



## Invited Commentary

# Nutritional knowledge is no guarantee for behavioural change

The paper by Irwin *et al.* entitled 'Assessing the association between water and nutrition knowledge and beverage consumption habits in children', recently published in this journal<sup>(1)</sup>, shows interesting results between the nutrition knowledge and beverage consumption of schoolchildren in Ontario. It claims to demonstrate that children with higher knowledge scores had significantly healthier beverage consumption, with higher-scoring children consuming a higher proportion of water and a lower proportion of sugar-sweetened beverages (SSB) than their lower-scoring peers. The participant's beverage consumption was measured by the number of times per day a child reported consuming water or SSB divided by the total number of beverage consumptions per day. The amount of beverage each drink contains was not reported. The number of times SSB were consumed per day does not show the amount of SSB that was consumed in proportion to water. It is therefore questionable whether the authors can express a reliable statement on potential health effects by the number of consumed SSB without measuring the amounts drunk.

Along with the FFQ monitoring the daily habits on consumption of water and SSB, outcome measurements also included questions about water and the nutrition knowledge of the schoolchildren. Therefore, the same survey was used for all children from age 8 to 14 years. Statistical analysis showed that a higher total nutrition and water knowledge was associated with several socio-demographic factors including an older age of the participant. Whether children with older age have higher total knowledge or whether the questionnaire is more suitable for children with an older age was not discussed.

The setting included seventeen elementary schools. Each school is likely to provide a different structural, organizational and nutritional environment for its pupils. The paper does not discuss the steps taken by the school itself to improve children's beverage choices before the intervention. These different environments could have biased drinking habits and nutritional knowledge of the schoolchildren and could have had an impact on the results of the study.

One major finding was a relatively low total knowledge of the sample (scores: an average of 66 % in total, 72 % for nutrition and 40 % for water). The authors suggest that interventions to increase knowledge may be effective in improving children's beverage consumption habits.

They recommend encouraging education interventions. They described them as cost-effective and easy to implement compared with environmental and policy interventions and highly reproducible, with programmes being adaptable for different populations and different settings. Furthermore, the authors claimed that schools are the ideal environment for health promotion programmes as the children spent the majority of their waking hours there. They describe the potential that providing knowledge at school may serve as an equalizer, minimizing differences in knowledge and access to information between children of different socio-economic status and backgrounds. It was not considered that families are the first socialization instance and that nutritional behaviour is significantly influenced there. Nothing was mentioned on how parents should be involved.

The authors focused on the children's knowledge and they especially recommended nutritional education to improve the pupils' beverage consumption. To change the children's habits effectively, schools will have to provide an environment allowing pupils to practise their newly found nutritional skills. This can succeed only with a toolkit of education, environmental and policy intervention. In addition to providing information, school catering should provide and promote water and other natural drinks low in energy to facilitate access to as well as to encourage consumption of healthy beverages.

The study shows results of an association between the beverage consumption and the nutritional knowledge of schoolchildren. The overall low knowledge score demonstrates exciting potential to improve nutritional education in school. Because of methodological shortcomings regarding the measurement of the daily beverage consumption and the questionnaire on the children's nutritional knowledge, the strength of the association between higher knowledge scores and healthier beverage choices remains to be discussed.

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## Reference

1. Irwin BR, Speechley MR & Gilliland JA (2019) Assessing the relationship between water and nutrition knowledge and beverage consumption habits in children. *Public Health Nutr.* Published online: 14 May 2019. doi: 10.1017/S1368980019000715.