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RESEARCH ARTICLE

COVID-19: MANY QUESTIONS WITH SOME ANSWERS

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ABSTRACT

Objectives: The rapid spread of the most virulent a novel virus SARS-CoV-2 has sparked alarm worldwide causing COVID-19, a viral respiratory disease. The World Health Organization (WHO) has declared this health-threatening outbreak as a pandemic COVID-19. In this review we discussed the COVID-19-related many questions and answers for better understanding and awareness of this disease. **Study Design:** Here we discussed about COVID-19, something in details as well as some more relevant associated-questions were answered from known resources. The results are shown in table format. **Methods:** The information and all the inputs were taken from many official organizations, like CDC, WHO, John's Hopkins webpage, are other valuable resources. **Results:** Various Issues related to COVID-19, like it's origin, severity, and symptoms. Protections and preventions, any available therapies were shown in different Tables under different headings, which are self-explanatory. **Conclusions:** Thus the knowledge-based awareness of these recent global biological threats will be helpful to the nation-wide all people irrespective of any age, caste, religion, sex, creed, and economical status.

INTRODUCTION

The outbreak of COVID-19, was first identified in December 2019 at Wuhan city of Province Hubei in China; and was recognized as a pandemic by the World Health Organization (WHO) on 11 March 2020 [1]. A pandemic is a global outbreak of disease. Pandemics happen when a new virus emerges to infect people and can spread between people sustainably. Because there is little to no pre-existing immunity against the new virus, it spreads worldwide. Coronaviruses are a large family of RNA viruses that are common in many different species of animals, including camels, cattle, cats, and bats [2]. Biochemical characterization displayed the SARS-CoV-2 virus is a beta-coronavirus, like MERS-CoV and SARS-CoV, and all three of these viruses have their origins in bats [3]. The sequences from U.S. patients are similar to the one that China initially posted, suggesting a likely single, recent emergence of this virus from an animal reservoir. The complete clinical picture with regard to COVID-19 is not fully known. Reported illnesses have ranged from very mild (including some with no reported symptoms) to severe, including illness resulting in death [4]. While information so far suggests that most COVID-19 illness is mild, a report external icon out of China suggests serious illness occurs in 16% of cases [4].

Older people and people of all ages with severe chronic medical conditions — like heart disease, lung disease and diabetes, for example — seem to be at higher risk of developing serious COVID-19 illness [5]. Here we discussed about the disease material, COVID-19, something in details as well as some more relevant associated-questions were answered from known resources. The results are shown in table format for the further knowledge and awareness of the common people as well for the researchers to understand the nature and pathway of this particular virus, their survival and infection mechanism. The information, we believe, will help to take precaution and prevention of this pandemic disease.

Methods and Study Design: The information and all the inputs were taken from many official organizations, like CDC, WHO, John's Hopkins webpage, are other valuable resources. The origin of COVID-19 causing virus SARS-CoV-2, its transmissibility, symptoms, prevention and precautions etc. were studied in details.

RESULTS

Various Issues are shown in different Tables under different headings, which are self-explanatory (Table 1-4).

DISCUSSION

This is the first pandemic disease known to be caused by the emergence of a new coronavirus, SARS-CoV-2. In the past century, there have been four pandemics caused by the emergence of novel influenza viruses.

