



## Mini-Review Article

# Corona Virus and Salt Intake

Hossein Kheirandish

Iran Cupping Institute, Tehran, Iran

### ARTICLE INFO

#### Article history

Received: 2020-10-10

Received in revised: 2020-10-28

Accepted: 2020-10-30

Manuscript ID: [JMCS-2010-1126](https://doi.org/10.26655/JMCHMSCI.2021.1.1)

DOI: [10.26655/JMCHMSCI.2021.1.1](https://doi.org/10.26655/JMCHMSCI.2021.1.1)

### KEYWORDS

Salt

Coronavirus

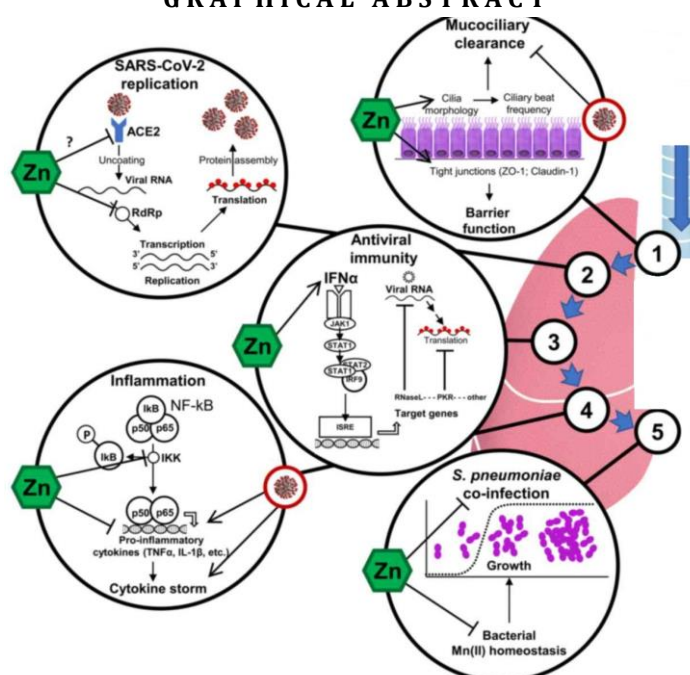
Traditional medicine

Simple symptomatic treatments

### ABSTRACT

Coronavirus is one of the main pathogens that targets the human respiratory system. Since the common treatments for coronavirus, such as hydroxychloroquine, are mostly symptomatic, the aim of this study was to evaluate the coronavirus and salt intake. The virus is highly contagious, dangerous and poses a great threat to the health and safety of the world, and its spread must be prevented immediately. The corona pandemic can build a new lifestyle. This can be a starting point for changing the eating behaviors of East Asians and even the people of the world. In addition to the new approach to the role of nutrition in etiology and treatment of diseases in traditional medicine, salt is one of the essential substances for the body that used in the treatment of more than 40 diseases, including treatment of infection and prevents infection in the blood. The findings suggested that increasing the pH plays an important role in the therapeutic performance of drugs used in modern medicine in the treatment of Coronavirus, which salt also creates a similar mechanism. It targets the gastrointestinal tract and muscles and undersexed people at risk. It can conclude that salt that has a temperature of 4 degrees can probably be effective in reducing the cold nature of the lungs and other organs.

### GRAPHICAL ABSTRACT



\* Corresponding author: Hossein Kheirandish

✉ E-mail: [fshapely@gmail.com](mailto:fshapely@gmail.com)

© 2020 by SPC (Sami Publishing Company)

## **Introduction**

Previous outbreaks of coronavirus include respiratory syndrome (SARS-COV) and Middle East respiratory syndrome (MERS) Hospitals initially diagnosed pneumonia with an unknown cause of the disease, the clinical features of which were very similar to those of viral pneumonia, which the World Health Organization (WHO) named COVID-19 [1-5]. Like other viruses, it has many potential natural hosts that act as intermediate hosts or ultimate host, which poses great challenges for the prevention and treatment of COVID-19 [6]. With the most prominent clinical signs being fever, cough, and fatigue; it is diarrhea and vomiting that is similar to other animal-derived coronaviruses in that it damages other tissues in addition to the lungs, including the heart, kidneys, liver, eyes, and nervous system [7-9] and its common treatments. The hydroxychloroquine, chloroquine and amiodarone are mostly the symptoms that used in the treatment of patients [10-12].

