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Abstract

Alimentación S2: An App-Based Intervention to Promote Sustainable Healthy Diets †

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Abstract: Background and objectives: Changing dietary patterns into sustainable healthy diets is urgent. So far, few behavior change interventions have addressed all dimensions of dietary sustainability (i.e., nutrition and health, economic, socio-cultural, and environmental) at once. Cutting-edge methodologies, such as eHealth, could be an appealing way to implement such interventions. This pilot study aimed to assess the acceptability and effectiveness of an app-based behavior change intervention, promoting the adoption of a sustainable healthy diet. Methods: Twelve participants were enrolled in a one-year n-of-1 clinical trial (2-week baseline + 22-week intervention + 24-week follow-up). The intervention consisted of push notifications (educational, motivational, or recipes) through an app, as well as scheduled individualized online feedback sessions. The consumption of 10 key food groups for a healthy diet with a low environmental impact was monitored daily on fifteen weekly bursts spread throughout the study by means of an app-based validated questionnaire. Other key aspects for a sustainable diet (e.g., socio-economic or food waste) and the acceptability of the intervention were assessed qualitatively through three interviews. Results: Throughout the study, dietary patterns of 10 out of 12 participants were more aligned with an environmentally sustainable healthy diet. Two of the participants did not modify their diet substantially. The consumption of fruits and vegetables, legumes, and whole grains increased over time, while that of red and processed meat decreased. Diverse results were observed for dairy products and ultraprocessed foods. Over time, half of the participants reported an increased concern for the socioeconomic dimension of dietary sustainability, and 70% reported an increased concern about food waste. Participants provided positive feedback on the text messages they received, the utility of the individual online feedback sessions, and the adequacy of the frequency of response and the ease with which the app-based dietary questionnaire is answered. Conclusions: This pilot study implemented through eHealth technology was effective for changing eating behaviors towards a sustainable healthy diet. The methodology and materials developed can be useful in designing future large-scale interventions.

Keywords: sustainable diet; mobile health; digital health; eHealth; mHealth; dietary environmental impact; eating behavior; dietary sustainability

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