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Table 1. COVID-19: Basics

Q#1	What is coronavirus?
Q#2	<p>Coronaviruses are an extremely common cause of colds and other upper/lower respiratory infections [1].</p> <p>What is COVID-19?</p> <p>COVID-19, short for "coronavirus disease 2019," is the official name given by the World Health Organization to the disease caused by this newly identified coronavirus, SARS-CoV-2 [1].</p>
Q#3	<p>What are the other types of coronaviruses?</p> <p>A coronavirus gets its name from the way it looks under a microscope.</p> <p>The word corona means "Crown". They include SARS-CoV (<u>Severe Acute Respiratory Syndrome; SARS</u>); and MERS-CoV (Middle East Respiratory Syndrome). Besides there are four low-pathogenic common cold viruses, like CoV-229E, NL-63, HKU1, and OC43 [2].</p>
Q#4	<p>COVID-19 vs. SARS and MERS</p> <ul style="list-style-type: none"> • In <u>2003 SARS outbreak</u> in China, was also caused by a coronavirus, with a mortality rate >10%. MERS was also originated from bats, fist outbreak happened in Saudi Arabia in 2012, whose mortality rate was >34%, • SARS-CoV-2 virus was first found also in Bats before it spread to humans and also out break at Wuhan city of China in late December of 2019. • All these three viruses attack Lower track of respiratory System. • What makes the novel coronavirus so newsworthy is that a treatment or cure hasn't yet been developed to help either for prevention or for cure. • SARS has been successfully contained and treated [2, 3].
Q#5	<p>How does coronavirus spread?</p> <ul style="list-style-type: none"> • The coronavirus is thought to spread mainly from person to person. Respiratory droplets from an infected person may infect people who are nearby. • Coronavirus can also spread from contact with infected surfaces or objects. For example, a person can get COVID-19 by touching a surface or object that has the virus on it and then touching their own mouth, nose, or possibly their eyes. • The novel coronavirus is highly contagious, which means it spreads easily from person to person. According to the <u>CDC- Trusted Source</u>, people who have the virus are most contagious when they're showing symptoms of COVID-19. • It is also possible that an asymptomatic person can transmit the virus. [6].
Q#6	<p>Can coronavirus go through skin and into the body?</p> <p>No. However, touching a surface or object that has the virus on it and then touching mouth, nose, or eyes may transmit the virus, but unusual according to CDC [7].</p>
Q#7	<p>How long can the SARS-CoV-2 virus survive on surfaces?</p> <p>Not known yet. CDC recommends cleaning frequently touched surfaces and objects every day. These include counters, tabletops, doorknobs, bathroom fixtures, toilets, phones, keyboards, computers, and bedside tables [8].</p>
Q#8	<p>How deadly is COVID-19?</p> <ul style="list-style-type: none"> • The risk of death with this pandemic coronavirus infection commonly estimated at 3% to 4% (provided there are some treatment options available), which seems to be much less than for SARS (approx. 11%) and MERS (about 35%), but higher than the risk from seasonal flu (about 0.1%). • MERS and SARS seem to be more destructive to lung tissues than SARS-CoV-2 [9].
Q#9	<p>What are the possible complications from COVID-19?</p> <ul style="list-style-type: none"> • So far, Novel coronavirus-infected pneumonia, NCIP, is the only complication specifically linked to the 2019 coronavirus. • Besides, the victims may develop: <u>acute respiratory distress syndrome (ARDS)</u>; irregular heart rate (<u>arrhythmia</u>); cardiovascular <u>shock</u>; severe muscle pain (<u>myalgia</u>); Fatigue heart damage or <u>heart attack</u> [10].
Q#10	<p>How far viruses travel?</p> <p>Coronaviruses can travel about six feet from the infected person. It's unknown how long they live on surfaces. Some other viruses, like measles, can travel up to 100 feet and stay alive on surfaces for hours [11].</p>
Q#11	<p>Can my pet infect me with SARS-CoV-2 virus?</p> <p>At present, there is no evidence that pets such as dogs or cats can spread the COVID-19 virus to humans. However, pets can spread other infections that cause illness, including <i>E. coli</i> and <i>Salmonella</i>, so wash your hands thoroughly with soap and water after interacting with pets [12].</p>
Q#12	<p>Can I infect my pet?</p> <p>There have no such reports that pets or other animals becoming sick with COVID-19, but the CDC still recommends that people sick with COVID-19 limit contact with animals until more information is known [12].</p>
Q#13	<p>I'm taking a medication that suppresses my immune system. Should I stop taking it to avoid getting sick from the coronavirus?</p> <p>Response to virus depends on many others factors, including immune system. It is better to take decision with doctor, not by own [13].</p>
Q#14	<p>Is coronavirus especially harmful for pregnant women? [14]</p> <p>SARS-CoV-2 coronavirus <u>just emerged in humans a few months ago</u>. There is not enough data yet, about susceptibility of pregnant women.</p> <p>"Adverse infant outcomes" like premature births have been reported among infants born to mothers who've tested positive for coronavirus during pregnancy, the CDC says. But it's not clear if these outcomes were related to maternal infection, so the risk is unknown.</p>