On the other hand, diseases that have occurred throughout history have much in common, that recalling their experiences helps man not to be caught-up in the repetition of history [13-15].

### **Coronary Heart Disease and Cholera**

Cholera has killed humans for many years (about a century) while fighting and controlling cholera with simple principles that society was unaware of, although cholera control is easily accessible to today's societies but in the past worldwide has caused many deaths.

Cholera vomit and diarrhea are epidemics due to the effects of celestial bodies and toxicity in the climate. There is no cure like running away [16-18]. During the cholera epidemic, you should refrain from sexual intercourse, bathing, mental disorders, heavy movements, meat and milk where cholera is present and drink less water [19]. Whenever the effective celestial force and the influential force create high humidity and the air becomes very humid, the vapors and fumes of the earth dispersed into the air and the heat is not intense but weak. In this case, if the air attacks the living heart, the mental temperament

inside the heart. Also the heart's moisture stinks, and an abnormal heat is generated, and through this heat, the stench spreads throughout the body, and the result is that Cholera fever affects people and fever becomes almost universal [20]. The disease has repeatedly become a pandemic in the past, and it took years for humans to control cholera. And after cholera, human life changed dramatically. It seems that human life will change after the corona, as well [21].

The news about Covid-19, which is caused by the new Corona virus, is heard everywhere. Covid-19 and SARS both occur through the corona virus. The virus that causes SARS is known as SARS-Corona virus (SARS-CoV), while the Covid-19 virus is known as SARS-Corona-2 virus (SARS-CoV-2). There are other types of human coronaviruses.

### **Covid-19 and SARS have many similarities**

For example, both:

- The corona virus causes respiratory diseases.
- They are said to first appear in bats and then transmitted to humans by an intermediate host.
- They spread through the respiratory particles of an infected person while sneezing or coughing, or through contact with contaminated objects or surfaces. The stability time of both is the same in different air and levels.
- They lead to acute illness to the point that oxygen and the respiratory system are sometimes needed.
- As the disease progresses, the symptoms of both worsen.
- The risk groups for these two diseases are the same: the elderly and those who already have a chronic illness. No specific treatment or vaccine has been developed for either disease.

### **Comparison of prevalence and transmission of Covid-19 and SARS**

Covid-19 appears to be spreading faster than SARS. One possible explanation is that shortly after the onset of symptoms, the amount or

volume of the virus in the nose and throat of people with Covid-19 is much higher. Was increasing. This suggests that people with Covid-19 may transmit the virus much earlier, as soon as symptoms appear, before their condition worsens. According to the US Centers for Disease Control and Prevention, some studies suggest that people who have no symptoms also transmit Covid-19 to others. Another difference between the two diseases is that there has been a case of SARS. It has not been reported before the onset of symptoms.

### **Comparison of molecular factors of Covid-19 and SARS**

Recent research into the genetic information (genome) of the SARS-CoV-2 virus sample showed that it is closer to the bat corona virus than SARS. The genetic similarity of the new corona virus to SARS is 79%. The SARS-CoV-2 receptor binding site was also compared with other corona viruses. Remember that the virus must interact with proteins on the cell surface (receptors) to enter the cell. The virus does this through proteins on its surface. Examining the protein sequence of the SARS-CoV-2 receptor binding site yielded interesting results. Although the SARS-CoV-2 is generally more similar to the bat corona virus, its receptor-binding site was more similar to that of SARS-CoV.

In those days, many did not care about water and food hygiene, but when the importance of hygiene and quarantine policies was well established, the prevalence of cholera decreased [22]. However, one of the most important aspects of the comparison is the effect that cholera has on people's lifestyles. People, who did not purify their daily water consumption, did not wash fruits and vegetables, did not have a sanitary sewage collection system, and eventually became people who paid exorbitant costs. They improved their health; it seems that the corona pandemic can establish a new lifestyle [23].

