



# Increase In Longevity



Aava's calcium, magnesium and alkaline pH 8+ composition slow ageing, reduce mortality and co-morbidities in diseases which impacts life expectancy.

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## 1. NCBI: *Alkaline Water and Longevity: A Murine Study, 2016*

A 3-year survival study on a population of 150 mice was carried out in order to investigate the biological effect of alkaline water consumption. Firstly, nonparametric hazard and survival plots suggest that mice watered with alkaline water overwhelmed control mice. Secondly, data were analyzed with accelerated failure time (AFT) model

inferring that a benefit on longevity, in terms of "deceleration aging factor," was correlated with the consumption of alkaline water. Finally, a histological examination of mice kidneys, intestines, hearts, livers, and brains was performed in order to verify the risk of diseases correlated to alkaline watering. No significant damage, but aging changes, emerged; organs of alkaline watered animals resulted to be quite superimposable to controls, shedding a further light in the debate on alkaline water consumption in humans.

**Statistical analysis revealed that alkaline water provides higher longevity in terms of "deceleration aging factor" as it increases the survival functions when compared with control group; namely, animals belonging to the population treated with alkaline water resulted in a longer lifespan. These results provide an informative and quantitative summary of survival data as a function of watering with alkaline water of long-lived mouse models.**

<https://pubmed.ncbi.nlm.nih.gov/27340414/>

## 2. NIH: *Quantifying the Role of Magnesium in the Interrelationship Between Human Mortality/Morbidity and Water Hardness, 1985*

An attempt has been made to quantify **the effect of waterborne magnesium on human mortality/morbidity**, based on epidemiological and clinical observations reported in several regions of the modern-day world. **A consistent pattern has emerged, indicative of a global phenomenon, which illustrates the importance of waterborne magnesium in protecting against cardiovascular trauma and other ailments.** These findings attest to the inadequate metabolic magnesium status among modern-day humans, especially those who reside in ultra-soft-water localities.

<https://pubmed.ncbi.nlm.nih.gov/4046646/>

## 3. International Journal of Environmental Research and Public Health: *Impact of Calcium and Magnesium in Groundwater and Drinking Water on the Health of Inhabitants of the Slovak Republic 2017*

**Background:** This work aims to evaluate the impact of the chemical composition of groundwater/drinking water on the health of inhabitants of the Slovak Republic. Primary data consists of 20,339 chemical analyses of groundwater (34 chemical elements and compounds) and data on the health of the Slovak population expressed in the form of health indicators (HI). Fourteen HIs were evaluated including life expectancy, potential years of lost life, relative/standardized mortality for cardiovascular and oncological diseases, and diseases of the gastrointestinal and respiratory systems



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Result: **Based on the achieved results we can conclude that the health of the population in the Slovak population, together with their life expectancy, is significantly influenced by the contents of Ca, Mg, and water hardness in the groundwater.** Worse health status and lower life expectancy are observed at low, deficit contents of these parameters in groundwater.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5369114/>

## 4. The Lancet: *Mortality in Adults and Trace Minerals in Water*

Representative samples of tap water were collected in 48 local-authority areas in South Wales. The associations between twelve trace elements and both total and ischaemic-heart-disease (I.H.D.) mortality were examined. **Interrelationships between the trace elements were found to be strong and complex, but only calcium (Ca) seemed to make an important contribution to mortality. The addition of other elements improved regression only marginally. The association between Ca and total mortality was found to be closer than that with I.H.D. mortality.**

<https://www.sciencedirect.com/science/article/abs/pii/S0140673674902153>

## 5. European Journal Of Epidemiology: *Cardiovascular Mortality and Calcium and Magnesium in Drinking Water: An Ecological Study in Elderly People, 2003*

Background: Previous studies found relations between cardiovascular mortality and minerals in drinking water, but the major works considered water hardness or neglected the differences between adults and elderly. **Drinking water is an important source of calcium in the elderly particularly because of increased needs and decreased consumption of dairy products.**

**Conclusions: These findings strongly suggest a potential protective dose-effect relation between calcium in drinking water and cardiovascular causes. For magnesium, a U-shape effect is possible, especially for cerebrovascular mortality**

<https://pubmed.ncbi.nlm.nih.gov/12803370/>

## 6. European Journal of Cardiovascular Prevention and Rehabilitation: *Review of Epidemiological Studies on Drinking Water Hardness and Cardiovascular Diseases, 2006*

Background: Major risk factors do not entirely explain the worldwide variability of morbidity and mortality due to cardiovascular disease. Environmental exposures, including drinking water minerals may affect cardiovascular disease risks.

