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Conclusions: The sample does not meet the minimum recommendations set out by EFSA but women are more in line with those recommendations. Further studies on the habits of hydration in university population are needed.

Key words: hydration, adherence to the Mediterranean Diet, Kidmed.

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Hydration patterns among a Latin American sample

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Introduction: Water is essential to health, but is often overlooked. This can result in vulnerable individuals missing out on the support they need to help maintain a healthy level of hydration.

Objective: To evaluate the liquid intake habits of a Latin American population and if they know and support the current policies and recommendations of hydration.

Method: A record of fluid intake was obtained from 342 participants from Mexico and Uruguay and then compared with current consensus about hydration by the EFSA.

Results: The average fluid intake ranges from 1,900 mL/day, in females, to 2,600 mL/day in males, both above EFSA's recommendation. Though water contributes the largest part to total fluid intake (mean of 1,440 mL/day in Mexico and 1530 mL/day in Uruguay), bottled water consumption was much higher (100% of the sample) than tap water, at least in Mexico. Hot beverages (50.5%), milk (36.7%) and carbonated soft drinks (32.4%), in Mexico, and hot beverages (41%), specially mate, in Uruguay, follow water in highest consumption. 8.5% vs. 35.2% of Mexicans and 10.6% vs. 50.8% of Uruguayans knew or not, respectively, the recommendations for hydration. Only 14% followed them.

Conclusions: Large differences in consumption habits were reported and were not enough to get the individual fluid intake recommendation. Knowledge of differences in beverage consumption patterns is important for nutrition policymakers. Better understanding of the many factors that influence beverage consumption levels is needed.

Key words: hydration, fluid intake, Latin American.

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Whole body water after 16 weeks of high intensity interval training in Metabolic Syndrome patients


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Introduction: Exercise is a cornerstone in the treatment of metabolic syndrome (MSyn). However exercise implies acute whole body water losses (i.e. sweating) which, if not properly recovered lead to chronic hypohydration.

Objective: To determine if a high intensity interval training (HIIT) program with “ad libitum” hydration strategy during exercise sessions is able to reduce fat maintaining euhydration in MSyn patients.

Method: Forty-two MSyn patients (15 women and 27 men; 54.0±7.9 years old) participated in a 16-week training program based on 3 sessions per week of HIIT performed in a cycle-ergometer (i.e., 5 x4-min at 90% of the maximal heart rate (HRmax), interspersed with 5x3-min at 70% of HRmax). During exercise sessions participants were allowed to drink water “ad libitum”. Body weight (BW), fat mass (FM), lean mass (LM), and whole body water (WBW) were measured before and after intervention using electrical bioimpedance analysis (Tanita TBF 300, Japan).

Results: After training participants loss 1.0±3.1 kg of BW (P=0.045) without changes in FM and LM (-0.2±3.2 kg; P=0.690, and -0.8±4.5 kg; P=0.264, respectively). WBW losses represented a 60% of the BW lost during training (0.6±3.5 kg; P=0.286). FM changes were inversely correlated with WBW changes (r=-0.747, P<0.001).

Conclusion: Hydration status was maintained after training, however participants did not reduce FM. Maintenance of WBW could enhance exercise-related FM reductions.

Key words: metabolic syndrome, interval training, hydration.

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Assessment of the body water content in the Spanish Women’s National Waterpolo Team

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Introduction: The regular practice of physical exercise generates in the human body a series of acute and
chronic answers, which include physiological adaptations that lead to improvement of physical performance. However, there are some factors that influence negatively such as dehydration which is motivated by water loss through sweat and low fluid intake.

**Objective:** To observe the water content and body composition in the Spanish women’s National Waterpolo Team.

**Method:** The population sample was composed of 18 female athletes (Spain national water polo team) aged between 18 and 31, weight from 59 to 108 kilograms and height from 162 to 178 centimeters.

**Data collection was conducted in May 2015, with a hydration questionnaire and analysis of body composition with the bioelectrical impedance method (InBody 720), by which the variables of total body water (TBW), intracellular water (ICW) and extracellular water (ECW) were obtained.**

**Results:** The results show that all athletes had an optimal water content, in total body water, intracellular and extracellular water variables, according to the established normal values. Their liquid intake was suitable.

Key words: dehydration, water content, body composition. DOI:10.3305/nh.2015.32.sup2.10329

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**Hydration included in graphical representations of food based dietary guidelines worldwide: an overview**

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**Introduction:** An adequate hydration status is essential to maintain all our physiological and cognitive functions. These functions are directly correlated to age, gender, body composition, physiological status, level of physical activity and temperature/humidity of environment.

**Objective:** To evaluate hydration recommendations in graphical representations of Food Based Dietary Guidelines (FBDG) worldwide through literature review.

**Method:** FBDG have been studied in 79 countries on 6 continents. The study includes official and non-official FBDG created by universities or scientific associations.

**Results:** Ten out 79 countries have not got FBDG. Ninety-seven graphical representations have been analyzed with the following distribution: Africa (4%), Near East (4%), Asia and the Pacific (13%), North America (20%), Latin America and Caribbean (22%), Europe (37%). 46.4% of them presented a pyramid format, 18.5% a circle/plate format and 32.9% presented others. 60.8% of FBDG included items related to hydration; the most frequent item was water (97%) and only 12.3% included in addition other beverages (milk, fruit juices, coffee and tea).

**Conclusions:** Official and non-official FBDG are not equally distributed among countries. The most common used format was pyramid model (65%). Hydration science has led some institutions to include water as an essential and necessary item in FBDG. These results show that hydration guidelines should be given greater attention in the future.

Key words: hydration, food based dietary guidelines. DOI:10.3305/nh.2015.32.sup2.10330

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**Relationship between the hydric and nutritional knowledge of water and health in students of a Spanish penal institution**

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**Introduction:** Students consider that water ingested during meals fattens and they therefore reduce their consumption. Health Education (HE) diagnosed the erroneous previous knowledge of Hydration and Nutrition to avoid unhealthy habits and adopted a healthy hydric-nutritional style (Pozo et al., 2015).

**Objective:** To detect the hydric-nutritional knowledge of water and its impact on health.

**Method:** From 803 prisoners, we selected a sample size of 30 students of the Penal Institution of Badajoz. A questionnaire which was validated and analyzed quantitatively (α=95%) with the SPSS program and qualitatively with the program NVivo was used, with three variables: gender, age and Body Index Mass (BIM).

**Results:** Quantitatively, male students (p=0.001), of 18-27 and 38-47 years (p=0.040) have more erroneous hydric-nutritional knowledge. Qualitatively, according to gender, 86.6% considered to have conceptual errors, and depending on the age and gender, 80% and 73.3% considers that interventions should be performed in HE.

**Conclusions:** The investigated students’ present erroneous hydric-nutritional knowledge; students consider that water consumption contributes to their weight and that ingested water does not have an impact on their hydra-