Introduction: Malnutrition and dehydration are common problems among older people that can be aggravated during hospitalization. Thus, assessing the nutritional status according to liquid-intake habits in malnourished patients after hospital discharge, and its impact on quality of life and dependency, could be interesting factors for the health clinic practice and follow-up.

Objective: To assess differences in Body Mass Index (BMI), weight, malnutrition status, dependency and quality of life according to liquid-intake habits in malnourished patients after hospital discharge during a 2-month home follow-up.

Method: Cross-sectional descriptive study in 88 patients (44 males) who presented malnutrition at their hospital discharge. Patients presented 72.28±11.84 years of age and were grouped according to their liquid intake: from 3 to 5 glasses (n=42), and over 5 glasses of liquid (n=46); estimated through the Mini Nutritional Assessment questionnaire. The BMI, weight, Malnutrition Universal Screening Tool (MUST), dependency (Barthel questionnaire), and quality of life (Short Form 12 Health Survey (SF-12)) were assessed 2-months after discharge.

Results: Significant differences (t test) were reported for BMI (p=0.001), weight (p=0.001), MUST (p=0.020), Barthel (p=0.037), and SF-12 index (p=0.013); showing improved values in the group with a liquid intake >5 glasses compared with the 3-5 glasses intake.

Conclusions: A higher liquid-intake habit could be associated with better nutritional status, dependency and quality of life, in malnourished patients after hospital discharge during their home follow-up.

Key words: malnutrition, hydration, body mass index.

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Influence of adequate hydration in the management of patients with Metabolic Syndrome

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Introduction: The prevalence of Metabolic Syndrome (MS) in our population has increased considerably in recent years. It also increases the need to maximize Dietary Advice in Primary Care consultation, emphasizing on hydration, even more relevant in climatic areas like Andalusia, holding high temperatures most of the year.

Objective: Study hydration degree in patients attending the Health Center, analyze age groups, gender, MS pathologies and good control criteria.

Method: Descriptive study of a random sample of patients between 18 May-19 June 2015. Those without MS (according to WHO criteria) are discarded. Sample n=102 (64 female, 38 male). Assessed variables: 1) Hydration (per day): a. <1liter; b. 1-1.5liters; c. 1.5-2liters; d. >2liters. 2) Age group: a. ≤65years; b. 65-80years; c. >80years. 3) Gender: a. Male; b. Female. 4) Compliance with good control criteria (last 3 months): a. Type 2 Diabetes. HbA1c <7 if age ≤75, HbA1c <8 if age >75; b. Obesity. Lower abdominal perimeter or BMI; c. Dyslipemia. Triglycerides>150 or HDL cholesterol >40 if male, >50 if female; d. Hypertension. Average on 80% of measurements <130/85.

Results: The study shows that the hydration level is below recommended in 56.9% of the sample. By age groups, the best hydrated are those between 65-80 years. By gender, women are more hydrated than men, though only 46.8% get to drink more than 1.5 liter per day. Regarding the last variable, we found a correlation between higher consumption of water and good control of HbA1c glycated, HDL and blood pressure values.

Conclusions: We may affirm that a proper degree of hydration contributes to a better management of metabolic syndrome. Dietary Advice in Primary Care should include recommendations on hydration by health professionals.

Key words: hydration influence metabolic syndrome management.

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Is hydration enough in a healthy group of the elderly in a Valladolid neighbourhood?

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Introduction: Health education is the best tool to promote changes in the behaviour in the elderly to increase liquid consumption as a habit.

Objective: a) General: Improve the hydration in the elderly of a Valladolid neighbourhood; b) Specific: Determine water consumption and other liquids in an elderly group. Design an Education programme for health (EpS) to improve hydration.
Method: A sample of 60 people between 65 and 88 years old was evaluated. It was composed of 50% males and 50% females, in an aged neighbourhood in Valladolid. All were regular users of the Senior Center. A questionnaire with ten items to evaluate hydration was filled by each participant. The results were used to design an EpS programme.

Results: Evaluation of liquid intake: 53% females reach an intake of 1.8 l while 50% males only reach 1.3 l. Design of an EpS programme. Educational goals, which consist in three activities for 60 minutes, once a week, during two months: Feel and taste; Pyramid of healthy hydration; Trivial of water; Active methodology; Human and material resources; Evaluation.

Conclusions: An EpS programme is a useful tool to achieve the increase of water consumption and that of other drinks with a consequent decrease of the dehydration risk in a specially vulnerable population group. Females have lower risk of dehydration than males due to consumption of other drinks apart from water.

Key words: elderly, hydration, health education.

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Development solution for water stress situations in military activities

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Introduction: The effects of dehydration in sports have been studied in depth but not in other areas such as military or rescue and security, where a number of factors can cause water stress: prolonged exercise, extreme environments or carry personal gear. Dehydration can negatively influence the effectiveness of the mission, equipment, vehicles or weapon handling, monitoring and warning statements or decisions.

Objective: To design a moisturizing solution prepared for use in different areas of health, in which water stress is generated. Establish a model to assess the ability of rehydration, based on the development of an activity and subsequent measurement of the physical and cognitive recovery.

Method: A literature review was performed to determine the composition of the beverage, define the activities that reproduce the conditions that can lead to dehydration in these groups and identify possible benchmarks for rehydration profile prepared in accordance with physical and cognitive obtained state. This method supports these assessments. The possible design of a prepared rehydration solution is set. A model that reproduces the collective activity is designed. Indicators of physical and cognitive status of the population tested is justified.

Conclusions: The need for a rehydration drink for application to the military field is established and similar. A possible design of the drink and a program to evaluate its rehydration effectiveness is determined.

Key words: water stress, military activity, rehydration.

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Total water intake in 7-11 year-old Spanish children according to their physical activity level

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Introduction: Recommendation about Total Water Intake (TWI) varies according to the level of physical activity in adults, but these recommendations are not commonly extended to children.

Objective: To evaluate the TWI and hydration status by 24-h urinary osmolarity (UO) in children according to their physical activity level

Method: 262 out of 278 children (7-11 years old) (those with valid urine samples) were studied. Dietary data were collected by a 3-day food dietary record, and TWI and the amount of different beverages and food were calculated using the DIAL Software. 24-h urine samples were analyzed, calculating their UO. A physical activity questionnaire was filled to establish the physical activity factor and to divide the sample into tertiles (T1=low, T2= medium and T3=high activity level).

Results: TWI was 1,351.5±382.8 mL/day in girls and 1,443.5±470.0 mL/day in boys (3.1% and 6.8% respectively above EFSA (2008) recommendations). UO was 764.8±200.1 and 827.1±207.1 mOsm/L in girls and boys respectively. There were no significant differences in TWI and UO regarding sex. According to activity level groups, there were no differences in girls, but UO in T1 boys was significantly lower than those of T3 (743.46±217.13 vs. 861.9±191.5 mOsm/L) and incidence of UO>800 mOsm/L was 46.2% and 63.6% respectively.

Conclusion: The most active children, especially boys, are not properly hydrated. Level of physical activity should be taken into account to establish an adequate intake in children.

Key words: hydration, children, physical activity.

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