Table-2: COVID-19: Protection and Prevention

Q#1	Should I get a flu shot? [15]
	Flu shot will not protect you from developing COVID-19, but even then, it can decrease the chance of severe symptoms.
Q#2	Can I get the flu and coronavirus at the same time. [16]
	<ul style="list-style-type: none"> • Possible. • They share common symptoms, especially fever and cough. But many coronavirus patients suffer from shortness of breath, a hallmark of Covid-19. Other coronavirus patients show no symptoms.
Q#3	Are kids immune to the virus that causes COVID-19? [17]
	<ul style="list-style-type: none"> • Children, including very young children, can develop COVID-19. However, children tend to experience milder symptoms such as fever, runny nose, and cough. Some children have had severe complications, but this has been less common. • Children with underlying health conditions may be at increased risk for severe illness.
Q#4	Will warm weather stop the outbreak of COVID-19? [18]
	<ul style="list-style-type: none"> • Some viruses, like the common cold and flu, spread more when the weather is colder. But it is still possible to become sick with these viruses during warmer months. • At this time, we do not know whether the spread of COVID-19 will decrease when the weather warms up.
Q#5	Should I accept packages from China? [19]
	There is no reason to suspect that packages from China harbor coronavirus
Q#6	How to prevent coronaviruses? [6]
	<ul style="list-style-type: none"> • Limit contact with infected people from any respiratory virus. • Practice good hygiene to prevent bacteria and viruses from spreading. • Wash hands frequently with warm water and soap. • Don't touch face, eyes, nose, or mouth with dirty hands. • Don't go out if feeling sick or have any cold or flu symptoms. • Stay at least 6 feet away from anyone who is coughing or sneezing. • Cover mouth with the inside of elbow during sneezing or coughing. • Use disinfectants on objects like phones, computers, utensils, dishware, and doorknobs. • Use face mask.
Q#7	Can I catch the coronavirus by eating food handled or prepared by others? [7]
	It's not clear if it can be spread by an infected person through food they have handled or prepared, but if so it would more likely be the exception than the rule.
Q#8	What do I need to know about washing my hands effectively? [6]
	<ul style="list-style-type: none"> • Wash your hands often with soap and water for at least 20 seconds, especially after going to the bathroom; before eating; and after blowing your nose, coughing, or sneezing. • Use an alcohol-based hand sanitizer with at least 60% alcohol. • The CDC's hand washing website has detailed instructions and a video about effective hand washing procedures.
Q#9	Should I spray myself or my kids with disinfectant? [20]
	<ul style="list-style-type: none"> • No. Those products work on surfaces but can be dangerous to your body. There are some chemical disinfectants, including bleach, 75% ethanol, per-acetic acid and chloroform, that may kill the virus on surfaces. But if the virus is already in your body, putting those substances on your skin or under your nose won't kill it, according to WHO. Not to mention, those chemicals can harm you. And please – do not ingest chemical disinfectants.
Q#10	Should I wear a face mask? [6]
	<ul style="list-style-type: none"> • As of Feb 26., 2020, the guide line is: a healthy person are allowed to skip, but any victims and their family members caring for a coronavirus should use mask • In reality, when you do not know who is the carrier, even a symptomatic carrier can infect others, it is better to have your own protection.
Q#11	Is it safe to travel by airplane? [6]
	<ul style="list-style-type: none"> • Stay current on travel advisories from regulatory agencies. This is a rapidly changing situation. • Anyone who has a fever and respiratory symptoms should not fly if at all possible.
Q#12	Since a plane's cabin keeps circulating air, will I get sick if another passenger is sick? [21]
	<ul style="list-style-type: none"> • Most viruses don't spread easily on airplanes because of how the air circulates and is filtered, the CDC says. • Modern commercial jets recirculate 10-50% of the air in the cabin, mixed with outside air. "The re-circulated air passes through a series of filters 20-30 times per hour," the CDC says. • Still, better to avoid contact with anyone sneezing or coughing, • Wear mask.
Q#13	Will a pneumococcal vaccine help protect me against coronavirus? [22]
	<ul style="list-style-type: none"> • Vaccines against pneumonia, such as pneumococcal vaccine and Haemophilus influenza type B (Hib) vaccine, only help protect people from these specific bacterial infections. • They do not protect against any coronavirus pneumonia, including pneumonia that may be part of COVID-19. • However, even though these vaccines do not specifically protect against the coronavirus that causes COVID-19, they are highly recommended to protect against other respiratory illnesses.
Q#14	What can I do to keep my immune system strong? [23]
	<p>Immune system is the body's defense system. It attacks when a harmful invader — like a cold or flu virus, or the coronavirus that causes COVID-19 — gets into our body.</p> <p>These are some to keep our immune system strong and healthy.</p> <ul style="list-style-type: none"> • No smoking. • Eat a diet high in fruits, vegetables, and whole grains. • Multivitamin • Exercise regularly • Maintain a healthy weight. • Control stress level. • Control blood pressure. • Alcohol drink in moderation • Get enough sleep. • Take steps to avoid infection, such as well practice in sanitation.

