. These applications are easy to use and free or very cheap in the case of certain premium features, it provides daily access to calories consumed, constant notifications to achieve goals and keep motivation. Otherwise, the intervention of a specialized nutritionist may be necessary in special situations to assure if a person has set the goals properly for his state of health. As well, the elderly tends not to be able to use technology so easily. *Conclusions:* The results showed that mobile applications help people to have more balanced diets by monitoring their ingested calories. It helps to maintain motivation and preserve progress and there is a certain tendency to be used especially by people who want to lose weight compared to those who want to gain weight, although it can also be used to increase muscle mass. The questioned people were found to be more confident by improving their self-esteem.

Keywords: mHealth; Self-monitoring; Diet; Nutrition; Obesity; Questionnaire; Cross-sectional study

