



1. The Journal of Nutrition: The Effect of the Alkali Load of Mineral Water on Bone Metabolism: Interventional Studies, 2008

Aim: To investigate the efficacy and safety of mineral water with a high content of hydrogen carbonate in patients with heartburn. This open, single-center, single-arm clinical pilot study enrolled 50 patients, 18-64 years old, who had been suffering from heartburn at least twice a week for at least 3 mo before entering the study.

Results: Twenty-eight participants were men, 22 women. Overall, 89.4% of patients rated the efficacy of the test water as "good" or "very good", as did the investigators for 91.5% of the patients. **96% of patients and investigators** for the same percentage of patients rated the tolerability of the water as "good" or "very good".

Conclusion: The data demonstrate effectiveness of a hydrogen carbonate-rich mineral water in alleviating heartburn frequency and severity, thereby improving quality of life. The water has excellent tolerability. A hydrogen carbonate-rich mineral water can qualitatively and quantitatively reduce heartburn symptoms and improve the subjective wellbeing of patients affected.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4753184/

2. American Journal Of Translational Research 2020: Effects of alkaline water intake on gastritis and miRNA expression (miR-7, miR-155, miR-135b and miR-29c)

Abstract:

It is known that abnormal expression of miRNAs in the gastric cancer (GC) contributes to its carcinogenesis. Therefore, ingestion of commercial (usual) water on a daily basis may be a contributing factor for the occurrence of alterations in the gastric mucosal. In this study, it was evaluated the expression of the miRNAs miR-29c, miR-7, miR-155, and miR-135b in the gastric tissue of patients with gastritis before and after the consumption of alkaline water (pH range from 8.0 to 10.0), as well as the clinic pathological characteristics.

Methods:

50 subjects from the Amazon region, diagnosed with gastritis that routinely used commercial (usual) water with a pH lower than 5.0, were enrolled to change the consume water to a pH of 8.5 to 10.0 for 5 months.

Results:

Endoscopic findings of gastritis were such different (less severe disease), P = 0.024; in 43% diagnosed with moderate gastritis upfront esophagogastroduodenoscopy (EGD) presented mild gastritis after the consumption of alkaline water, according to study methods; there were no worsening gastritis and there were a significant increase in the expression of miR-135b (P = 0.039) and miR-29c (P = 0.039).





Conclusion: Modified pH range water (from 8.0 to 10.0) ingested for 5 months was able lead to a less severe gastritis according to the Sidney classification system, suggesting that this lifestyle change represented a clinical benefit in patients with gastritis on the Amazon region. In addition, higher expression of miR-135b and miR-29c was observed after the consumption of alkaline water for 5 months

https://pubmed.ncbi.nlm.nih.gov/32774757/

3. La Clinica Terapeutica Journal: Alkalizing activity of a Calcium-Bicarbonate-Containing Water, Evaluated for pH, in Patients with Gastroesophageal Reflux

Bicarbonate-calcic natural mineral water Ferrarelle has been administered both in the fasting state and during meals to patients suffering from gastro-esophageal reflux disease submitted to computerized pHmetry.

Marked and lasting increase of esophageal and gastric pH was observed with significant differences from the effect of tap water. In addition, patients reported improvement of heart burn and acidity after the administration of the bicarbonate-calcic water. The alkalizing effect of the mineral water employed is therefore fully confirmed.

Studies on crenotherapy treatments (20) and on patients with functional dyspepsia show that the consumption of bicarbonate mineral water may neutralize acid secretion, increase the pH level in the gastric lumen, accelerate gastric emptying and stimulate the release of digestive hormones (known to have pivotal roles in the regulation of gastric function) (21).

https://europepmc.org/article/med/8222543

4. Pharmacological Research: Effects of a Bicarbonate-Alkaline Mineral Water on Gastric Functions and Functional Dyspepsia: A Preclinical and Clinical Study, 2002

The present study was performed in order to evaluate: (1) the influence of a bicarbonate-alkaline mineral water (Uliveto) on digestive symptoms in patients with functional dyspepsia; (2) the effects of Uliveto on preclinical models of gastric functions. Selected patients complained of dyspeptic symptoms in the absence of digestive lesions or Helicobacter pylori infection within the previous 3 months. They were treated with Uliveto water (1.5 l day(-1)) for 30 days. Frequency and severity of symptoms were assessed at baseline and day 30 by a score system

At preclinical level, Uliveto water increased acid and pepsinogen secretions as well as gastric emptying, without changes in bound mucus. The enhancing actions of Uliveto on gastric secretions and emptying were prevented by L-365,260, an antagonist of gastrin/CCK-2 receptors. These findings indicate that a regular intake of Uliveto favors an improvement of dyspeptic symptoms. The preclinical study suggests that the clinical actions of Uliveto water depend mainly on its ability to enhance gastric motor and secretory functions.

https://pubmed.ncbi.nlm.nih.gov/12457626/





5. International Journal of Preventive Medicine: Potential Health Impacts of Hard Water 2013

Even GI health is also reported being benefited from hard water since it provides potentially alleviating effects on the onset of constipation in the 85% cases. A rich union of calcium and magnesium in hard water, in a right combination, helps to combat constipation. The calcium in hard water results in teaming up with excess bile and its resident fats to lather up the soap like insoluble substance, which is emitted from the body during bowel movements. Indeed, many renowned scientists have considered hard water as a boon as it has some fantastic health benefits that seem to encourage longer life expectancy and improved health. Magnesium salt represents with a laxative effect. This provides a rapid evacuation of intestine.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3775162/

6. Annals of Otology, Rhinology, and Laryngology: Potential benefits of pH 8.8 alkaline drinking water as an adjunct in the treatment of reflux disease, 2012

Results: The pH 8.8 alkaline water irreversibly inactivated human pepsin (in vitro), and its hydrochloric acid-buffering capacity far exceeded that of the conventional-pH waters.

