

Adventist Health, Lifestyle and Environmental Study in Argentina (AHLESA): Development and validation of instruments and tools for data collection

Sara Leeson¹, Ismael A. Contreras-Guillén¹, Rocio V. Gili¹, Belén Carlino¹, Daniel Xutuc¹, Marcia Cristina Teixeira Martins¹, Joan Sabaté², Winston J. Craig², Fabio J. Pacheco¹, Gina Segovia-Siapco² and Sandaly O. S. Pacheco¹

¹Interdisciplinary Center for Research in Health and Behavioral Sciences, School of Medicine, Adventist University of River Plate, Libertador San Martín, Entre Ríos, Argentina

²School of Public Health, Center for Nutrition, Healthy Lifestyle and Disease Prevention, Loma Linda University, Loma Linda, CA, United States

Abstract

The AHLESA is a collaborative research study carried out by a team of researchers from the Universidad Adventista del Plata and Loma Linda University within the framework of the Grants for Research and School Partnerships International (GRASP-Intl) program. AHLESA will establish the basis for an interventional longitudinal study, the Adventist Health Study in Argentina.

The main objective of AHLESA is to assess the health-related lifestyle habits of Argentinian adults attending SDA institutions (churches, schools, hospitals, and health clinics) throughout Argentina. Data to be collected will include non-communicable diseases and their risk factors, omics (metabolome and microbiome), and the environmental impact of food choices.

To achieve these objectives, a tool called MAR24 was developed. The MAR24 is a dietary analysis software that can be utilized to collect and analyze dietary data, e.g., 24-hr dietary recall (24HR), food records, menus, and recipes. It is the first tool in Argentina that uses the Automated Multiple Pass Method of the USDA in collecting 24HR. MAR24 may be used to optimize dietary data collection and nutrient consumption analyses in clinical practice and clinical trials for monitoring purposes, and validation of food frequency questionnaires (FFQ) for nutritional epidemiology studies.

For habitual dietary intake assessment, an online food frequency questionnaire (FFQ) was developed. Food and utensils visuals are included in the FFQ to facilitate food intake estimations. The FFQ was validated for energy and 50 nutrients in Argentinian adults attending SDA institutions.

AHLESA participants will answer the FFQ and other instruments in the convenience of their homes and according to time availability using a mobile web application “Survey Research” developed for this study. At the completion of questionnaires, an automated personalized health report representing the lifestyle habits of the participant will be available, including portions of food groups and nutrient daily intake, an illustrative image representing meal frequency and timing, physical activity level, sleep quality, rest, perceived levels of stress, sun and nature exposure, and anthropometric measurements. The health report may be used to objectively self-assess different aspects of lifestyle habits and for decision-making purposes. It also may be shared with a trusted health professional to assist in improving lifestyle habits.

The MAR24, the FFQ, and the Survey Research App are valuable tools for prospective data collection for the AHLESA study.

Contact: Sandaly O. S. Pacheco, MD, MSc, sandaly.oliveira@uap.edu.ar