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Analytical study of hydration in child population. Learning drinking routines

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Introduction: The importance of drinking water for children meets a basic health need. In the school environment, it is one of the activities included in the early childhood education stage, as part of teaching autonomy in routine activities and the development of basic health and well-being habits while building personal initiative skills in early childhood (3 to 5).

Objectives:
- To acquire hygiene and hydration habits.
- To strengthen autonomy in personal hygiene and hydration activities.
- To progressively acquire a number of values: responsibility, perseverance, knowledge.

Methods: An analytical study of routine learning in children between the ages of 3 and 5 at set times throughout the school day was carried out, encouraging the child's independence regarding the need to drink. The measurable parameters of the methodology used were: direct and systematic observation of the children, assessment of the hydration activities performed, anecdotal recording of incidents, and family input.

Results: 50% of the three-year-old children drink well and independently; 80% of four-year-olds achieve these routines and 100% of the five-year-olds drink independently when they need it.

Conclusions: 100% of five-year-olds drink independently when they need it.

Key words: hydration, child population, routine, autonomy.

Influence of beverage characteristics on drinking patterns and hydration status

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A good hydration status is essential to maintain health at an optimum level. Both food and beverage intakes can contribute to maintaining the correct nutritional status. Children and elderly people are population groups with a high risk of dehydration. However, adolescents are also a susceptible group with respect to maintaining adequate hydration levels, despite the fact that they drink a lot of beverages other than water, which they find tasteless. In fact, they only drink water if there is no other option, since they prefer tasty beverages with higher mouth-feel sensations than water. Beverage consumption habits have recently changed, partially influenced by the increased availability of different types of beverages during the last few years. Consumer preferences for a drink may be due not only to genetic, psychological and environmental factors, but also to the specific characteristics of each beverage. In addition, the different sensations transmitted by the various beverages are important qualities for consumers at all ages and influence their choice. Indeed, taste and mouth-feel sensations influence drink preference and are associated with their consumption, not only in children and young people but also in adults. In conclusion, these characteristics could be used to influence beverage patterns, leading to an improvement in liquid intake and consequently promoting a better hydration status.

Key words: attributes, beverage, preference, hydration.

Hydration status according to urinary sodium excretion in adolescents

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Introduction: High sodium intake may have an impact on hydration status since the excretion of excess sodium requires excretion of water through urine.

Objective: To assess hydration status according to urinary sodium excretion in adolescents.

Methods: 130 adolescents took part (80% female, 14.2 ± 1.5 years) and 24h urine samples were collected and screened for validity (using 24h urinary creatinine excretion in relation to body weight). Sodium intake was assessed by 24h urinary sodium excretion and hydration status was assessed using urinary osmolality (UOsm) and urinary volume (UV). Hydration markers were compared according to the median excretion of sodium.

Results: Median urinary sodium excretion was 2691.0 mg/day in girls and 3622.6 mg/day in boys. The following descriptive (mean ± standard deviation) data for hydration markers were obtained: UOsm - 593.2 ± 187 mOsm/kg in girls and 720.1 ± 163.9 mOsm/kg in boys; UV – 1127 ± 488.1 mL/day in girls and 1,026.9 ± 349.2 mL/day in boys. No significant differences were found in UOsm according to urinary sodium excretion between both genders ($p = 0.81$ in girls and $p = 0.16$ in boys), but UV was higher among those with lower sodium excretion ($p < 0.01$ in both genders).

Conclusions: Hydration status in adolescents estimated by UV was better in subjects with lower sodium excretion.

Key words: sodium, hydration status, urinary osmolality, urinary volume, adolescents.