

COVID-19

On March 18th Dr. Ayati and Dr. Azarani prepared an up-to-date report on COVID-19 explaining, clarifying and simplifying the latest scientific and medical facts as well as myths regarding this viral disease. This article is updating and further completing the first report. For a copy of the original report please follow this link: <http://pathstohealthyaging.com/blog/covid-19-up-to-date>.

1. What are COVID-19 infection symptoms?

- **No symptoms:** many people can carry and transmit the virus but show no symptoms.
- **Mild symptoms:** include fatigue, runny nose, sore throat, dry cough, body pain, headache, chills, fever, nausea, vomiting, and diarrhea.
- **Critical symptoms:** include breathing difficulties, pneumonia, and respiratory failure. Patients who survives this phase could be left with permanent lung damage.
- **New Reported Symptoms:** in the past few days new symptoms have been reported and include:

- Loss of smell (anosmia/hyposmia) and taste (per the American Otolaryngology- Head and Neck Surgery and ENT UK). Recent reports from South Korea, China, Italy, Germany, Iran, France and the US have indicated that a significant number of patients with proven COVID-19 infection have developed anosmia/hyposmia as their only symptoms. Corticosteroid use in these patients is not recommended as it may increase the severity of infection. Whether this loss is permanent or transient is not yet known.

<https://www.entnet.org/content/coronavirus-disease-2019-resources>

<https://www.entuk.org/sites/default/files/files/Loss%20of%20sense%20of%20smell%20as%20marker%20of%20COVID.pdf>

- Pink eye has also been reported as the only presenting symptom as well as one of the symptoms in COVID-19 patients in two studies from China as well in the US:

<https://onlinelibrary.wiley.com/doi/full/10.1002/jmv.25725>

<https://www.nejm.org/doi/pdf/10.1056/NEJMoa2002032>

- ### 2. Who is more susceptible to COVID-19 infection?
- While individuals of any age can be infected with the COVID-19 virus, middle age , older adults, individuals with pre-existing conditions and those who are immunocompromised are most commonly affected by this virus. In most countries the number of men infected with COVID-19 is higher than women. For example, in Italy 60 percent of people who tested positive for the virus are men. Iran France, and Germany have shown similar results. In South Korea, on the other hand the number of women who have tested positive for the virus is higher than the men. Numbers

for the US are not very clear since the US (both at the Federal level (for example the CDC) and also at the States level) is not yet releasing the basic nationwide data essential in understanding who is most vulnerable to this virus. This data is crucial for providing more effective care to those at higher risk.

<https://www.cnn.com/2020/03/24/health/coronavirus-gender-mortality-intl/index.html>

<https://www.washingtonpost.com/health/2020/03/26/men-are-getting-sicker-dying-more-often-covid-19-spain-data-shows/>

3. **Fatality Rates:** According to latest studies, worldwide the average death rate among people under age 40 is less than 1% percent, 8% for people age 70 to 79, and 14.8% for people over age 80. It does not appear to seriously impact infants and young children, but they can spread the virus to others. However, these statistics vary by county and region. For example, in a study which was published on March 16 including 508 COVID-19 positive patients in the US, 20% were between 20 to 44 years old and 121 of them required intensive care.

While older people and those with pre-existing chronic conditions have a higher fatality rate from COVID-19, overall mortality rates vary by country. For example, while 2.3 percent fatality has been reported by China, the fatality rate in Italy has been reported as 7.2 percent. Fatality rate has been reported as 1 percent in South Korea, 1.7 percent in the US and 0.4 percent in Germany. An up-to-date report on the number of infected people and deaths per country can be found in the following links:

<https://www.worldometers.info/coronavirus/>

<https://jamanetwork.com/journals/jama/fullarticle/2763667>

While the reason for this difference in mortality rate among different countries is not clear it could be explained by the following factors:

- Population demographic: for example, in Italy approximately 23 percent of the population is aged 65 years or older while this percentage is lower in China.
- Genetic variances: among the population in different part of the world as well as genetic variances among different strains of the COVID-19 virus, which has been mutating.
- The level of medical care provided: countries providing government sponsored health care such as South Korea and Germany vs countries where only a portion of the population has medical coverage such as in the US or Iran.
- The quality of medical care provided: health care system differences in each country. For example, the number of doctors, nurses and hospital beds available vary among different countries. Germany has 13.2 nurses per 1000 people, while this number is much lower in Italy, Spain and Iran.
- The test method by which the COVID-19 infection has been confirmed in the diseased patients: for example, performing RT-PCR versus diagnosis by symptoms (diagnosis by chest X-Ray or CT Scan), or diagnosis by immunoassays.
- Testing method accuracy (see testing method accuracy in the original report)
- The portion of the population tested: for example, in South Korea more widespread testing has been reported compared to other countries such as the US where due to the shortage of diagnostic kits only limited number of people have been tested.

