SSCJ Team Researcher

Audience:

As a class, our target audience are the residents of New York City. NYC has been the epicenter for the spread of the virus and New Yorkers can use all the information they can get.

Because of how highly contagious this virus is, staying six feet apart from other people are advised. But sometimes it is difficult to avoid the inevitable in very crowded neighborhoods such as Corona, Jackson Heights, and Elmhurst, the epicenter of the virus. Many Hispanics live in these areas, many who do not know how to read and write English. The people in these areas should be able to easily obtain information they need to protect their families and themselves.

To target the Hispanic community in these neighborhoods, we would have to communicate with them in Spanish. About half of the population in Jackson Heights alone, are foreign born and English is not their native language. Because of this language barrier, it makes it difficult for many of these people to get the information they need to survive.

According to reports from 2015, 76% of Hispanic adults had a presence on social media. As such we believe that by creating a social media campaign that is highly concise and informative of what the coronavirus is and its history we can better communicate to this population about the ongoing crisis. Our hope is to inform the community better in the event of a second wave and keep them up to date on the facts of the virus.

Because older-aged Hispanics are most at risk, we would like to make sure the necessary information reaches them first. But many of these people live with their families who can potentially spread the virus to them. And these families include children. These neighborhoods are made up of immigrant families whose language is only Spanish. Because of this, we hope our information reaches kids too, to spread information to their older family members. They would be provided with the information they need not only inform themselves of what the nation is dealing with, but what they can do to help stop the spread to their family members.

This pandemic affects everyone, no matter what their income might be. We want information to be spread to as many of the Spanish-speaking community as possible, to ensure they have the knowledge and safety procedures to survive this virus.

Our Goal/ Mission statement

Our goal is to find out what, where, when, and how did this virus originate and how we can stop it. By gathering the necessary information, we can relay it to the residents living in New York on how to avoid getting the virus in the first place and curing the ones who do. Educating them where the virus started, what causes the virus, when or how long the virus surfaced will help us prepare for eradicating it from our daily lives. This research is necessary in getting to the root cause of this pandemic and find out how to cure it. SSCJ Team Researchers is a New York based company, which involves testing, in depth analysis behind the science behind PhRMA's testing laboratory.

What is Coronavirus

The word corona (Latin) means crown and refers to as how the virus looks under a microscope. This type of virus is more commonly found in birds and mammals and can easily be transmitted to humans. This is a kind of common virus that causes an infection in your nose, sinuses, or upper throat, which subsequently spreads to the lungs causing the lung structure to become an almost crystalized form, making the infected individual difficult to breathe. There are different types of coronaviruses, ranging from common cold to more severe respiratory diseases, one commonly known as the Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS). The latest strain of the virus, called COVid-19 is a new virus strain which came about in 2019, and started in the province Wuhan, China.

What is RNA and its Function?

Coronavirus is a type of RNA virus which affects the human respiratory system. RNA, or Ribonucleic acid, is a macromolecule, which, along with DNA (deoxyribonucleic acid) and proteins, is essential for all known forms of life. On a molecular level, the flow of genetic information in a cell is from its DNA through its RNA and then to proteins i.e. DNA makes RNA and RNA makes protein. Proteins are the workhorses of the cell, while DNA carries all the genetic information required for the cell to grow, take nutrients, and to propagate. Each RNA consists of a ribonucleotide base that contains a ribose sugar, a phosphate group, and a nitrogenous base to help transmit cellular information.

RNA's main function is to carry information from genes on a molecular level to produce proteins for cellular production. It is the "DNA photocopy" of the cell that carries the same information as its DNA template but only for the short-term storage of such information.

There are various types of RNA, including the messenger RNA (mRNA), ribosomes RNA (rRNA), and transfer RNA (tRNA), all carrying different levels of cellular information transmission.

How does Viral RNA infect host cells?

Coronaviruses are made up of single stranded RNA (genetic material) that is approximately 27 to 32kb long. Two-third of its RNA is used to make a copy of itself. Coronavirus infection starts by connecting the S protein to a receptor on the whole cell surface, as a result the virus enters the cell by merging with the plasma membrane or endocytosis (the virus surrounds itself with the plasma membrane and buds off what is inside the cell then the virus releases its RNA to infect the host cell).The RNA viruses