This can be the starting point for changing the eating behaviors of East Asians and even people around the world [24].

On the other hand, in addition to the new approach to the role of nutrition in the etiology and treatment of diseases in traditional medicine, salt is one of the essential substances for the body and helps the body and brain function properly. In an adult, 6 grams daily is recommended. Recommended WHO 80-90 mmol/day. In Islamic teachings, it is recommended to start and end food with salt, which alone or in combination with other spices is used in the treatment of more than 40 types of diseases, mainly as a phlegm aperient and soda, removes viscous moisture and obstructions, and also a role in eliminating food spoilage and is a desirable remedy. There are many authentic narrations in this regard [25].

In the traditional medicine sources, about 10 types of salt with similar actions and properties have been defined, which can be used alone or in combination with other spices to treat many diseases [26].

Sharaf ibn Baha'i Tayyib Shirazi [25] has stated in the book *Al-Marghoob* that salt is the best and Ashraf is the object to improve the food with it, both in terms of taste and in terms of benefits and guilds. Also its types: bitter salt, rock salt and those salts with which crystal salt. It is called the stinking black salt which is called petroleum salt and the very black salt which is called Indian salt and the salt which comes out of the earth like pure water and freezes on the earth which is called lithic salt [27].

It creates a strong dryness, preventing the infection in the blood, and eliminates the side effects of cooking food, and moderation in its consumption; Stimulates appetite and food, softens and reduces nausea, and brightens the complexion, improves digestion, improves excretion rate, and is useful for relieving colds caused by cold. It is also useful for moist organs of the body. Its side effects are less and its remedy is consumption of fats and sweets, and wet bath repels its harm, is useful in the treatment of flesh wounds, and is useful for itching, rash, phlegm and gout.

If it is applied like kohl in the eyes, it reduces the redness and thickness of the eyelid (thickening of

the eyelids) and if it applied on the scalp with honey and raisins, it matures soon and analyzes phlegm swellings with mint and honey. Andrabi salt is the strongest, strengthens the gums, and repels moisture [28].

The warmth of nephritic salt is stronger and repels phlegm and soda. It is also useful in relieving vomiting and constipation. It is also useful in treating phlegm diarrhea; however, the Indian black salt is stronger in phlegm and soda diarrhea [29].

### **Physiopathology of salt and Corona Virus**

Due to the high physiological salt concentration, it has a direct effect on inhibiting the function 17 and IL-17 cells (proinflammatory cytokines involved in the pathogenesis of autoimmune diseases) that initiate proinflammatory cascades and increase the anti-inflammatory function of FOXP<sub>3</sub> + (cell regulation). It may be useful in the treatment of chronic inflammatory diseases. On the other hand, the results of a study conducted by Shahabi et al. [29] demonstrated that the tendency of cytokine pattern in cold temper is less than the hot and dry nature of salt [30].

Also, confusion, forgetfulness, weakening and disappearance of olfactory and taste powers, and nerve pain up to seizures and strokes, are among the neurological symptoms of coronavirus, which are related to hypoxia and inflammation of the brain. Inflammation of the brain can be indirectly due to cytokine storm (autoimmune encephalitis) or directly due to the rupture of the blood-brain barrier by the virus (viral encephalitis) [27]. Monocytes, macrophages, and microglial cells also play an important role in CNS inflammation, and high concentrations of NaCl stimulate myeloid cells and enhance phosphorylation of MAPK pathways in macrophages. Macrophages also produce large amounts of chemicals that are closely related to salt intake. Due to the fact that salt is an available and inexpensive substance, if used in the required amount, it can play an important role in the treatment of many diseases, so a study was conducted on the use of salt and Coronavirus [31].