Conclusions: Unlike conventional drinking water, pH 8.8 alkaline water instantly denatures pepsin, rendering it permanently inactive. In addition, it has good acid-buffering capacity. Thus, the consumption of alkaline water may have therapeutic benefits for patients with reflux disease.

https://pubmed.ncbi.nlm.nih.gov/22844861/

7. World Health Organisation: Calcium Magnesium in Drinking Water and Public Health Significance, 2009

Physiologically, waterborne minerals are in ionic form, which tend to be easily absorbed by the human gastrointestinal tract; thus, water can be an important source of mineral intake. Furthermore, waterborne magnesium is known to be more bioavailable than magnesium obtained from foods and thus may be more important clinically (Durlach et al. 1985)

The mineral contents of water from most Asian drinking-water supplies are generally in the range of 2–80 mg/l for calcium (Ca2+) and below 20 mg/l for magnesium (Mg2+).

Minerals interact in a number of cases to either enhance or reduce the absorption of other minerals or elements. Magnesium and, particularly, calcium are important in this respect, and one possibility is that low calcium/magnesium levels enhance the gastrointestinal absorption of toxic metals, such as lead, from all sources.

https://www.who.int/water_sanitation_health/publications/publication_ 9789241563550/en/





8. European Journal Of Clinical Nutrition 2007: Association Between Dietary Fiber, Water and Magnesium Intake and Functional Constipation Among Young Japanese Women

Objective: Most research on constipation has focused on dietary fiber intake. Here, we examined the intake of water and magnesium, nutrients possibly associated with constipation, as well as that of dietary fiber in relation to constipation.

Design: Cross-sectional study.

Subjects: A total of 3835 female Japanese dietetic students aged 18-20 years from 53 institutions in Japan.

Methods: Dietary intake was estimated with a validated, self-administered diet history questionnaire. Functional constipation was defined using the Rome I criteria.

Conclusions: Low intakes of water from foods and magnesium are independently associated with an increasing prevalence of functional constipation among a population whose dietary fiber intake is relatively low.

https://pubmed.ncbi.nlm.nih.gov/17151587/

9. Minerva Medica Clinical Trial 1999: Changes Caused by Mineral Water on Gastrointestinal Motility in Patients with Chronic Idiopathic Dyspepsia

Background: The antidyspeptic property of mineral waters has been based for ages on empirical data. In the present paper the effects of one of them (Tettuccio, Montecatini) on gastrointestinal motility of patients with dyspepsia has been evaluated.

Methods: The study was carried out on 24 patients with idiopathic dyspepsia and delayed gastric emptying at scintigraphy and 18 healthy subjects with normal gastric emptying. The gastric emptying of this mineral water was studied with a scintigraphic method in comparison with tap water, while its effects on gastroduodenal contractions were evaluated by of manometry.

Results: The gastric emptying of this mineral water was significantly faster than that of tap water, both in dyspeptic patients and in normals. Manometric examination showed that the administration of mineral water induced a brief decrease of phasic motor activity, followed by a progressive increase, which in some cases ended in an activity front of the Migrating Motor Complex.

Conclusions: This mineral water has a stimulating effect on both gastric emptying and interdigestive cyclic motor activity of the gastroduodenal tract. Both these effects could be useful in the treatment of chronic idiopathic dyspepsia and impaired gut clearing.

https://pubmed.ncbi.nlm.nih.gov/10605616/





10. Journal of Hepato Gastroenterology Clinical Trial 1998: Water Supplementation Enhances the Effect of High-fiber Diet on Stool Frequency and Laxative Consumption in Adult Patients with Functional Constipation

Background/aims: The purpose of this study was to determine the effects of a high-fiber diet and fluid supplementation in patients with functional chronic constipation.

Methodology: One hundred and seventeen patients with chronic functional constipation (aged 18-50 years) were randomly divided into two treatment groups. For two months both groups consumed a standard diet providing approximately 25 g fiber per day. Group 1 (58 patients) was allowed ad libitum fluid intake, while Group 2 was instructed to drink 2 liters of mineral water per day. Compliance was monitored throughout the study and results were assessed in terms of bowel-movement frequency and laxative use.

Results: Fiber intake was similar in the two groups, while total daily fluid intake in Group 2 (mean 2.1 liters) was significantly greater than that of Group 1 (1.1 liters)(p < 0.001). In both groups, there were statistically significant increases in stool frequency and decreases in laxative use during the two-month trial, but both changes were greater in Group 2 (stool frequency: p < 0.001 vs. Group 1; laxative use: p < 0.001 vs Group 1).

Conclusions: A daily fiber intake of 25 g can increase stool frequency in patients with chronic functional constipation, and this effect can be significantly enhanced by increasing fluid intake to 1.5-2.0 liters/day.

https://pubmed.ncbi.nlm.nih.gov/17151587/