Q#15	I'm older and have a chronic medical condition, which puts me at a higher risk for getting seriously ill, or even dying from COVID-19. What can I do to reduce my risk of exposure to the virus? [24]
	<p>Any one 60 years or older is considered to be at higher risk for getting very sick from COVID-19. This is true that most of the deaths have been among people who were both older and had chronic medical conditions, such as heart disease, lung problems or diabetes.</p> <p>According to the CDC's guidelines:</p> <ul style="list-style-type: none"> • Obtain several weeks of medications and supplies in case you need to stay home for prolonged periods of time. • Take every day precautions to keep space between yourself and others. • When you go out in public, keep away from others who are sick, limit close contact, and wash your hands often. • Avoid crowds. • Avoid cruise travel and nonessential air travel. • During a COVID-19 outbreak in your community, stay home as much as possible to further reduce your risk of being exposed.
Q#16	The flu kills more people than COVID-19, at least so far. Why are we so worried about COVID-19? Shouldn't we be more focused on preventing deaths from the flu? [25]
	<ul style="list-style-type: none"> • It is right to be concerned about the flu also, but there are antiviral drug against Flu, when nothing is available to treat COVID-19, yet.
Q#17	How can I protect myself while caring for someone that may have COVID-19? [26]
	<p>Same precautions procedure as someone take for Flu.</p> <ul style="list-style-type: none"> • Stay in another room or be separated from the person as much as possible. • Use a separate bedroom and bathroom, if available. • Make sure that shared spaces in the home have good air flow. Turn on an air conditioner or open a window. • Wash your hands often with soap and water for at least 20 seconds or use an alcohol-based hand sanitizer that contains 60 to 75% alcohol, covering all surfaces of your hands and rubbing them together until they feel dry. • Use soap and water if visible dirt are there in hands. • Avoid touching your eyes, nose, and mouth with unwashed hands. <p>Extra precautions:</p> <ul style="list-style-type: none"> • You and the sick person should wear a face mask, if you are in the same room. • Wear a disposable gloves when you touch or have contact with the person's blood, stool, or body fluids, such as saliva, sputum, nasal mucus, vomit, urine. • Throw out disposable face masks and gloves after using them. Do not reuse. • Clean your hands with soap and water or alcohol-based hand sanitizer. Next, remove and throw away the face mask, and immediately clean your hands again with soap and water or alcohol-based hand sanitizer.
Q#18	Should I go to work? [27]
	<p>If you can, you should stay at home. If sick, whether or not it is COVID-19, definitely stay at home.</p> <ul style="list-style-type: none"> • Do work from home. • If you must have to go into work, maintain 6 feet of distance from your colleagues, wash your hands frequently and practice good respiratory etiquette by coughing or sneezing into your elbow. • Avoid handshakes, switch in-person meetings to teleconferences and disinfect your workspace with EPA-approved products at the start of job.
Q#19	Should I avoid public transportation? [28]
	<ul style="list-style-type: none"> • If you're sick or live in an area where an outbreak has been reported, avoid it. • Mass transit could increase your risk of exposure to coronavirus. • If you have a chronic illness, find alternative means of transport — being in a crowded subway car or bus will significantly increase your risk of infection.
Q#20	Do I need to isolate myself if I'm not diagnosed? [29]
	<ul style="list-style-type: none"> • If returned recently from an area where an outbreak has been reported, stay home. • Adults 60 and older and people with severe chronic illnesses are very prone to get infected with Covid-19, so the CDC recommends those people to stay at home, specially where there are outbreaks. • Some communities, cities and even countries are enforcing wide quarantines to break the chain of the virus spread. • Avoid crowds and poorly ventilated buildings, and frequently wash your hands before, during and after your trip out.
Q#21	How can I help my old parents if they get sick, and lives at distant place? [27]
	<p>It is really stressful, provide them all the contact numbers of Doctors, Friends, and their local public health department. Check regularly by phone, Skype, or anyway is better to stay in touch with them.</p>
Q#22	What can I do if my loved one suspects they have coronavirus? [26]
	<ul style="list-style-type: none"> • Don't visit family members with suspected illness — keep up with them virtually. • If they lives with you, limit contact with them and avoid using the same bathroom or bedroom, the CDC advises. • If they've been diagnosed, they may be able to recover at home in isolation. • Continue to use separate restrooms and regularly disinfect them with EPA-approved products. • Stock up on groceries and household supplies for them while they can't travel outside and minimize trips to stores. • Wash your hands frequently and avoid sharing personal items with the infected person. • If you suspect you're developing symptoms, stay home and call your physician.

