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EDITORIAL

Children's dietary assessment and promotion: The Swiss situation

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Introduction

In October 2019, scientists and practitioners gathered in a workshop on Children's Dietary Measurement and Promotion in Bern, Switzerland. The workshop aimed to establish partnerships for childhood nutrition promotion, monitoring, and measurement in Switzerland. Synergies between research and practice exist, but collaborations are lacking due to the multi-language makeup of the country and to reduced funding. Efforts are needed to bring research, practice, and policy together, to stimulate the valid and affordable measurement of nutrition and eating behavior, and to promote healthier eating in Swiss children. This is timely, given the now century old tradition of Public Health in Switzerland, and the growing importance of lifestyle across the life course.

The study of nutrition must move beyond the clinical context to include understanding of the ways in which children eat, what they eat, and what determines such behavior. Combined with clinical data, these measures should provide public health and medical stakeholders the information needed to implement programs helping children and families to obtain and consume a higher-quality diet. In this position paper, we provide an overview of nutrition promotion, monitoring, and measurement in Switzerland, highlighting gaps and opportunities for the way forward.

The Swiss situation

In the last years, there was a decrease in the prevalence of overweight and obese children in Switzerland (Herter-Aeberli et al. 2019), but differences persist between cantons and socioeconomic levels: children from migrant or less educated parents have a two- to threefold higher likelihood of being obese.

Health promotion is paramount to improve dietary quality in youth, but its multi-level organization makes coordinated actions challenging. At the national level, the *Federal Office of Public Health* organizes prevention campaigns and has a national strategy for the prevention of non-communicable diseases (Federal Office of Public Health 2017). The *Federal Food Safety and Veterinary Office* defines the responsibilities for food production and

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regulates the use of additives. *Health Promotion Switzerland* coordinates and evaluates measures to promote health (Gesundheitsförderung Schweiz 2019); however, its monitoring system includes children from only three German-speaking cantons, ignoring rural areas and the French- and Italian-speaking regions. Health promotion is also organized at the cantonal level, through cantonal action programs, and at the communal level, for instance at schools and through community initiatives.

Dietary data collection is also organized at different levels. Every 5 years since 1992, the *Federal Statistical Office* runs the *Swiss Health Survey*, collecting health (and dietary) data from participants aged > 15 years. The *Swiss Health Observatory* analyses health data for the Confederation and the cantons (Swiss Health Observatory (Obsan) 2020). Universities and schools of higher education also collect data, but without any coordinated activity. It is therefore difficult to have an overview on all data available for Switzerland to monitor and improve health promotion in children.

Assessing the dietary intake of Swiss children

Several tools have been used between 2006 and 2019 to assess the dietary intake of Swiss children (eTable). The number of participants assessed ranged from less than 100 to almost 10,000. Most tools focused on children aged 6 to 12. Conversion to nutrients was performed in some cases, with the use of different food composition databases. Only a few studies focused on eating behaviors (Suggs et al. 2016; van der Horst 2012) and on how social setting influences eating behavior (Suggs et al. 2018). Overall, information is lacking regarding the validation of dietary and eating behavior measures across the three main Swiss linguistic regions. Furthermore, the available tools are quite heterogeneous and combining their results is almost unachievable.

The way forward

In order to conduct adequate nutrition and eating behavior studies, stakeholders should develop validated tools with a common set of items and a common food composition database. Those tools could then be applied in observational and interventional studies across linguistic regions among infants, toddlers, and school-aged children. A dietary index could be developed and validated to accommodate the different diets across Switzerland. This would facilitate healthier behaviors as participants would receive quick and actionable feedback. Such a dietary index can only be constructed by a national, adequately funded consortium.

Further, experimental studies should be conducted that aim to understand what type(s) of communication families appreciate and is most actionable to help them improve behaviors. Noninvasive biomarkers (urine, feces, hair, or nails) should be preferred to blood and should be an optional component of nutrition studies.

Indeed, Swiss research funding has long prioritized basic research instead of nation-wide longitudinal studies on human behavior. We suggest that priority be given to the creation of multilingual nutrition survey modules for (a) pregnancy to 3 years old (parents/caregivers) and (b) children 6–12 years old (parents/caregivers and children).

Conclusion

In Switzerland, nutritional research in children is scattered and uncoordinated. It is time to develop common and validated tools to measure nutrition and eating behavior of infants, children, and adolescents. Such tools will facilitate comparability of findings across Switzerland and the implementation of public health policies.

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Compliance with ethical standards

Conflict of interest KvdH reports being a former employee of Nestec Ltd. The other authors report no conflict of interest.

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