SESSION 2


Beverage intake methods and hydration status: validation aspects and limitations

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Assessment of beverages and water intake as well as of the hydration status are major challenges in nutrition research despite the large spectrum of research methodologies available. Water intake has been and continues being neglected by most researchers.

Quantification of habitual water exposure by the measurement of food and beverage intake combined with beverages composition is essential to investigate the impact of beverages on health and function.

Difficulties are encountered in the assessment of dietary and water intake. It requires relevant methods to assess the effects of a huge range of diverse foods, beverages and compounds (macro and micronutrients, and non-nutritional bioactive compounds) on individual health. Common methods involve questionnaires such as dietary and beverage questionnaires:

- Beverage frequency
- 24 hour recall
- Diet history over a specific period
- Classical versus photographic beverage record
- Specific beverages items

The validity of these approaches have been often questioned the method could be improved by using dietary recalls more frequently in order to limit the variability and dietary intake markers. Expectations for a better assessment of dietary and beverage intake are focused on new methods such as researches in metabolomics, metagenomics and natural enrichment of stable isotopes which could be helpful in terms of methods validation and useful in addition to standard methods.

The determination of hydration status has received increasing attention over the past 20 years, most of it influenced by the body water losses that can occur in a relatively short period of time related to physical activity or water intake restriction. Bloodborne parameters and urinary markers have been widely studied, and so it is the use of bioelectrical impedance analysis. In most cases, acute changes in body mass are used to signify the body water losses or gains against which comparisons are made, but body mass changes are not synonymous to body water alterations.

Observational studies derived from large epidemiological surveys are able to raise hypotheses in terms of the association between dietary and beverage patterns and health and functional outcomes. These hypotheses as well as other ones derived from experimental researches should be the basis for randomised clinical trials.

Key words: beverage intake, hydration status, water balance, validation.

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6