Table-3. COVID-19: Symptoms and Treatments

Q#1	<p>What are the symptoms of COVID-19? What are the typical symptoms? [30]</p>
	<ul style="list-style-type: none"> • Fever, dry cough, fatigue, and difficulty breathing are hallmarks of coronavirus. Other less common symptoms may include: achiness; nasal congestion; sore throat; runny nose • The illness varies in its severity, and many patients can recover at home in isolation. Older adults — ages 60 and older — and people with severe chronic illness are more likely to get seriously sick from the coronavirus. • COVID-19 has more shortness of breath and other respiratory symptoms than a cold, which usually causes a runny nose, congestion, and sneezing.

Continue

Q#2	How contagious is the virus? [31]
	<ul style="list-style-type: none"> The new coronavirus seems to spread very easily, especially in homes, hospitals, churches, cruise ships and other confined spaces. It is much more contagious than SARS, another coronavirus that circulated in China in 2003 and sickened about 8,000 people. The pathogen can travel through the air, enveloped in tiny respiratory droplets that are produced when a sick person breathes, talks, coughs or sneezes. These droplets fall to the ground within a few feet. That makes the virus harder to get than pathogens like measles, chickenpox and tuberculosis, which can travel 100 feet through the air. But it is easier to catch than H.I.V. or hepatitis, which spread only through direct contact with the bodily fluids of an infected person.
Q#3	How long does it take to show symptoms? [32]
	<ul style="list-style-type: none"> According to CDC: 2 to 14 days, when symptoms do start to appear, they can include fever, cough and difficulty breathing or shortness of breath. People may be shedding infectious virus particles before they exhibit flu symptoms, making it almost impossible to identify and isolate people who have the virus. Mild cases may simply resemble the flu or a bad cold, and people may be able to pass on the new coronavirus even before they develop obvious symptoms..
Q#4	For how long after I am infected will be contagious? At what point I will be most contagious? [33]
	<ul style="list-style-type: none"> The time from exposure to symptom onset (known as the incubation period) is thought to be 14 days, though symptoms typically appear within four or five days after exposure. We don't know the extent to which people who are not yet experiencing symptoms can infect others, but it's possible that people may be contagious for several days before they become symptomatic
Q#5	Who is at highest risk for getting very sick from COVID-19? And why? [34]
	<ul style="list-style-type: none"> Older people, and those with underlying medical problems like chronic bronchitis, emphysema, heart failure, or diabetes. The average age of death from coronavirus is 80. Average age of people who need medical attention is age 60.
Q#6	What do I do if I think I'm sick? [26]