- The nature of the study itself: being done on smaller number of people compared to the one done in China including a larger number of people

<https://www.cnn.com/2020/03/24/opinions/germany-low-death-rate-for-coronavirus-sepkowitz/index.html>

However, in all countries (where sex-disaggregated statistic is available) the number of men who have died from the COVID-19 infection is higher in men by 50 percent. Researchers believe that gender behavior factors such as smoking, drinking and general poor health contribute to this trend. More men practice unhealthy habits such as heavy drinking and smoking compare to women. Men also have a higher rate of chronic conditions such as coronary heart disease, stroke, lung disease, and hypertension. Others suggest that women might have a stronger immune response against viral infections than men.

<https://www.cnn.com/2020/03/24/health/coronavirus-gender-mortality-intl/index.html>

4. Prevention:

For the public: The best prevention measure for the public is via self-isolation and hand washing with soap and water (for more on this check the original article named COVID-19 update). Viruses are very small particles and can penetrate most masks. Viruses can also transmit through the eyes. The COVID-19 is approximately 60-140 nm in diameter. N95 respirators (also called masks) can filter out particles greater than 0.1 to 0.3 micron in size. N95 masks, which must be fit tested, are therefore believed to offer 95 percent protection against the contact and droplet spread of the coronavirus. Most other masks do not provide protection against the COVID-19. The public should not be wearing masks unless if they are COVID-19 positive or taking care of someone who is infected. As there is a shortage of N95 masks in healthcare centers the public is strongly encouraged to donate these to their nearest hospitals.

- **For the healthcare workers:** Personal Protective Equipment (PPE) (mask, gloves, face shields, and gowns) shortage for healthcare centers have been widely reported by nursing homes, doctors' offices, urgent cares, and hospitals across the US and globally. Healthcare providers facing this shortage are jeopardizing their safety and that of their patients and family members. Healthcare providers are the frontline fighters. They are getting sick as they do not have the PPE necessary to avoid getting infected. This will have dire consequences on the health and wellbeing of the whole community. It will result in higher rate of contamination and shortage of healthcare workers desperately needed to battle this crisis.

In the Bay Area and across the US there has been an effort to get the public, private companies and even other countries to donate PPE to healthcare centers. This effort while encouraging in nature has been somewhat futile due to logistical and policy issues as well as due to a global shortage of these supplies. A small hospital, for example, can use thousands of N-95 masks a day. Therefore, small donations can't keep up with the demand. And some healthcare centers are making their own

protective gears. Most of these are made by their staff or the public and do not have the proper certification. Their effectiveness is therefore uncertain, and their use can put the safety of staff and the public in danger.

Some healthcare centers which do have PPEs are locking them up as they report they are being stolen by staff and the public for personal use as well as for monetary gain! Price gouging has been widely reported where N95 masks are being sold for \$7 to \$10 each! The cost for making these masks is in the pennies and sadly few people and companies are currently taking advantage of this shortage situation to make a fortune. It is strongly recommended that donors do not purchase N95 masks from these individuals/companies to stop these dishonest and illegal practices.

Many healthcare centers have instructed their staff to reuse their PPE. While face shields and gowns can be washed and disinfected for reuse other supplies such as gloves and masks can't be washed and disinfected without being destroyed and no longer providing protection. Therefore, N-95 masks and gloves should be thrown away after single use.

The use of hairnet for the healthcare providers has also been recommended. While viruses survive for lesser durations on porous surfaces, such as hair, compared to smooth surfaces, such as stainless steel, the best way to stay safe is to wear a disposable hairnet or wash your hair if you do not have access to any.