### **Comparison of Salt physiopathology with common drugs for the treatment of Coronavirus**

Since the exact mechanism of infection with this virus has not been fully elucidated and no specific drug or vaccine has been designed for it so far, the most important task now is to break the transmission cycle. Common treatments for Coronavirus including, hydroxychloroquine, are often symptomatic, so that in addition to their immunomodulatory role in the laboratory, Hydroxychloroquine and Chloroquine also inhibit the virus. Chloroquine introduced in 1934 as an antimalarial drug. This drug increases their pH by accumulating in intracellular organelles such as endosomes and lysosomes. In addition, the alkaline Amphiphilic drugs such as Amiodarone, due to their structure, can enter into acidic organelles such as endosomes and lysosomes, similar to Chloroquine. These findings suggest that increasing the pH plays an important role in the therapeutic function of drugs used in modern medicine in the treatment of Coronavirus, and salt creates a similar mechanism.

On the other hand, the most common complication of Chloroquine is in the gastrointestinal tract, which manifested by nausea, vomiting and diarrhea. The worst side effect of this drug is long-term use of retinopathy due to retinal damage. This is while salt is effective in treating infection and prevents infection in the blood. In addition, in a 2003 study by Haqqani et al., [31] the effect of NaCl on the temporary removal of Gag Reflex investigated. Based on this study. The results of this study showed that the success rate of NaCl use in Gag Reflex control in the population was 3.88%. The success rate of NaCl use in Gag Reflex control was 90.6% in men and 85.9% in women. It was concluded that Gag Reflex inhibited by stimulating the shoots of tympanic cord by taste buds in the anterior part of the tongue.

In addition, the use of common salt has a positive effect on temporary elimination. It recommended that all dentists use NaCl to remove Gag Reflex in their patients before using other methods [32].

In a study (Xue, 2018) [33] found that a Salt-rich diet can reduce the level of TFF2 expression in MGs of gastric mucosa due to *H. pylori* infection [33], which is probably why Salt is also effective in reducing upper extremity complications caused by coronavirus.

### **Does it take longer for Covid-19 to disappear than SARS?**

We have not had a global SARS outbreak since 2003. The last reported case occurred in 2004 in the laboratory. No cases have been reported since. By observing public health, such as the following, we were able to control SARS:

- Early detection and quarantine
- Quarantine of people who were in contact with the sick person
- Social distancing
- Is it possible to help eliminate Covid-19 by following these criteria? It must be said that this is more difficult in the case of Covid-19 [34-36].

Some factors can cause Covid-19 disease to last longer, as follows:

Approximately 80% of people with Covid-19 develop a mild illness. Some do not even notice the disease. This makes it difficult to distinguish the infected people from non-infected ones. People with Covid-19 appear to be carriers sooner than patients with SARS. Covid-19 is now rapidly spreading among communities. This was not the case with SARS, which was more prevalent in health centers. Our connection across the globe has been increased since 2003, which is why Covid-19 is spreading faster across regions and countries [37-39]

### **Result and Discussion**

The influence of salt on the Corona virus was investigated. People with COVID-19 may experience other viral infections at the same time. The most common of which are: respiratory syncytial virus, rhinovirus, enterovirus and SARS-CoV-2 Coronaries in a study for the prevention and treatment of patients with COVID 19. Since high physiological salt, concentrations have a direct effect on inhibiting the function of 17 and

IL-17 cells, high levels such as IL-6 and IL-10 are consistent with the severity of coronary heart disease.

Thus, NaCl may be useful in the treatment of chronic inflammatory diseases. Infection is more prevalent in cold parts of the body and the lungs are cold in the current condition, it can be concluded that Salt that has a temperature of 4 degrees can be effective in reducing pulmonary cold. On the other hand, receptor binding expressed by host cells is the first stage of viral infection and followed by fusion of cell membranes. Excretion may help reducing the transmission and occurrence of pulmonary complications of the virus [40]

It is noteworthy that bats are the source of the spread of these viruses. Researchers say that all the coronaviruses that infect humans originate from bats and are then transmitted to humans through another animal. Because coronaviruses are large and complex and change the genetic structure, it is very difficult to study them, which confuses researchers [41]

Also, from the perspective of traditional medicine, people in old age (from the age of 60 to the end of life). When the main heat and humidity in this period has reached its minimum due to analysis during the previous period of life their temperament is colder and due to poor digestion [42]

### **Conclusion**

Abnormal and unnaturally deadly moisture produced between the body parts of this group of people and the temperament in one of the four age periods of those who have equal warmth. In addition, it is cold in them and have high humidity. Hot and cold temperament, moisture prevails, such people are often early. They also become infected. Statistics also show that people with a cold have a higher rate of coronary heart disease, so that in Italy, until May 21, in the age range of 60-89 years, men die 63.9% of the total there were cases.

