

Prevention and Therapy of Type 2 Diabetes- What Is the Potential of Daily Water Intake and Its Mineral Nutrients?

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We aim to present an overview of the possible influence of drinking water in general and mineral water in particular in improving glycemic parameters in persons with or without type 2 diabetes. We performed a literature search that produced 15 randomized controlled trials (RCTs) on this topic with mainly small sample sizes. We also discuss relevant observational and animal studies as well as the effects of important supplements in mineral water such as hydrogencarbonate and magnesium. There is low evidence for the positive effects of water or mineral water in improving glycemic parameters in diabetic and non-diabetic persons, and the results are heterogenous, making it difficult to reach an unequivocal conclusion. Meta-analyses of prospective cohort studies and other observational studies, studies with animal models and interventional studies using hydrogencarbonate and magnesium supplements suggest a probable positive effect of drinking water and mineral water in particular on glycemic parameters, supporting the positive results found in some of the RCTs, especially those substituting diet beverages or caloric beverages with water, or those using bicarbonate and magnesium-rich water. Regarding the high prevalence, the associated suffering and the resulting health expenditures of type 2 diabetes, it is imperative to conduct larger and more rigorous trials to answer the question whether drinking water or mineral water can improve glycemic parameters in diabetic and non-diabetic persons.

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