



## THEORETICAL AND PRACTICAL CONSIDERATIONS REGARDING THE EXPLOITABLE SANOGENIC ASSOCIATIONS BETWEEN DIFFERENT MINERAL WATERS AND DIFFERENT DIETS

MUNTEANU Constantin<sup>1,2,3</sup>, IONESCU-TÎRGOVIȘTE Constantin<sup>4</sup>,  
DOGARU Gabriela<sup>1,5,6</sup>, ONOSE Gelu<sup>2,7</sup>, CARNICIU Simona<sup>4</sup>

Editor: Constantin MUNTEANU, E-mail: [office@bioclima.ro](mailto:office@bioclima.ro)



Corresponding author: Constantin Munteanu, E-mail: [constantin2378@yahoo.com](mailto:constantin2378@yahoo.com),

1. Romanian Association of Balneology, Bucharest, Romania
2. Teaching Emergency Hospital "Bagdasar-Arseni", Bucharest, Romania
3. Faculty of Medical Bioengineering, University of Medicine and Pharmacy "Grigore T. Popa", Iași, Romania
4. Asociația Medicală Română, Bucharest, Romania
5. "Iuliu Hatieganu University of Medicine and Pharmacy" Cluj-Napoca, Romania
6. Clinical Rehabilitation Hospital Cluj-Napoca, Romania
7. Faculty of Medicine, University of Medicine and Pharmacy "Carol Davila", Bucharest, Romania

### Abstract

**Introduction.** The body of an average adult male is 60% (w/w) water and the body of an average adult woman is 55% (w/w). There may be significant differences between individuals on the basis of many factors such as age, health, weight, and gender. Body water is divided into intracellular and extracellular fluids. The intracellular fluid, which makes up about two-thirds of the body water, is the fluid contained in the cells. The extracellular fluid that makes up one-third of the body's fluids is the fluid contained in the areas outside the cells. Extracellular fluid itself is divided into plasma (20% extracellular fluid), interstitial fluid (80% extracellular fluid), and transcellular fluid, which is normally ignored in water calculations, including gastrointestinal, cerebrospinal, peritoneal, and ocular fluid. The amount of water should one drink is broadly discussed outside of scientific circles, but there is no one-size-fits-all answer. The daily four-to-six cup rule is for generally healthy people. This can also vary, especially if there is a water loss through sweat because of exercising or higher temperature. Drinking water is usually consumed as bottled water or as tap water. Bottled waters are generally very popular and also very diverse in terms of overall mineral content and composition. There are many mineral spring drinking waters on the market, which are much diversified in terms of mineral composition. The total mineral content may not exceed 1000 mg/L (as in the case of drinking water) and the water may only be treated by the physical means mentioned above. The term "spring water" replaced the former "table water". No substances other than carbon dioxide may be added to packaged infant or spring water. Bottled drinking water is a product that meets the drinking water requirements. This water can be obtained from any water source and treated the same way as tap water, with the quality requirements being similar. In contrast to the above-mentioned types of bottled water, bottled drinking water can be artificially supplemented with minerals (calcium, magnesium, sodium, and potassium). If this happens, the list of supplemented substances in the water and the word sign "artificially supplemented with mineral nutrients—mineralized drinking water" should also be included on the label. Bottled drinking water can also be carbonated. Bottled drinking water is marketed under different names (besides trademarks it is, e.g., sparkling water or table water), but it must always be stated on the label that it is drinking water. The water for food processing mainly includes the water for raw materials, the water for processing and the water for cleaning, etc. the water quality directly affects the food quality. The processing enterprises must ensure that the quality of water for food processing is required to be inspected by hygiene and should meet the related standards of hygiene. In order to ensure the food quality, except that the quality of water for food processing should meet the standards of drinking water, some components in water still need to be strictly controlled. Therefore, a comprehensive understanding of the quality of water for food processing has played an important role in the guarantee of food quality.

**Results and discussion.** The mineral nutrient contents are important characteristics of mineral water. Mineral nutrients are inorganic substances that must be ingested and absorbed in adequate amounts to satisfy a wide variety of essential metabolic and/or structural functions in the body.

**Conclusions.** Mineral water contains a combination of the main cations ( $\text{Ca}^{2+}$ ,  $\text{Mg}^{2+}$ ,  $\text{Na}^{+}$ ,  $\text{K}^{+}$ ), anions ( $\text{HCO}^{-}$ ,  $\text{Cl}^{-}$ ), and specific compounds (which can determine the medicinal value of water) in varying amounts. All mineral nutrient contents can be read from individual labels provided on the packaging.

**Keywords:** *tap water, bottled water, calcium, magnesium, sodium,*