5. How is COVID-19 diagnosed?

- **RT-PCR:** A test called Reverse transcriptase polymerase chain reaction (RT-PCR) is performed on nasal, throat, blood or stool samples. Accuracy will depend on the sample type, kit and technician errors and sample stability (for more information refer to COVID-19 Update article). Including the shipment time and the time for the actual assay (which itself takes between 4-6 hours) the complete turn-around time is approximately 24 hours for traditional RT-PCR tests. It requires expensive reagents, expensive instrumentation and trained staff. As of March 18, a 15 minute test from Abbott was approved by the FDA for healthcare centers in the US. The cost of this instrument and its reagent as well as accuracy results are currently unavailable.
<https://www.abbott.com/corpnewsroom/product-and-innovation/detect-covid-19-in-as-little-as-5-minutes.html>
- **Chest X-Rays and CT Scans:** In China and many other countries, which did or are facing the shortage of COVID-19 RT-PCR test kits, chest X-Rays and CT Scans have been used to detect COVID-19 infection. Many doctors have reported chest CT abnormalities in patients before the development of symptoms and even before the detection of viral RNA from upper respiratory specimens.
- **Immunochromatography or immunoassays:** These assays contain COVID-19 antibodies that recognize and bind to COVID-19 proteins. While this assay is rapid (could take between 15-20 minutes) and does not require any instrumentation or

trained personnel immunoassays are less accurate than RT-PCR. These assays have a high false negative rate. For a list of these assays follow this link:

<https://www.nature.com/articles/d41587-020-00010-2>

Many companies are now offering RT-PCR or immunoassay testing for the COVID-19 in the US and globally. Many of these are not approved by the US FDA since their accuracy is not guaranteed. They might have a high rate of false negative results. Therefore, if you get tested and the results are negative (which has been reported in many cases globally) it is not a guarantee that you do not carry the COVID-19 virus. Many vendors are contacting healthcare centers to sell these kits. Be aware of price gouging and accuracy issues. A few of these vendors claim that their kits are RT-PCR kits while in reality they are immunoassays. If they claim that their assays can be done in less than 15 minutes without instrumentation these kits are most probably not RT-PCR based.

6. **Can COVID-19 mutate and is there going to be a vaccine soon?** Currently there is no vaccine for this corona virus. A commercially available vaccine is estimated to be available within a year to a year and half from now. COVID-19 is an RNA virus. RNA viruses undergo mutation, which means they can change frequently. So far, the rate of mutation for COVID-19 is approximately two mutations per month. This is a much slower rate than that of the influenza virus, which averages about eight to 10 mutations per month. However, it is about 100 times faster than DNA viruses.

The S and L type mutant of COVID-19 were first identified in China. Since then other strains of the virus have been found in people infected on the Grand Princess cruise ship as well as in the US and across Europe. Therefore, any developed vaccine might not protect against different mutants of COVID-19. Similar to the flu vaccine the population will need to be vaccinated every year and COVID-19 will become a recurring fact of life. But unlike the flu COVID-19 will be much more virulent and deadlier. Furthermore, this means that even if you have been infected with one strain of the COVID-19 you can still get infected with another strain of it.

<https://medium.com/@tomaspueyo/coronavirus-the-hammer-and-the-dance-be9337092b56>

<https://www.sfchronicle.com/science/article/The-science-of-coronavirus-how-fast-it-15135782.php>

7. **Are there any cures?**

There are no cures for the COVID-19 infection currently. Treatments are only experimental.

For mild symptoms: hydration and fever reducing medications such as acetaminophen are recommended by physicians.

For more severe infections: an array of medications along with oxygen therapy and corticosteroids are being used in different countries.

- **Remdesivir** produced by Gilead has been recently recognized as a promising antiviral drug against a wide array of RNA virus infection in cultured cells, mice

and nonhuman primate models. It is currently under clinical development for the treatment of Ebola virus infection. Remdesivir has recently been used by Stanford hospital in a very limited number of infected patients with COVID-19 with success. This antiviral medication is only available in IV (intravenous) format. This drug is only available to a few hospitals, delivered through a compassionate use program to severely sick patients, in the United States. It is important to keep in mind that this medication is in experimental phase and its efficacy in treating COVID-19 is under investigation. Remdesivir is not available to the public.