	<ul style="list-style-type: none"> According to CDC; Stay home. Call your doctor to talk about your symptoms and let them know you're coming for an appointment so they can prepare for your visit. Limit close contact with other people and animals you live with – the CDC recommends keeping 6 feet of distance. Many patients with coronavirus are able to recover at home. If you've been diagnosed and your illness is worsening, seek medical attention promptly. You may need to be monitored in a hospital.
Q#7	If infected with coronavirus, can the victim survive and recover? [35]
	<ul style="list-style-type: none"> Absolutely. The vast majority of people with coronavirus survive. The National Institute of Allergy and Infectious Disease estimated the death rate, so far is "about 2%. But the true death rate might be much lower, since some coronavirus survivors might not have been tested and might not have had their cases reported.
Q#8	How long does it take to recover? [33]
	<ul style="list-style-type: none"> Near to six weeks. Recovery is often marked by a patient no longer showing symptoms and having two consecutive negative tests at least one day apart. But there is no known cure for the novel coronavirus, yet.
Q#9	What's the difference between self-isolation and self-quarantine, and who should consider them? [36]
	<ul style="list-style-type: none"> Self-isolation is a voluntary isolation at home by those who have or are likely to have COVID-19 and are experiencing mild symptoms. The purpose of self-isolation is to prevent spread of infection from an infected person to others who are not infected. <p>You should strongly consider self-isolation if you:</p> <ul style="list-style-type: none"> have been tested for COVID-19 and are awaiting test results have been exposed to the new coronavirus and are experiencing fever, cough, difficulty breathing), whether or not you have been tested. <p>Self-quarantine is a voluntary quarantine at home by those who may have been exposed to the COVID-19 virus but are not experiencing symptoms associated with COVID-19.</p> <ul style="list-style-type: none"> When possible, the decision to quarantine should be based on physician recommendation. Self-quarantine is reasonable if you are not experiencing symptoms, but have been exposed to the COVID-19 virus.
Q#10	Can a person who has had coronavirus get infected again? [24]
	<ul style="list-style-type: none"> We don't know the answer yet. However, most people would likely develop at least short-term immunity to the specific coronavirus that causes COVID-19. However, you would still be susceptible to a different coronavirus infection. Or, this particular virus could mutate, just like the influenza virus does each year. Often these mutations change the virus enough to make you susceptible, because your immune system thinks it is an infection that it has never seen before.
Q#11	If a coronavirus patient progresses to pneumonia, what antibiotics if any have proven to be effective? [37]
	<ul style="list-style-type: none"> No antibiotics are effective against coronavirus because the disease is a viral infection, not a bacterial infection. Researchers are studying whether the antiviral drug Remdesivir might work, but testing of that drug just started. For now, coronavirus patients get "supportive" treatment, like enough fluids, medicine to reduce fever, and, in severe cases, supplemental oxygen.

