## Beverages intake and hydration status in adolescents

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*Introduction:* Type and quantity of beverages intake among adolescents may influence their hydration status.

*Objective:* To evaluate the association between hydration status assessed by Free Water Reserve (FWR) and consumption of 5 types of beverages (water, milk, soft drinks, fruit juices and hot beverages).

*Method:* Cross-sectional study including 200 participants (118 girls), aged 13-18 years. Urine collections were validated by 24-hour urinary creatinine excretion in relation to body weight according to age group. FWR was assessed for characterization of hydration status (negative values represent risk of hypo-hydration). A 24-hour dietary recall was also collected and data on beverages (g/d) were analyzed from the following groups: water (tap water, natural mineral water, water from a fountain); hot beverages (coffee, tea, beverages made from cereals); milk; juices (home-made juice, bottled juice, nectar without added sugar, other 100%

fruit drinks); soft drinks (carbonated and non-carbonated soft-drinks). Mann–Whitney U test was performed to compare ingestion of beverages with FWR status.

*Results:* Median FWR was positive in both sexes (173 ml/d for boys and 373 ml/d for girls); however, 40% of boys and 31% of girls were at risk of hypo-hydration. Mean ingestion of beverages was: water 656±459g/d (n=159), hot beverages 168±200g/d (n=44), milk 489±290g/d (n=165), soft drinks 467±248g/d (n=107) and fruit juices 249±89g/d (n=10). Euhydrated participants reported to drink more water (p=0.009) and hot beverages (p=0.023) than participants at risk of hypo-hydration.

*Conclusions:* In this sample of participants, euhydrated adolescents ingest more water and hot beverages than those at risk of hypo-hydration.

Key words: *adolescents, hydration, beverages, urinary collection.*

**DOI:10.3305/nh.2015.32.sup2.10302**