In addition, in a study on patients with umbilical cord granules, complete improvement achieved

with oral Salt treatment and no recurrence or adverse therapeutic effect observed in relation to oral salt consumption in all patients after 6 months of follow-up. It has been for 5 days, which seems to be due to its biological properties, and the high concentration of sodium ions in the area caused water to leave the cell, resulting in shrinkage, shrinkage and necrosis of granulomatous tissue. As the treatment with oral salt is simple, inexpensive, available, and safe.

### Conflict of Interest

We have no conflicts of interest to disclose.

### REFERENCE

- [1]. Wang L.S., Wang Y.R., Ye D.W., Liu Q.Q., *Int. J. Antimicrob. Agents*, 2020, **2**:10594
- [2]. Samimi A., *Prog. Chem. Biochem. Res.*, 2020, **3**:130
- [3]. Abdollahbeigi M., *J. Chem. Rev.*, 2020, **2**:303
- [4]. Froidi G., Dorigo P., *Med. Hypotheses*, 2020, **144**:110015
- [5]. Kearney J., *Preprints*, 2020, **2**:202
- [6]. Li X., Geng M., Peng Y., Meng L., Lu S., *J. Pharm. Anal.*, 2020, **2**:9
- [7]. Samimi A., Zarinabadi S., Shahbazi Kootenaei AH., Azimi A., Mirzaei M., *Chem. Methodol.*, 2020, **4**:852
- [8]. Abdollahbeigi M., Asgari M., *J. Chem. Rev.*, 2020, **2**:257
- [9]. Abdollahbeigi M., *J. Chem. Rev.*, 2020, **3**:284
- [10]. Haghani J., Naser Khaki M., *J. Dent. sch.*, 2003, **21**: 31
- [11]. Rady D., Abbass M., El-Rashidy A.A., El Moshy S., Radwan I.A., Dörfer C.E., Fawzy El-Sayed K.M., *Stem. Cells Int.*, 2020, **2020**:1
- [12]. Ibn-e-sina AH a. In: sharafkandi A., editor. *Qanun (canon medicina)*. 10<sup>th</sup> ed. Tehran: soroush; 2010
- [13]. Driggin E., Madhavan M.V., Bikdeli B., Chuich T., Laracy J., Biondi-Zoccai G., Brown T.S., Der Nigoghossian C., Zidar D.A., Haythe J., Brodie D., *J. Am. Coll. Cardiol.*, 2020, **75**:2352
- [14]. Nickbakhsh S., Ho A., Marques D.F.P., McMenamin J., Gunson R.N., Murcia P.R., *J. Infect. Dis.*, 2020, **222**:696
- [15]. Huang C., Wang Y., Li X., Ren L., Zhao J., Hu Y., Zhang L., Fan G., Xu J., Gu X., Cheng Z., *Lancet.*, 2020, **395**:497
- [16]. Ganji A., Gh M., Khaki M., Ghazavi A., *J. Arak Univ. Med. Sci.*, 2018, **23**:8
- [17]. Li X., Geng M., Peng Y., Meng L., Lu S., *J. Pharm. Anal.*, 2020, **3**:147
- [18]. Lai C.C., Liu Y.H., Wang C.Y., Wang Y.H., Hsueh S.C., Yen M.Y., *J. Microbiol. Immunol. Infect.*, 2020, **53**:404
- [19]. Khaki M., Ghazavi A., Ghasami K., Rafiei M., Payani M.A., Ghaznavi-Rad E., *Neurosciences (Riyadh)*, 2011, **16**:224
- [20]. Wan Y., Shang J., Sun S., Tai W., Chen J., Geng Q., *J. Virol.*, 2020, **94**:222
- [21]. Lu H., *Biosci. Trends.*, 2020, **14**:69
- [22]. Gao J., Tian Z., Yang X., *Biosci. Trends.*, 2020, **14**:72
- [23]. Aimo A., Baritussio A., Emdin M., Tascini C., *Eur. J. Prev. Cardiol.*, 2020, **2**:205
- [24]. Rothan H. A., Byrareddy S. N., *J. Autoimmun.*, 2020, **10**:102433
- [25]. Xu J., Zhao S., Teng T., Abdalla A. E., Zhu W., Xie L., Wang Y., Guo X., *Viruses*, 2020, **12**:244
- [26]. Mohammad I., *Alborz Univ. Med. Sci. J.*, 2020, **9**:171
- [27]. Samimi A., Zarinabadi S., Shahbazi Kootenaei AH., Azimi A., Mirzaei M., *S. Afr. J. Chem.*, 2020, **31**:44
- [28]. Levkovich T., Poutahidis T., Smillie C., Varian B. J., Ibrahim Y. M., Lakritz J. R., Alm E. J., Erdman S. E., *Plos one*, 2013, **8**:256
- [29]. Yamaguchi Y., Fujio K., Shoda H., Okamoto A., Tsuno N.H., Takahashi K., 2007, **179**:7128
- [30]. Mildner A., Mack M., Schmidt H., Brück W., Djukic M., Zabel M.D., Hille A., Priller J., Prinz M., *Brain*, 2009, **132**:2487
- [31]. Haqqani A.S., Do S.K., Birnboim H.C., *Nitric Oxide*, 2003, **9**:172
- [32]. Sigaux J., Semerano L., Favre G., Bessis N., Boissier M.C., *Rev. du Rhum.*, 2018, **85**: 19
- [33]. Rubino I., Oh E., Han S., Kaleem S., Hornig A., Lee S.H., Kang H.J., Lee D.H., Chu K.B., Kumaran S., Armstrong S., *Sci. Rep.*, 2020, **10**:138
- [34]. Mohammadnazar D., Samimi A., *J. Chem. Rev.*, 2019, **1**:252