<https://www.statnews.com/2020/03/16/remdesivir-surges-ahead-against-coronavirus/>

- **Chloroquine (or hydroxychloroquine):** is a widely-used anti-malarial and autoimmune disease medication. In a few in-vitro (in laboratory) studies it has been reported as a potential broad-spectrum antiviral drug. Recently, in a limited number of studies, it has been suggested that it could suppress the growth of coronavirus. For example, in a very small study out of China including only 100 patients hydroxychloroquine did reduce the disease course. Other limited studies have shown the opposite in that this medication does not reduce the disease course. Therefore, its effectiveness in preventing or treating COVID-19 infection are controversial as they come from studies done on very small number of people infected with COVID-19. **Currently there are no available data from Randomized Clinical Trials (RCTs) to inform clinical guidance on the use, dosing, or duration of hydroxychloroquine for prophylaxis or treatment of COVID-19 infection. US Food and Drug Administration (FDA) has not approved the drugs for coronavirus treatment.**

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/therapeutic-options.html>

<https://www.ncbi.nlm.nih.gov/pubmed/32074550>

Chloroquine is considered to be safe with mild and transitory side-effects. **However, the margin between the therapeutic and toxic dose of this medication is very narrow. Therefore, this medication if ingested in doses even slightly higher than recommended for therapeutic treatment is toxic.** Chloroquine poisoning has been associated with cardiovascular disorders that can be life-threatening. Toxicity and death have been reported across different countries such as in Nigeria and the US. Chloroquine/hydroxychloroquine for self-treatment or for prophylactic purposes of COVID-19 infection is strongly discouraged.

<https://www.sciencedirect.com/science/article/pii/S0166354220301145#bbib11>

On another note, people who have been on chloroquine for autoimmune conditions like lupus and rheumatoid arthritis are reporting difficulty in filling their prescriptions. Chloroquine is used as a maintenance therapy for these patients and this shortage in supply can put these patients at a higher risk of flare-ups, hospitalization and death.

Combination of hydroxychloroquine and the antibiotic azithromycin has also been suggested as a method of decreasing the disease course by a very small study

of 20 COVID-19 patients in France. However, the evidence is only anecdotal and **CDC has issued a strong warning against this combination therapy**. The paired drugs can disrupt the heart's electrical activity and result in death. **This regimen should not be prescribed to people suffering from renal failure or hepatic disease and should not be used for self-treatment or for prophylactic purposes by the general public.**

- **Lopinavir and Ritonavir** are sold under the name Kaletra and are designed to treat HIV. It has also been used in treatment of COVID-19 with less success. Two other drugs called APN01 and Favilavir are also being tested in COVID-19 clinical trials in China.
- **Antibiotics:** do not work against viruses. They only kill bacteria. Antibiotics should not be used as a means of prevention or treatment of COVID-19. Viral pneumonia can't be treated with antibiotics. However, COVID-19 patients might develop secondary bacterial infection and may receive antibiotics in the hospitals.
- **Steroids:** Some doctors in different part of the world have been using steroids to treat difficult cases of viral pneumonia. Steroids decrease inflammation and slow down the patient's immune system when it goes into overdrive. However, the World Health Organization advises against its use. While steroids suppress lung inflammation they also inhibit immune responses and pathogen clearance.
[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)30317-2/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30317-2/fulltext)
<https://www.nature.com/articles/s41422-020-0282-0>
<https://www.healthline.com/health/coronavirus-treatment#potential-treatments>
- **Mechanical ventilation** becomes necessary in patients with respiratory failure. When patients' lungs become too inflamed or injured a ventilator is used to force oxygen into their lungs and clear out carbon dioxide. Studies from China have shown that about 17 percent of coronavirus patients required ventilators. This number varies across different countries. However, globally there is a shortage of ventilators since the COVID-19 pandemic has started. Another issue is the shortage of respiratory therapists and nurses trained for caring for patients on ventilators. It is estimated that the US has approximately 160,000 ventilators. As recently observed in New York, this number might not suffice if social distancing measures and other attempts to decrease the number of COVID-19 do not work. And health officials in New York are hooking two patients up to one ventilator at a time. The safety and efficacy of this process is unknown since this has never been tried before.

http://www.centerforhealthsecurity.org/our-work/events/2018_clade_x_exercise/pdfs/Clade-X-ventilator-availability-fact-sheet.pdf
[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)30566-3/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30566-3/fulltext)

Bioethical Decision Making: Due to the shortage of this life saving device physicians across the world are being forced to make sorrowful decisions about who receives ventilators and who does not as their hospitals overflow with COVID-19 patients. In many countries such as Italy, Iran, and Spain (and recently in some states in the US such as New Jersey) physicians are starting to triage patients based on the likely outcome. Depending on the country, factors such as age, pre-existing conditions and a combination of how critically ill a patient is and determining how long and whether they would benefit from ventilator treatment and prognosis over the short, medium, or long term has been or will influence/mandate their decision.