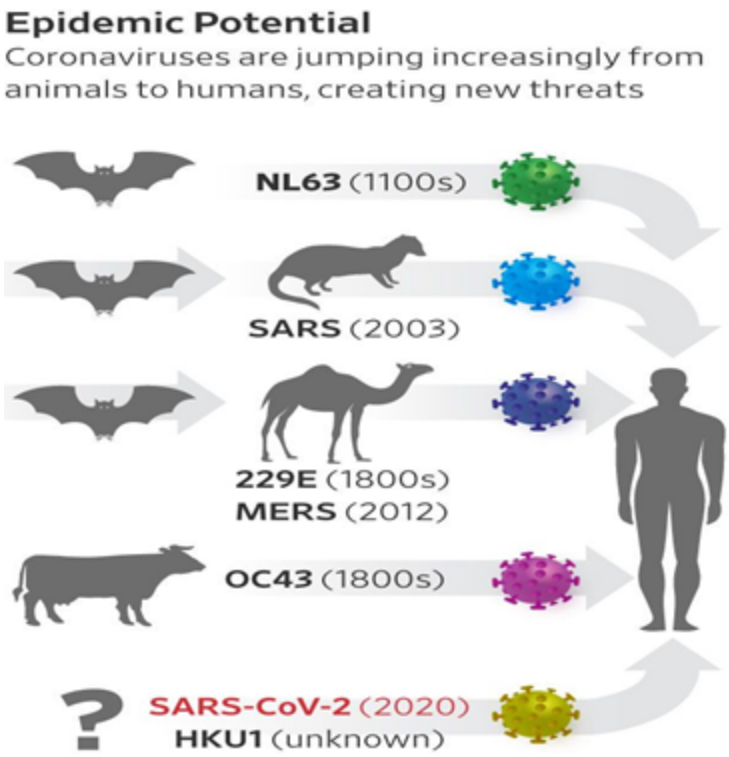
copy themselves by hijacking the cellular enzymes to creates a viral replication factory on cell membranes. Viral replication leads to the differentiation and growth to cell aging and death.

How coronavirus enters the human body me

The coronavirus (COVID-19) is the disease caused by the virus, SAR-COV-2. It enters the human body in many ways, such as touching your mouth, nose, and eyes. The virus goes through your trachea and then into the lungs. This process takes a few days up to a week before any signs or symptoms. The symptoms include sore throat, fever, vomiting, dizziness, headache, running nose, problem breathing, coughing, and sneezing. Transmission of the virus primarily spread from person-to-person. Therefore, social distance (staying 6 feet away from others) and wearing a face mask are strictly recommended. Without a face mask, the small air droplets (through talking, sneezing, or coughing) expelled by an infected person can potentially be inhaled by someone nearby. Studies have shown that COVID-19 may be spread by people who are not showing symptoms.

History of Coronavirus

Seven coronaviruses can infect humans. Scientists first identified a human coronavirus in 1965. It caused a common cold. Later that decade, researchers found a group of similar human and animal viruses and named them after their crown-like appearance. D. A. J. Tyrrell and M. L. Bynoe can cultivate (grow) this type of common-cold virus in different organ cultures (organs grown in a laboratory using embryonic cells) and named the virus B814. B814, obtained from the respiratory tract of an adult with common cold, can be grown in embryonic tracheal organ cultures. At about the same time, Hamre and Procknow were able to grow a virus, called 229E, with unusual properties in tissue culture from samples obtained from medical students with colds.



NL63 (1100)

In the year 1100, the first strain of Coronavirus, called the NL63 (HcoV-NL63), broke out in Europe, and its reaped havoc in Europe. At that time, countries affected by this strain of the virus included Belgium, France, and Netherland. The NL63 originated from vampire bats, which was then eaten by humans, and which then triggered an outbreak of the first Coronavirus that spread worldwide. Infected individuals had flu-like symptoms and respiratory problems. Based on the research done at the time, HcoV-NL63 has the same cellular receptor syndrome as a severe respiratory syndrome associated with coronavirus. During this time, there were no effective vaccines or drugs to combat the deadly virus.

OC43 (HCoV-OC43)

The OC43 coronavirus was first discovered in 1967, although it was generally mild with a common cold or flu it was highly contagious. For the disease not to be spread from human-to-human they relied on social distancing, which eliminated the spread of the virus.

SARS in 2003

In 2003 a new coronavirus strain emerged, called Severe Acute Respiratory Syndrome (SARS-coV), which began in Foshan municipality in the Guangdong Province, of China. With similar symptoms as NL63 coronavirus, it attacks the respiratory system. The SARS-coV virus affected over 26 countries and infected over 8000 people. The cycle repeats as vampire bats eaten by Pangolin, and which are both eaten by humans, allowing for human-to-human transmission. Research shows that there was no vaccine available to counter the virus. They implemented a strategy by social distancing that brought the global outbreak to an end.

HKU1 (HCoV-HKU1)

The HKU1 coronavirus was first discovered in Hong Kong in January 2005. Its symptoms include common cold, pneumonia, and bronchiolitis, although it was a generally mild coronavirus.

