

Hydration status and associated dietary factors in children

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Introduction: An appropriate hydration is essential for normal body function and water may be obtained from beverages and foods.

Objective: To evaluate the hydration status and its relation to beverages and food intake in children.

Method: 172 (50% male), 7-11 years-old children completed a 24h urine collection. The Free Water Reserve was used to assess the hydration status. A 24 hours food recall corresponding to the day of urine collection was collected and a lifestyle and socio-demographic questionnaire was filled by parents. Anthropometric data were obtained. Food and beverage groups were created and unconditional logistic regression models were fitted in order to estimate the magnitude of the association between the contribution of beverages/food's water content and the hydration status.

Results: 57.6% of children were classified as at risk of hypohydration. A significant higher consumption of water (276.2 (\pm 208.4) vs. 188.2 (\pm 187.4) g/day) and fruit juices (77.6 (\pm 139.4) vs. 14.4 (\pm 57.2) g/day) was reported by euhydrated boys and girls, respectively,

compared to hypohydrated ones. A lower consumption of water and juices 100% was associated with a higher risk of hypohydration (OR = 2.16, 95% CI: 1.02 – 4.58, $p = 0.045$), adjusting for confounders.

Conclusions: Almost 60% of children were at risk of hypohydration. Water and fruit juices were significantly associated with a better hydration status.

Key words: children, dietary Intake, hydration status.

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