- [35]. Choobineh M.J., Abdollahbeigi M., Nasrollahzadeh B., *J. Fundam. Appl. Sci.*, 2016, **8**:1150
- [36]. Samimi A., Zarinabadi S., Shahbazi Kootenaie A.H., Azimi A., Mirzaei M., *J. Chem. Rev.*, 2020, **1**:154
- [37]. Samimi A., *Prog. Chem. Biochem. Res.*, 2020, **3**:140
- [38]. Karami M., Samimi A., Ja'fari M., *Adv. J. Chem. B*, 2020, **2**:151
- [39]. Karami M., Samimi A., Ja'fari M., *Prog. Chem. Biochem. Res.*, 2020, **2**:144
- [40]. Karami M., Samimi A., Ja'fari M., *Prog. Chem. Biochem. Res.*, 2020, **3**:239
- [41]. Nasrollahzadeh B., Choobineh M.J., Abdollahbeigi M., *DAV Int. J. Sci.*, 2015, **4**:49
- [42]. Abdollahbeigi M., Choobineh M.J., Nasrollahzadeh B., *Australian J. Int. Soc. Res.*, 2015, **1**:1
- [43]. Abdollahbeigi M., Choobineh M.J., Nasrollahzadeh B., *Sci. road J.*, 2015, **3**:74
- [44]. Abdollahbeigi M., *DAV Int. J. Sci.*, 2015, **4**:47
- [45]. Choobineh M.J., Nasrollahzadeh B., Abdollahbeigi M., *DAV Int. J. Sci.*, 2015, **4**:58

#### HOW TO CITE THIS ARTICLE

Hossein Kheirandish. Corona Virus and Salt Intake, *J. Med. Chem. Sci.*, 2021, 4(1) 1-7

DOI: 10.26655/JMCHMSCI.2021.1.1

URL: [http://www.jmchemsci.com/article\\_118947.html](http://www.jmchemsci.com/article_118947.html)