8. **Why are the elderly in great danger?** As the hospitals become more overwhelmed and can no longer provide ICU beds and ventilators they will start giving priority to younger patients over the older ones. Therefore, just as it has occurred in Iran, Italy, and Spain there will be an Age-Based Allocation of Health Care Resources. Therefore, older people and those with pre-existing conditions will not get priority of care when a hospital is overwhelmed with the number of patients needing ICU beds and ventilators.

https://www.telegraph.co.uk/news/2020/03/14/italians-80-will-left-die-country-overwhelmed-coronavirus/?li_source=LI&li_medium=liftignit

In Spain, residents of nursing homes have been found completely abandoned or dead in their beds as the country's coronavirus outbreak worsens, according to the Spain's Defense Minister. In Spain about 14 percent of healthcare workers have tested positive with COVID-19. This number has been recorded as 10 percent in the US. Therefore, in Spain as well as across the countries with large number of COVID-19 infections there is a shortage of caregivers.

<https://www.bbc.com/news/world-europe-52014023>

In the US 2.5 million elderly Americans reside in nursing homes, assisted living facilities, board & care and memory care units. These institutions in the US are for profit companies. And it is a highly competitive industry. To maximize their profit, they often pay low wages to their caregivers, understaff their facilities with untrained staff, and short cut regulations (such as providing proper training for their caregivers, resources and infrastructure) at the expense of their senior residents. Many elderlies perish every year in these institutions due to neglect and basic infection control procedures.

With the COVID-19 pandemic, a large number of these institutions report caregiver shortages, lack of PPE, and many sick patients. Their staff are either sick, or do not show up to work due to the fear of getting infected, or quit due to lack of protective gear and support. What is worrisome is the fact that many of these caregivers work in multiple nursing homes in order to make ends meet. Therefore, the COVID-19 infections is rapidly spreading among these centers, which share staff. It is a tragedy unfolding and one that has already resulted in many deaths in the State of Washington.

Due to caregiver shortage, elderly residing in nursing homes are therefore being rushed to the ER as soon as they show signs of sickness- even mild ones. However, it is unclear whether they are COVID-19 positive, or just have the common cold or the flu, or are sick

enough to need hospitalization. This is very problematic. First, if their residents have the flu or a cold and not COVID-19 they will surely get exposed to COVID-19 in the ER. Second, if they are all brought to the ER they will occupy all the beds and there won't be enough ER beds, doctors and nurses to take care of the critically sick including COVID-19 patients or others who urgently need help. In some states this overload has already resulted in a longer paramedic response rate.

CDC has been instructing the public to self-isolate with mild COVID-19 symptoms rather than seeking help at the urgent cares and ERs. While this is a valid strategy for the younger and more healthy people it is futile for the elderly population. Chronic diseases, depression, and dementia rates are high in the elderly population. Elderly patients with mild symptoms of COVID-19 are simply not strong enough to stay isolated and to care of themselves and require assistance in order to survive. Self-isolation will specifically exacerbate depression in this population. Furthermore, isolated elderly might not be able to get the appropriate information about what to do and how to take care of themselves vis a vie COVID-19 infection.

Chronic diseases such as heart disease, lung disease and diabetes are more common among older adults. They often require more doctor and hospital visits. A side-effect of the impact of coronavirus on the healthcare system is the elderly are going to get substandard care because the system is overwhelmed. Unfortunately, the elderly are hospitalized on a daily basis at much higher rates than younger people and they are not going to get the quality care they require during the COVID-19 outbreak.

Another global issue is that majority of seniors live in poverty, which makes it more difficult for them to get the things they need such as food and medication, and to take care of themselves. Currently, there is a shortage of food and supplies with many items and medications out of stock. That also has a very negative impact on their health.