Q#12	How long after I start to feel better? [38]
	<ul style="list-style-type: none"> We don't know for certain. In mild cases, appear to recover within one to two weeks. With severe cases, recovery can take six weeks or more. According to the most recent estimates, about 1% of infected persons may succumb to the disease.
Q#13	When can I discontinue my self-isolation or self-quarantine?
	<ul style="list-style-type: none"> It depends on case-by-case Experts are recommending at least 14 days of self-isolation for those who are infected. <p>The decision will be based on the risk of infecting others, and in consultation with your doctor and state and local health departments</p>
Q#14	After recovery from the disease when it will be safe to go out in public again? [25]
	<ul style="list-style-type: none"> Based on research that has detected viral genetic material in patients several weeks after they've recovered from COVID-19. It is safest to assume that the person still may be contagious for weeks after their recovery.
Q#15	Is there an antiviral treatment for COVID-19? Any vaccine?? [39]
	<ul style="list-style-type: none"> Currently there is no specific antiviral treatment for COVID-19. However, Chloroquine (an antimalarial drug) and Remdesivir (anti Ebola Virus), a combo treatment is giving us hope. No vaccine is available, yet. However, it may be a year or more before we even know if we have a vaccine that works.
Q#16	What treatments are available to treat coronavirus?[40]
	<p>Currently there is no specific antiviral treatment for COVID-19. However, similar to treatment of any viral infection, these measures can help:</p> <ul style="list-style-type: none"> Plenty of rest. Stay well hydrated. Take acetaminophen, ibuprofen, or naproxen to reduce fever and ease aches and pains. Be sure to follow directions. If you are taking any combination of cold or flu medicine, keep track of all the ingredients and the doses. For acetaminophen, the total daily dose from all products should not exceed 3,000 milligrams.
Q#17	Why is a cure taking so long? [41]
	<ul style="list-style-type: none"> According to Harvard Medical School researchers, an antiviral drug must be able to target the specific part of a virus's life cycle that is necessary for it to reproduce. In addition, an antiviral drug must be able to kill a virus without killing the human cell it occupies. And viruses are highly adaptive.
Q#18	When will this epidemic end?[42]
	<ul style="list-style-type: none"> No one knows for sure. President Donald Trump suggested this coronavirus could subside by the warmer summer months, but scientists say it's too early to tell. "The short answer is that while we may expect modest declines in the contagiousness of (novel coronavirus) in warmer, wetter weather and perhaps with the closing of schools ... it is not reasonable to expect these declines alone to slow transmission enough to make a big dent," wrote Dr. Marc Lipsitch, director of the Center for Communicable Disease Dynamics at Harvard's T.H. Chan School of Public Health.

Table-4. COVID-19: Some Related Terms

#1	<p>Virus:</p> <ul style="list-style-type: none"> A virus is the smallest of infectious microbes, smaller than bacteria or fungi. A virus consists of a small piece of genetic material (DNA or RNA) surrounded by a protein shell. Viruses cannot survive without a living cell in which to reproduce. Once a virus enters a living cell (the host cell) and takes over a cell's inner workings, the cell cannot carry out its normal life-sustaining tasks. The host cell becomes a virus manufacturing plant, making viral parts that then reassemble into whole viruses and go on to infect other cells. Eventually, the host cell dies.
#2	<p>SARS-CoV-2:</p> <ul style="list-style-type: none"> Short for "severe acute respiratory syndrome coronavirus 2". SARS-CoV-2 is the official name for the virus responsible for COVID-19.
#3	<p>Incubation period:</p> <p>The period of time between exposure to an infection and when symptoms begin.</p>
#4	<p>Pandemic:</p> <p>A disease outbreak affecting large populations or a whole region, country, or continent.</p>
#5	<p>Epidemic:</p> <p>A disease outbreak in a community or region.</p>
#6	<p>Presumptive Positive Test Result:</p> <p>A positive test for the virus that causes COVID-19, and that result should be confirmed by the CDC. While awaiting confirmation, people with a presumptive positive test result will be considered to be infected.</p>
#7	<p>Social Distancing:</p> <ul style="list-style-type: none"> Refers to actions taken to stop or slow down the spread of a contagious disease. For an individual, it refers to maintaining enough distance between yourself and another person to reduce the risk of breathing in droplets that are produced when an infected person coughs or sneezes. In a community, social distancing measures may include limiting or cancelling large gatherings of people.
#8	<p>Isolation:</p> <p>The separation of people with a contagious disease from people who are not sick.</p>
#9	<p>Mitigation:</p> <p>Refers to steps taken to limit the impact of an illness. Because no vaccines exist to prevent COVID-19 and no specific therapies exist to treat it, mitigation strategies may include frequent and thorough hand-washing, social distancing, and stay at home.</p>

