

Introduction: During pregnancy, hormonal changes cause a change in the thirst threshold. This is recovered in the postpartum period by a demand of drink to get back hydration homeostasis due to liquid loss after labour. Thus, an increase of necessity of drinking liquids is produced to generate milk.

Objects: To demonstrate whether there are any differences of glucose and ions in the immediate recovery of postpartum. To compare the administration of isotonic drinks vs water during the post-labour period after a low-risk pregnancy, as well as the degree of satisfaction.

Method: Comparison of the levels of glucose and ions in the pre-labour stage, post-labour stage and 24 hours after drinking isotonic drinks in a group of 50 women (experimental group) and another group of 50 women (control group) after drinking water. All participants completed a satisfaction survey.

Results: The analytical control either of administration of isotonic drinks or of water doesn't make clear a meaningful difference. However, there is a great satisfaction when drinking isotonic drinks and there is a feeling of quicker recovery.

Conclusions: Although isotonic drinks may not be essential in the analytical recovery at post-partum, woman's satisfaction is higher due to her feeling of taking part in her own recovery by drinking, the increase in blood glucose is also important, instead of just drinking water.

Key words: *hydration, ions, isotonic drinks, postpartum.*

DOI:10.3305/nh.2015.32.sup2.10305

Spanish "Bilbilis" Foundation for research and innovation in medical hydrology and hydrotherapy

A. Hernández Torres, M. De La Fuente, E. Martín Miranda, MC. García Matas, ME. Díaz Rosado, F. Modrego Aznar.

Bilbilis Foundation for Research and Innovation in Medical Hydrology and Balneotherapy. Zaragoza, Spain.

Introduction: Bilbilis Foundation (BF) created in December, 2007 is the first Spanish Foundation on Medical Hydrology (MH) and Balneotherapy providing the largest funding to research projects in Medical Hydrology, Rehabilitation and Geriatrics. The consultant team includes a wide range of specialists in different bio-areas, interested in medicinal waters, hydration and ageing.

Objective: To link basic research with daily clinical practice in Medical Hydrology, promoting National & International research projects with the objective of new diagnostic and therapeutic approaches, promoting quality in the clinical setting, concern about economic

impact and medical results of Hydration and Hydrothermal therapies. Including these working fields: Rehabilitation, Nutrition, Geriatrics and Cosmetic Medicine. Lecturing and training program activities, teaching other medical professionals through organization of seminars and conferences.

Method: Financial support and scholarship on Medical Hydrology and Pelotherapy. Biannual Research Awards and Grants. Promotion and scientific support to young researchers. Publications: "Pelotherapy: medical and cosmetics applications of thermal muds". Patents.

Results: Presentation of main research pelotherapy projects developed during the last 5 years. Website presentation and development. Access to Bibliographic Database: about 9,500 Medical hydrology references (Evidence Based Medicine). Collaborative agreements. Development of research methods on Medical Hydrology, Pelotherapy and ageing.

Conclusion: BILBILIS FOUNDATION would like to establish new collaborative agreements with other scientific organizations and researchers in Medical Hydrology & Hydration. Study of ageing process and therapeutic approaches to prevent it.

Key words: *medical hydrology, thermalism, hydration-hydrotherapy, pelotherapy-mud-therapy.*

DOI:10.3305/nh.2015.32.sup2.10306

Beneficial effects of hydrotherapy on immunity and longevity in a mouse model of social isolation

A. Hernández Torres^{1,2}, J. Cruces^{1,3}, I. Mate³, A. Garrido³, O. Hernández³, M. De La Fuente^{1,3}

¹Bilbilis Foundation for Research and Innovation in Medical Hydrology and Balneotherapy. Zaragoza. Spain. ²Health Technology Assessment Agency-ISCIII. Mineco. Madrid. Spain. ³Department of Animal Physiology II. Faculty of Biology. Complutense University of Madrid. Madrid. Spain.

Introduction: Hydration and Hydrotherapy is a new type of environmental enrichment strategy, reverting the age-related decline of the homeostatic systems (nervous, endocrine and immune systems), enhancing the neuroendocrine-immune communication and, consequently, improving health and life span. In social species (humans, rodents), loneliness and social isolation are psychological stressors which impair the neuroendocrine-immune communication, increasing morbidity and mortality. Since aging especially affects homeostatic systems and older adults are more vulnerable to feeling lonely or socially isolated, suffering these stressors may aggravate health state in the later stages of life.

Objective: The aim of this work was to study the effects of hydration-hydrotherapy on immunity and life span in socially isolated old mice.