9. **Ture or a Myth?** While scientists across the globe are hard at work finding answers and solutions, peer reviewed articles, research and results are limited. Therefore, people are confused and in need of clarification and simplification of medical facts. Unfortunately, many have started self-medicating themselves and putting their lives in danger by following unproven and false remedies. Here are some myths to watch out for.

- **Do heart medications like Angiotensin-converting enzyme inhibitors (ACEI) increase the likelihood of contracting COVID-19?** ACE inhibitors are used by heart patients and people with hypertension to widen blood vessels and lower blood pressure. Anecdotal information circulating claim that people taking such medication might be more susceptible to the COVID-19 infection. There is no direct evidence to support these speculations. Studies in animals have shown ACE inhibitors do produce more of the proteins that coronavirus is known to latch onto. However, the results are premature to draw any conclusions from. Patients treated with ACEIs and Angiotensin II receptor blockers (ARBs) for cardiovascular

diseases **should not stop taking their medicine** but should avoid exposure to COVID-19 patients in order to reduce their infection risks.

<https://www.sciencedaily.com/releases/2020/03/200323101354.htm>

- **Are painkillers safe?** French health minister recently provided warning to coronavirus patients to avoid taking painkillers from the Non-steroidal Anti-inflammatory Drugs (NSAIDs) like ibuprofen and aspirin because they might worsen symptoms by increasing receptors that the virus uses to infect cells. He urged people to take acetaminophen instead. There are no data to back up this statement. Physicians currently recommend acetaminophen or NSAIDs for reducing fever and mild symptoms of COVID-19 infection.
- **Can COVID-19 be transmitted through mosquito bites ?** No evidence exists to indicate that mosquitos can transmit COVID-19.
- **Can hand dryers kill COVID-19?** Hand dryers are not effective in killing this virus.
- **Can ultraviolet lamps kill COVID-19 virus?** UV lamps can be used to disinfect surfaces and laboratory equipment. However, they should not be used to sterilize your skin as they can cause irritation and damage.
- **Can thermal scanners detect people with COVID-19?** People with COVID-19 can show no symptoms or have mild symptoms. One of these symptoms can be a fever. Thermal scanners detect people who have a higher body temperature. Therefore, they are not accurate in detecting if someone is a carrier of COVID-19. Even if a person has a fever it does not mean that they are infected with COVID-19. They could be just suffering from the common cold or the flu.
- **Can spraying alcohol or chlorine solutions destroy the COVID-19 virus? What about drinking alcohol?** Alcohol (70 percent solution) and chlorine-based solutions can kill this virus on surfaces and **should not be used to spray your skin or hair nor should they be ingested**. They can cause severe harm and even death if they are used on any biological surfaces or internally.
- **If I have had the pneumonia vaccine am I protected against COVID-19?** No. COVID-19 is a new virus and there is no vaccine currently against this viral infection. While influenza and pneumococcal vaccinations are strongly advised they will not protect you via COVID-19 viral infection.
- **Can rinsing your nose/mouth/throat with saline solutions protect you against the COVID-19 infection?** No. While there is limited evidence that regularly rinsing the nose with saline solutions can help people recover more quickly from the common cold or allergies, there is no evidence indicating that this procedure would protect you against the COVID-19 infection. People swallowing or gargling

with bleach, concentrated salt water, ethanol, essential oils, vinegar or steroids can actually put themselves in severe danger.

- **Can taking supplements, vitamins, probiotics and herbal remedies prevent the COVID-19 infections?** Most studies and research done to date do not indicate that these products can decrease or prevent infection with COVID-19 and other viruses including the flu. For example, systematic reviews have found that zinc intake is associated with a reduction in the duration and severity of cold symptoms but not prevention. If you take zinc daily, it does not prevent you from getting respiratory symptoms, but if you get cold symptoms, it may shorten the course of the disease. Therefore, while it is crucial to eat healthy, get adequate sleep and exercise for overall physical and mental well-being, loading your system with vitamins, supplements and over the counter remedies is not recommended. Most of these products are not controlled by the FDA and may actually cause more harm. Reports in different countries have indicated that myths about consumption and over-consumption of alcohol, garlic, ginger and other natural or synthetic remedies have resulted in severe illness and even death.

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