Continue

#10	Quarantine
	<ul style="list-style-type: none"> •Separates and restricts the movement of people who have a contagious disease, have symptoms of the disease, or were exposed to a contagious disease, to see if they become sick.
#11	Contact tracing:
	<ul style="list-style-type: none"> •A process that begins with identifying everyone diagnosed with a given illness (in this case COVID-19). •The contacts are notified that they are at risk and may include those who share the person's home, as well as people who were in the same place around the same time. •Contacts may be quarantined or asked to isolate themselves if they start to experience symptoms, and are more likely to be tested for coronavirus if they begin to experience symptoms
#12	Containment:
	<ul style="list-style-type: none"> •Refers to limiting the spread of an illness. Because no vaccines exist to prevent COVID-19 and no specific therapies exist to treat it, containment is done using public health interventions. •These may include identifying and isolating those who are ill, and tracking down anyone they have had contact with and possibly placing them under quarantine.
#13	Flattening the curve:
	<ul style="list-style-type: none"> •Refers to the epidemic curve, a statistical chart used to visualize the number of new cases over a given period of time during a disease outbreak. •Flattening the curve is shorthand for implementing mitigation strategies to slow things down, so that fewer new cases develop over a longer period of time. •This increases the chances that hospitals and other healthcare facilities will be equipped to handle any influx of patients.

As a result, most research and guidance around pandemics is specific to influenza, but the same premises can be applied to the current COVID-19 pandemic. Pandemics begin with an investigation phase, followed by recognition, initiation, and acceleration phases. The peak of illnesses occurs at the end of the acceleration phase, which is followed by a deceleration phase, during which there is a decrease in illnesses. Different countries can be in different phases of the pandemic at any point in time; and different parts of the same country can also be in different phases of a pandemic. The immediate risk of being exposed to this virus is still low for most Americans, but as the outbreak expands, that risk will increase. Cases of COVID-19 and instances of community spread are being reported in a growing number of states. Early information out of China, where COVID-19 first started, shows that some people are at higher risk of getting very sick from this illness. This includes: Older adults, with risk increasing by age; People who have other medical conditions like: Heart disease, Diabetes, Lung disease. Healthcare workers caring for patients with COVID-19 are at elevated risk of exposure. Travelers returning from affected international locations where community spread is occurring also are at elevated risk of exposure, with level of risk dependent on where they traveled. The rapid spread of the virus that causes COVID-19 has sparked alarm worldwide. The World Health Organization (WHO) has declared this rapidly spreading coronavirus outbreak a pandemic, and many countries are grappling with a rise in confirmed cases. In the US, the Centers for Disease Control and Prevention (CDC) is advising people to be prepared for disruptions to daily life that will be necessary if the coronavirus spreads within communities.

Widespread transmission of COVID-19 could translate into large numbers of people needing medical care at the same time. Schools, childcare centers, and workplaces, may experience more absenteeism. Mass gatherings may be sparsely attended or postponed. Public health and healthcare systems may become overloaded, with elevated rates of hospitalizations and deaths. Other critical infrastructure, such as law enforcement, emergency medical services, and sectors of the transportation industry may also be affected. Healthcare providers and hospitals may be overwhelmed. At this time, there is no vaccine to protect against COVID-19 and no medications approved to treat it. Non-pharmaceutical interventions will be the most important response strategy to try to delay the spread of the virus and reduce the impact of disease.

Conclusion

The United States nationally is currently in the initiation phases, but states where community spread is occurring are in the acceleration phase. The duration and severity of each phase can vary depending on the characteristics of the virus and the public health response. However, so far three U.S. states are experiencing sustained community spread. Risk depends on characteristics of the virus, including how well it spreads between people; the severity of resulting illness; and the medical or other measures available to control the impact of the virus (for example, vaccines or medications that can treat the illness) and the relative success of these. In the absence of vaccine or treatment medications, non-pharmaceutical interventions become the most important response strategy. These are community interventions that can reduce the impact of disease. Global efforts at this time are focused concurrently on lessening the spread and impact of this virus. The federal government is working closely with state, local, tribal, and territorial partners, as well as public health partners, to respond to this public health threat. CDC is implementing its pandemic preparedness and response plans, working on multiple fronts, including providing specific guidance on measures to prepare communities to respond to local spread of the virus that causes COVID-19. There is an abundance of pandemic guidance developed in anticipation of an influenza pandemic that is being adapted for a potential COVID-19 pandemic. CDC has developed guidance to help in the risk assessment and management of people with potential exposures to COVID-19.

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