



Feasibility study among children and adolescents to prepare the next national nutrition surveys

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Key words

National nutrition survey, menuCH, feasibility study, children, adolescents, dietary intake

Aims of the study

Our project aimed at 1) conducting a feasibility study among healthy children and adolescents in Lausanne, 2) describing dietary intake of the Swiss adult population, and 3) developing recommendations for the next national nutrition surveys.

Material and methods

For the cross-sectional small-scale nutrition survey, we recruited a population-based sample of 53 children aged 3 to 17 years. We assessed their dietary intake with two non-consecutive computerized 24-hour dietary recalls (24HDR, assisted by 24-hour food diaries in children under 11 years) and an on-line food propensity questionnaire. We collected spot urine, toenails, venous and capillary blood. Additionally, we analysed 2014-2015 data from the first national nutrition survey, menuCH, that assessed dietary intake of 2,086 Swiss residents aged 18 to 75 years (2 x 24HDR).

Results and significance

In children and adolescents, participation at the feasibility study was low (16%), but comparable to menuCH. The developed child-specific dietary assessment tools were well accepted by participants and their caregiver(s). Compliance to bio-sample collection was high for all bio-samples and in the different age groups (between 79% and 100%). In adults, menuCH data indicated that food consumption patterns substantially differed between the German, French and Italian-speaking parts of Switzerland. We also showed that the vast majority of the Swiss adult population poorly adhered to the national dietary food-based guidelines. The next national nutrition surveys should include children, strengthen recruitment procedures to increase participation rate, use methods to assess both short- and long-term dietary intakes. Collection of bio-samples is also highly recommended to rely on objective nutrition biomarkers to assess the nutritional status and establish population references. This will lead to a better assessment of dietary intake and nutritional status of the population to further fine-tune national dietary guidelines and guide future nutrition policies.

Publications, posters and presentations

Internal report for FSVO:

Chatelan A, Bochud, M. (2018). Lessons learnt about a feasibility study among children and adolescents aged 3 to 17 years to prepare the next national nutrition survey.

Posters:

Swiss Public Health Conference, 28-29.10.2019, Winterthur, Switzerland. Chatelan A, Rezzi S, Bochud M. Micro-nutrient status among Swiss children and adolescents: a pilot study.

38th congress of the European Society for Clinical Nutrition and Metabolism (ESPEN), 17-20.09.2016, Copenhagen, Denmark. Chatelan A, Zuberbuehler C, Camenzind-Frey E, Bochud M. SUN-P126: Should we Adjust for Seasonality in Food Consumption Surveys? Clin Nutr. 35: S90.

European Congress of Epidemiology, 04-06.07.2018, Lyon, France. Chatelan A, Castetbon K, Pasquier J, Allemann C, Zuber A, Esther Camenzind-Frey E, Zuberbuehler CA, Bochud M. Are dietary patterns at breakfast associated with abdominal obesity in a population-based survey? Access to abstract: <https://doi.org/10.1016/j.respe.2018.05.298>.

Oral presentation:

Swiss Public Health Conference, 22-23.11.2017, Basel, Switzerland. Chatelan A, Beer-Borst S, Randriamiharisoa A, Pasquier J, Blanco JM, Siegenthaler S, Paccaud F, Slimani N, Nicolas G, Camenzind-Frey E, Zuberbuehler CA, Bochud M. Major differences in diet across three linguistic regions of Switzerland: results from the first nutrition survey menuCH.

Published articles:

Chatelan A, Beer-Borst S, Randriamiharisoa A, Pasquier J, Blanco JM, Siegenthaler S, Paccaud F, Slimani N, Nicolas G, Camenzind-Frey E, Zuberbuehler CA, Bochud M. Major Differences in Diet across Three Linguistic Regions of Switzerland: Results from the First National Nutrition Survey menuCH. Nutrients. 2017 Oct 25;9(11).

Chatelan A, Castetbon K, Pasquier J, Allemann C, Zuber A, Camenzind-Frey E, Zuberbuehler CA, Bochud M. Breakfast dietary patterns and abdominal obesity in the Swiss adult population. Int J Behav Nutr Phys Act. 2018 Nov 20;15(1):115.

Online article published by FSVO:

Krieger JP*, Chatelan A*, Pestoni G, Sych J, Faeh D, Bochud M, Rohrmann S. Quels sont les types de déjeuner consommés en Suisse et sont-ils associés à la qualité globale de l'alimentation ? Bulletin nutritionnel suisse 2019.

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