

Review article

## A Review: Zam Zam a miracle water

Ansari Vikhar Danish Ahmad\*, Syed Ayaz Ali, Tajim Sheikh, Saher Choas, Raisa Bagwan

Department of Pharmacology, Y. B. Chavan College of Pharmacy, Dr. Rafiq Zakaria Campus, Aurangabad-431001(M.S.) India.

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**\*Corresponding Author:** Ansari Vikhar Danish Ahmad, Department of Pharmacology, Y.B. Chavan College of Pharmacy, Dr. Rafiq Zakaria Campus, Aurangabad-431001(M.S.) India.

### Abstract

This article reviews the inorganic configuration and possible health benefits of Zam Zam water. Zam Zam water is dissimilar from natural water in relationships of inorganic and radiological features. The miracle of Zam Zam is nonstop flow ever since 2000 BC. The presence of the Zam Zam well directed to the foundation of the settlement of the Makah valley. Zam Zam water reduces the thirstiness and shows potential to treat numerous diseases. Different studies have been led to discover the legendary potentials of this water; so there is a need to conduct wide spread research and to explore its healthcare welfares, inorganic profile, and technical viewpoints.

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### Introduction

Zam Zam water is to be found inside the Holy Mosque at around 20 meters east of the Ka'ba in Makkah Al-Mukarramah, Saudi Arabia. The well of Zam zam is hand-excavated and is around 30.5 m deep, with an inner diameter ranging from 1.08 to 2.66 meters. Zam Zam water is dissimilar from other water in many means: major no bacteria can form at its source. Another it doesn't go mouldy nor does it alter color, taste or smell [1]. Natural growth and vegetation typically take place in most wells. This makes water indigestible owing to the growth of algae foremost to changes in taste and odor. But, in Zam Zam water well, there isn't any sign of biological growth [2]. The Chemical examination of Zam Zam water covers some inorganic components such as sodium (Na), calcium (Ca), magnesium (Mg), potassium (K), bicarbonate (HCO<sub>3</sub>), chloride (Cl), fluoride (F), nitrate (3- NO), sulfate (SO<sub>4</sub>), and totally dissolved salts (TDS) [3].

According to Arab historians, the Zam Zam Well has been in use for about 4000 years. The well symbols the site of a spring where Allah, in His mercy, sent the Angel Gabriel, who scraped the ground, causing the spring to appear. That was while Hajar Prophet Abraham's wife, and their infant son Ismail (PBUH) had left in her desperate look at for water, who was

dying of thirsting. On discovery the spring, and fearing that it Might run out of water, Hajar enclosed it in sand and stones. The name Zam Zam creates from the phrase Zomë Zomë, meaning 'stop flowing' [4].

In 1971, the Ministry of Agriculture and Water Resources sent samples of Aabe- Zam Zam for examinations to the European laboratories to test the portability of the water. The results of the water samples verified by the European laboratories presented that Zam Zam water has a superior build that makes it beneficial water. The main change between Zam Zam water and other water was in the amount of calcium and magnesium salts, the content of these was somewhat higher in Zam Zam water, but more meaningfully, the water contains fluorides that have an in effect germicidal action. Furthermore, the comments of the European laboratories showed that the water was fit for consumption [5].

### Features of Zam Zam water

#### Never dried up

This well has not ever dried up. On the contrary it has all the time fulfilled the demand for water.

### **Same Salt composition**

It has always kept the same salt conformation and taste ever mean while it came into existence.

### **Movability**

Its movability has continuously been comprehensively recognized as pilgrims from all over the world visit Ka'aba each year for Hajj and umrah, but has never criticized about it. Instead, they have always liked the water that recharges them.

### **Universal taste**

Water tastes dissimilar at dissimilar places. Zam Zam water's demand has always been universal.

### **No biological growth**

This water has never been chemically preserved or chlorinated as is the case with water pumped into the cities [6].