Method: ICR-CD1 old female mice were maintained in group (n=8) or isolated (n=10) during one month. Then, a group of isolated mice (n=5) was submitted to a 4-weeks hydrotherapy treatment. Peritoneal leukocytes were obtained and macrophages and lymphocytes chemotaxis, and lymphoproliferation in absence (basal) or presence of the mitogens Lipopolysaccharide and Concanavalin A were analyzed. Mortality was also monitored.

Results: Hydration and Hydrotherapy improves lymphocytes chemotaxis and lymphoproliferative response to mitogens (functions reduced with aging), decreases basal lymphoproliferation (which increases with age) and increases life span in socially isolated mice.

Conclusions: Hydration-Hydrotherapy seems to be an effective strategy to reverse the immune decline induced by social isolation in elderly as well as to increase longevity.

Key words: *aging, hydration-hydrotherapy, social-isolation, immunity, longevity.*

DOI:10.3305/nh.2015.32.sup2.10307

Parents body mass index as modulator of fluid intake habits among their children

AI. Jiménez Ortega¹, AM. López-Sobaler^{2,3}, A. Aparicio^{2,3}, LG. González-Rodríguez^{3,4}, RM. Ortega Anta^{2,3}

¹Pediatric Gastroenterology Unit. San Rafael Hospital. Madrid. Spain. ²Department of Nutrition. Faculty of Pharmacy. Complutense University of Madrid. Madrid. Spain. ³Research Group VALORNUT-UCM (920030). Spain. ⁴Faculty of Health Sciences. Alfonso X El Sabio University. Madrid. Spain.

Introduction: Overweight and obesity is a growing health problem nowadays. Its relationship with inadequate life habits (including low fluid intake) is an added problem.

Objective: To evaluate fluid intake by school children of the Community of Madrid according to body mass index (BMI) of their parents.

Method: 564 schoolchildren (258 boys and 306 girls) aged 9-12 years, were studied. Data on fluid intake was obtained by applying a food intake record (3 days). BMI of children was calculated by measured weight and height. BMI of parents was calculated by weight and height self-reported by parents and it was classified according to WHO criteria (2000). Statistical data was obtained using SPSS (v 19.0).

Results: 23.4% children had mothers with overweight/obesity (BMI ≥ 25 kg/m²). Fluid intake of these children was lower (1,465.52 \pm 390.3 mL/day) than those whose mother's BMI below 25 kg/m² (1,532.13 \pm 384.45 mL/day). BMI of children increased according to

parents BMI, even more in the case of father BMI (r=0.243) vs mother BMI (r=0.199) (p<0.05). There were no differences in water intake of children considering BMI of fathers.

Conclusions: Most of the studied children had an inadequate water intake. Higher BMI of mothers is linked with lower fluid intake in their descendants, and higher BMI of parents is associated to higher BMI in children. This group needs special counseling to improve their patterns of hydration.

Acknowledgements: This study was performed with financial help from the FISS (project number PI060318).

Key words: *children, fluids, parents, body mass.*

DOI:10.3305/nh.2015.32.sup2.10308

Fluid intake habits among school children in Madrid depend on the educational level of their parents

AI. Jiménez Ortega¹, AM. López-Sobaler^{2,3}, A. Aparicio^{2,3}, E. Rodríguez-Rodríguez^{3,4}, RM. Ortega Anta^{2,3}

¹Pediatric Gastroenterology Unit. San Rafael Hospital. Madrid. Spain. ²Department of Nutrition. Faculty of Pharmacy. Complutense University from Madrid. Madrid. Spain. ³Research Group VALORNUT-UCM (920030). Spain. ⁴Analytical Chemistry Departmental Section. Faculty of Pharmacy. Complutense University from Madrid. Spain.

Introduction: Several studies show the influence of educational level of parents in their children's habits, including their fluid intake.

Objective: To evaluate fluid intake by of school children of the Community of Madrid, differing according to educational level of their parents.

Method: 564 schoolchildren (258 boys and 306 girls) aged 9-12 years, were studied. Data on fluid intake was obtained by applying a food intake record (3 days). Educational level of parents was self-declared, and it was classified depending on the type of studies completed (low, medium or high). Statistical data was obtained using SPSS (v 19.0) and it was set as statistical significance at p<0.05.

Results: Children with mothers with higher educational level (medium or high) take more liquid (1,562.4 \pm 406.9 and 1,565.7 \pm 371.9 mL/day, respectively) than those whose mother's educational level is lower (1395.04 \pm 367.5 mL/day) (p<0.001). It occurs similarly in the case of children whose fathers have higher educational level (fluid intake in children whose parents educated middle and upper: 1,538.7 \pm 411.4 and 1,606.8 \pm 380.5 mL/day, respectively), compared to those whose fathers have low