

## Abstract

# Switching Mediterranean Consumers to Mediterranean Sustainable Healthy Dietary Patterns (SWITCHtoHEALTHY): Study Protocol of a Multicentric and Multi-Cultural Family-Based Nutritional Intervention Study <sup>†</sup>

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**Abstract:** The population from Mediterranean countries is abandoning the Mediterranean traditional dietary and lifestyle pattern (MD), moving to unhealthier habits because of profound socio-economic changes. There is a lack of adequate study protocol for inducing a positive dietary, environmental and lifestyle behavior in the family setting. SWITCHtoHEALTHY aims to demonstrate the efficacy of a multi-component nutritional intervention to improve the adherence of families to MD in three Mediterranean countries. A parallel, randomized, controlled trial will be conducted in 480 families with children and adolescents aged 3–17 years from Spain, Morocco and Turkey over 12 months. The multi-component intervention will combine digital interactive tools, hands-on educational material and easy-to-eat healthy developed snacks for children. Through the SWITCHtoHEALTHY App, the parents will receive personalized weekly meal plans and ideas and suggestions about dinner and weekend preparation taking into account the children's lunch, promoting a balanced food intake for all family. The engagement of all the family will be prompted by using a life simulation game. In addition, a set of activities for adolescents based on a learning-through-play approach to be carried out within the family and at the research centers will be developed through co-creation. Innovative and sustainable plant-based snacks will be introduced to the children's dietary plan as healthy alternatives for between meals. By using a full-factorial design, families will be randomized into eight groups (one control and seven intervention) to test the independent and combined effects of each component. Three visits will be performed, including one pre-assessment (baseline), one at the beginning (month 9) and one after the 3-month intervention (month 12). The impact of the intervention on diet quality, economy and the environment, as well as classical anthropometric parameters and vital signs, will be assessed at each visit. The main outcome will be adherence to the MD assessed through MEDAS in adults and KIDMED in children and adolescents. This protocol describes the rationale, eligibility criteria, methods, recruitment strategies and analysis plan of a novel multi-component intervention. SWITCHtoHEALTHY will provide new insights into the use of sustained models for inducing dietary and lifestyle behavior changes in the family setting. It will allow for generating, boosting, and maintaining the switch to a healthier MD dietary pattern across the Mediterranean area.

**Keywords:** Mediterranean diet; multi-center study; family intervention; health education; diet education; sustainability

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