Natural growth and flora usually takes place in most wells. This makes the water indigestible owing to the development of algae producing taste and odor difficulties. But in the circumstance of the Zam Zam water well, there wasn't any sign of natural growth.

### **Some of the points said by the Masaru Emoto**

- a. The quality / purity of Zam Zam water has, will not be discovery anywhere else in the water on this world.
- b. He used the technology called NANO, and investigated a lot on Zam Zam water.
- c. And originate out that if one drop of Zam Zam water mix in 1000 drops of regular water, regular water will get the same quality like Zam Zam water.
- d. He also found that a mineral in one drop of Zam Zam water has its own importance that will not be find any other water on this earth.
- e. He also found in some tests that the quality or ingredients of Zam Zam water cannot be changed, why, science does not know the reason.
- f. Even he re-cycled the Zam Zam water, but no change it was still pure [7].

### **Inorganic profile of Zam Zam water**

Progressive methods of multi-elemental and hydro chemical study of Zam Zam water were carried out by many investigator working neutron beginning inductivity joined plasma; and other available traditional method to examine the water sample. These method exposed 34 elements in Zam Zam water with calcium (Ca), magnesium (Mg), sodium (Na) and

chloride (Cl) in higher concentration than natural water. And element antimony (Sb), beryllium (Be), bismuth (Bi), bromine (Br), cobalt (Co), iodine (I) and molybdenum (Mo) were 23 less than 0.01ppm. Only trace of chromium (Cr), manganese (Mn) and titanium (Ti) were noticed in Zam Zam water.

Hydro chemical study of Zam Zam water designated that it is a sodium chloride water of meteoritic origin. The quantity of four harmful element, arsenic (As), cadmium (Cd), lead (Pb), and selenium (Se), was much below the risk level for human drinking. Many experts suggest that certain individualities make Zam Zam's water better, such as a higher level of calcium [8].

### **Therapeutic properties of Zam Zam water**

Zam Zam is single in its natural characteristics since it is "hard carbonated type water" in nature. It has been established that there is no bacterial growth in the water from the Zam Zam well [8].

### **Zam Zam water and Aquaporin (AQP) stimulation**

Zam Zam water has the capability to stimulate AQPs; [9] these are water canals that form crossways to membrane; they play serious roles in regulating the water content of cells. These channels are broadly distributed in all kingdoms of life, with bacteria, plants, and mammals [10]. They have some influences with membrane proteins that fit to the family of major intrinsic proteins (MIP) and form openings in the membranes of biological cells [11]. More than ten dissimilar AQPs have been recognized in the human body. Every of these AQPs may be stimuli through Zam Zam water. Ali *et al.* [11] studied the effect of Zam Zam water on AQPs stimulation by using immuno histochemistry and endometrial biopsy in 50 fit fertile females divided into two groups: group 1 with an intake of 500–750 c.c. of Zam Zam for one month, and group 2 with an ingestion of tap water. They found substantial increase in endometrial AQPs (AQP2, AQP3, and AQP4) with look of novel AQPs (AQP7, AQP9, and AQP10) in Zam Zam water. The results propose that Zam Zam water delivers a protection against several diseases, such as inherited cataract, nephrogenic problems, and diabetes. Such occurrence was established through various methods including radioimmunoassay, nanotechnology, crystalline electro-microscopy, specific refractive index, number single oscillator, and optical parameters assay. All of these benefits are attributable to Abbe's number of

Zam Zam water that is totally dissimilar from waters from other sources [11-14].