Conclusion: Information from epidemiological and other studies supports the hypothesis that **a low intake of magnesium may increase the risk of dying from, and possibly developing, cardiovascular disease or stroke. Thus, not removing magnesium from drinking water, or in certain situations increasing the magnesium intake from water, may be beneficial, especially for populations with an insufficient dietary intake of the mineral.**

<https://journals.sagepub.com/doi/abs/10.1097/01.hjr.0000214608.99113.5c>



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## 7. NCBI: *A Connection Between Magnesium Deficiency and Aging: New Insights from Cellular Studies, 2008*

Aging is not only an important biological issue, but is also an important socioeconomic, geopolitical, and emotional issue that affects industrialized nations with a rapidly growing number of elderly citizens. Based on epidemiological, cellular and molecular evidences, we propose that broadly **correcting the nutritional intake of Mg might be a simple and inexpensive solution that contributes to healthier aging and the prevention of age-related diseases**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2790427/>

## 8. NIH: *Relation Between Mortality from Cardiovascular Disease and Treated Water Supplies: Variations in States and 163 Largest Municipalities of the United States, Henry A. Schroeder, M.D., 1960*

In the United States variations from state to state in death rates from cardiovascular diseases have been unexplained on dietary, racial, or social bases. One variable environmental influence to which all persons are exposed is potable water. Statistical analyses of water hardness and death rates from all causes, cardiovascular diseases, coronary heart disease, and noncardiovascular diseases, showed highly significant correlations for all but noncardiovascular causes.

**Of 21 constituents of finished municipal water in each city, highly significant correlations were found for magnesium, calcium, bicarbonate, sulfate, fluoride, dissolved solids, specific conductance, and pH. In all cases correlations were negative, i. e., softer water was associated with higher death rates.** Some factor either present in hard water or missing or entering in soft water appears to affect death rates from degenerative cardiovascular diseases

<https://europepmc.org/article/med/14443614>

## 9. NCBI Epidemiology: *Magnesium in drinking water in relation to morbidity and mortality from acute myocardial infarction, 2000*

Background: We investigated the importance of magnesium and calcium in drinking water in relation to morbidity and mortality from acute myocardial infarction. Cases were men and women 50-74 years of age living in 18 Swedish municipalities who had suffered an acute myocardial infarction some time between October 1, 1994, and June 30, 1996

Result: The risk of death was 7.6% (95% confidence interval = 2.1-13.1) lower in the quartile with high magnesium levels (> or = 8.3 mg/liter). The odds ratio for death from acute myocardial infarction in relation to water magnesium was 0.64 (95% confidence interval = 0.42-0.97) for the highest quartile relative to the three lower ones. **The data suggest that magnesium in drinking water is associated with lower mortality from acute myocardial infarction.**

<https://pubmed.ncbi.nlm.nih.gov/10874548/#>



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## 10. Clinical Journal Of American Society of Nephrology: *Bicarbonate Concentration, Acid-Base Status, and Mortality in the Health, Aging, and Body Composition Study, 2016*

Background and objectives: Low serum bicarbonate associates with mortality in CKD. This study investigated the associations of bicarbonate and acid-base status with mortality in healthy older individuals.

**Conclusions:** In generally healthy older individuals, low serum bicarbonate associated with higher mortality independent of systemic pH and potential confounders. This association seemed to be present regardless of whether the cause of low bicarbonate was metabolic acidosis or respiratory alkalosis. **Metabolic alkalosis also associated with higher mortality.**

<https://pubmed.ncbi.nlm.nih.gov/26769766/#>