229E (1800s), MERS (2012)

In 2012, we had the emergence of two strains, the 229E (HcoV-229E) and the Middle East Respiratory Syndrome (MERS-CoV), both affiliated with the same food chain carrying the previous strains of the virus. The transmission was from vampire bats to camels then both were eaten by humans, which caused the same strains as previously described and with the symptoms associated with the coronavirus. Both caused respiratory tract infections. Again, there was no vaccine available to cure the virus, those who were affected have underlined medical history which was vulnerable to the virus. Has they relied on social distancing to eliminate the spread of the virus as it can transfer from human-to-human. MERS-CoV was first observed in Jeddah, Saudi Arabia, in September 2012 patients were suffering from severe pneumonia, as the virus was highly contagious with those who were in close contact with people who were carrying the virus.

SARS-COVid-19

As the name suggests severe acute respiratory syndrome 2 (SARS-CoV-2) is the strain coronavirus that causes corona disease 2019 (COVid-19). During the initial outbreak in Wuhan, China, commonly known as coronavirus which started in 2019 and quickly spread throughout every country across the world which caused a pandemic which caused the shutdown of most businesses. As they try to find out what is the cause of the outbreak in Wuhan, China. The cause of the outbreak is still unknown. As in the past with previous coronaviruses which are transferred by vampire bats, Pangolin, and

snake. Scientists are still speculating whether it was man-made or from an animal that causes the pandemic.

Government funding towards coronavirus

U.S base company biopharmaceutical companies are committed to developing solutions to help diagnose and treat those with COVID-19, a disease caused by a novel strain of coronavirus. In addition to applying their scientific expertise to find ways to diagnose, treat and prevent infections from the virus, the biopharmaceutical industry is providing financial support and in-kind donations to organizations and collaborating with U.S. and global health authorities to combat this global public health emergency. More than half of PhRMA members have R&D for potential treatment\s and vaccines underway or are providing donations of medicines and critical medical supplies as well as providing financial donations to support patients and first responders in addressing this evolving crisis.

The development of vaccine for coronavirus me

Many countries across the globe are searching for answers as they try to develop the SARs vaccine for coronavirus. Our staff are working tirelessly around the clock to seek information and new experiments to find the cure for the virus SARs. To develop a full functional vaccine with no side effects it will take months if not years to get the finished product. Testing the vaccine on small animals then gradually increases the testing on the size of the animals. Once that process is done and working efficiently and effectively then we can proceed by giving the vaccine to humans. Our duty is to keep New York residents as healthy and safe as possible.

Facing the crisis head on

We are attacking COVID-19 from many angles. For one, our biopharmaceutical companies are coming together to achieve one shared goal, and that is to combat COVID-19 through research and development of new drugs and vaccines to treat and cure COVID-19. We are working around the clock to get these new vaccines and treatments to the public, as well as test existing medicines to help those infected with the virus. In addition, our companies are committed to supporting health care workers who are on the frontline and communities around the world affected by COVID-19 by providing appropriate equipment and protective gear. Another option being explored is

the use of plasma antibody treatment from those who were infected with the virus and have been cured to donate blood to those who are infected with the virus.

How it spreads

COVID-19 is a condition caused by a virus that can spread from person to person. COVID-19 can cause anything from mild symptoms or no symptoms to cases of illness. You can become infected through respiratory droplets if an infected person sneezes or speaks. You could also get the disease by touching a surface or object that the virus is on, and then touching your mouth, nose, or eyes.

Things to do to help stop the spread of coronavirus

You should wash your hands frequently with soap and water for at least 20 seconds. If you are using hand sanitizer, make sure it is at least 60% hand sanitizer. Avoid close contact with sick people, even people inside your home. You must keep at least six feet between people who do not live in the same house as you. You must stay home when you are sick. You must clean and disinfect frequently touched objects and surfaces. Cover the cough and sneezes with a tissue or use the inside of your elbow. Throw the tissue in the trash and immediately wash your hands. Everyone should wear a mask or a cloth face when they must go out in public. Cloth masks and facials should not be placed on young children under the age of two, anyone who has trouble breathing, or who cannot remove the mask without assistance. The masks are designed to protect other people in case you are infected. Continue to keep about 6 feet between you and other people. The mask is not a substitute for social distancing. If the surfaces are dirty, clean them. Use detergent or soap and water before disinfection.

Sources:

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3323155/

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5602653/

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1479111/

https://journals.lww.com/pidj/fulltext/2005/11001/history_and_recent_advances_in_coronavirus.12.aspx

https://www.culturespanmarketing.com/reach-hispanic-consumers-through-social-media

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4763971/

https://www.sciencedirect.com/topics/immunology-and-microbiology/rna-viruses

https://www.cdc.gov/coronavirus/types.html

https://www.cdc.gov/coronavirus/2019-ncov/index.html

https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html

https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/how-covid-spreads.html

https://www.hopkinsmedicine.org/health/conditions-and-diseases/coronavirus

https://www.npr.org/sections/goatsandsoda/2020/04/29/847948272/why-the-u-s-government-stopped-funding-a-research-project-on-bats-and-coronaviru