### **Zam Zam water and stimulus of reproductive systems**

Zam Zam water was used in the management of implantation failure, for stimulus of endometrial prolactin,  $\alpha$  and  $\beta$  defensin, luteinizing hormone (LH), endometrial vascular endothelial growth factor (VEGF), and angiopoietin receptors [15]. Also, Zam Zam water cause up regulation of gap junctional inter-cellular message and connexin 43 antibodies in endometrium. Recent, Ali *et al.* [15] demonstrated that Zam Zam water stimulates stem cells' differentiation in the endometrium. This occurrence is produced due to the high calcium and magnesium content of Zamzam. Also, the water delivers more support to many other biochemical procedures in the endometrium, including its vital role as coenzyme during the development of immunoglobulin [15-16]. Zam Zam stimulates the development of implantation windows through stimulus of AQPs because it has high contents of fluorides, contributing to its solid antimicrobial action. Zam Zam water acts as antioxidant as it stimulate endometrial nitric oxide (NO). It also stimulates endometrial brain derived neurotropic factor (BDNF). It is stated that Zam Zam water is a new modality for repeated failed intracytoplasmic sperm injection (ICSI). However, a big number of randomized studies are wanted to test the effectiveness of this new line of treatment [15]. Also, cervical insufficiency abortion can be controlled by Zam Zam water, since it activates the autologous human peripheral blood mononuclear (PBM) cells that have a positive fetal effect and have no fetomaternal problems [16].

### **Zam Zam water and dental caries**

A relative study between Zam Zam water and other sources of water on the occurrence of dental caries and their harshness in school girls was carried out by Al-Zuhair and Khounganian [17]. Scientific investigation exposed that, in the mixed dentition group, no arithmetical significant changes were detected, where among the permanent dentition set, the signify decayed, missing, filled teeth (DMFT) score was the lowermost in all the children using Zam Zam water. The possible reason for this meaning is the higher level of fluorides in Zam Zam water. The role of fluoride in the anticipation of dental caries is very well recognized. Dean *et al.* [18] reported an opposite

relationship between the occurrence of caries and drinking water with different fluoride levels, stating that contact to water contain about 1 ppm fluoride in drinking water reduce caries experience by 50%, whereas fluoride levels higher than 1.5 ppm in moderate countries is known to cause dental fluorosis. A large number of studies have established the helpful effects of fluoride in drinking water.

### **Zam Zam water and cancer**

Nutritional strategies around the world mention enlarged consumption of plant foods to combat unrelieved diseases such as cancer, cardiovascular diseases, diabetes, and osteoporosis [19]. Zam Zam water has unique oncolytic possessions and has a strong anti-inflammatory effect. Zam Zam water has a strong antitumor necrosis factor (TNF $\alpha$ ) and effect on interleukin I (IL1) [20]. Zam Zam water has oncolytic action through an unintended influence on endocrine immunology and the growth system of the body. Originally, it was seen in an experimental mice model. [21].

### **Zam Zam water and agriculture**

Tap water is one of the vital issues for planting. Many research have concentrated mainly on the effects of water or drainage water on development and harvest of plants. The effects of water types on growth parameters of wheat and broad beans were examined by an Egyptian group. They used Zam Zam water alone, a mixture of Zam Zam water with tap water, Zam Zam with treated water and tap water, treated water alone, and mixtures of these two. The only use of Zam Zam water, or a mixture of Zam Zam, with either treated water or tap water caused in marked increases in the proportion of seed germination, shoot length, and the fresh and dry weights of the shoots. Likewise, the proportion of flowers in broad bean plants watered with Zam Zam was significantly higher in comparison with other water treatments [22].

### **Conclusion**

There are lots of benefits of Zam Zam Water have been clarified by local folk, but slight scientific examination on the subject has taken place to date. Though, studies relating to human, plant, and animal investigation have exposed great possible benefits of Zam Zam in fight with several human illnesses and developed oncogenic growth. Progressive responses in affecting plant growth have also been demon. This review confirms

the balanced mineral and nutritional composition of Zam Zam water. The single inorganic composition of Zam Zam water safeguards numerous nutraceutical and useful benefits that work in synergism with other agents to communicate helpful effects, or to prevent harmful effects. Complete study is essential to discover its unique properties and mysteries. Many health consequences offer great chances for investigators to discover the connection among Zam Zam water's interaction and its benefits to the various diseases.

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