



How Do We Catch COVID-19 Infected Person and Prevent them Spread?

Kadiyali M Srivatsa*

NHS & Private Healthcare, UK

Abstract

COVID-19 may have taken the world by surprise, but not me because I have visualized this coming for more than thirty years. I have meticulously observed the behavior of these microscopic enemies that threaten our very existence since 1989. My articles and publication explain the problem of “Superbugs (treatment of resistant bacterial and fungal infection) and not viruses because every year new strain of viruses spread killing thousands of people. I do not see COVID-19 as a major problem, because the number of people dying when compared to death due I have seen numerous viruses come and go but not the bacteria or fungus.

Up to 650,000 deaths annually are associated with respiratory diseases from seasonal influenza, according to new estimates by the United States Centers for Disease Control and Prevention (US-CDC), the World Health Organization and global health partners. This marks an increase on the previous global estimate of 250,000-500,000, which dates from over ten years ago and covered all influenza-related deaths, (WHO, Dec 2017).

In this article, I will explain how viruses spread and help bacteria use the opportunity to invade our body and make us adapt to survive or perish. Why and how did we land up in this situation, who is responsible and how can we bring in changes that can help us reduce the spread and make life better for people all over the world.

We must understand what I mean by “Symbiotic Relationship” and learn to live with bacteria, viruses and fungus. Once you learn, how you can, I hope you will stop worrying about COVID-19, eliminate the fear death and live in peace and harmony with nature.

Introduction

We human are surrounded by bacteria, viruses and fungus (bugs). There are hundreds of trillions of bugs in and on us since we were born. The bugs colonized in the vagina of the mother enter our body and thrive until we die. They are necessary for us to survive, because they have understood our genetic vulnerability with lethal precision.

In 1918, the Spanish flu helped *Staphylococcus aureus* kill millions of people all over the world [1]. Antibiotics helped us stop them and the so called “Miracle drug”, helped us learn all about our body, make advances in medicine possible and save millions of lives [2]. As they say, we cannot have all good things all our lives, a day will come when we have to experience poverty, loneliness, anger, sadness, pain and suffering.

Greed and hunger to gain power and rule others made us blind and so we invented the gun powder and antibiotics. The era of “kill conquered and rule” using these two powders is about to end. Infections are associated with war and famine and so it is obvious COVID-19 has shown us how an inanimate particle can one day enter our body and stop every organ function. Scientists are busy trying to understand how this virus behaves; acts and spread infect and kill thousands of healthy people.

I think the two powders “Gun powder” used to kill conquer and rule the macroscopic animals and “Antibiotics” to kill microscopic bugs is now threatening our very existence. Sooner, we understand our weakness and stop believing we can hide in our houses, keep away from people, eat healthy food to be strong and invent drugs and vaccinations to stop COVID-19, better off we will all be.

In this article, I am trying to explain the way the microscopic enemy is threatening our profession and our very existence. The day, we learn to understand the interaction between the microscopic

OPEN ACCESS

*Correspondence:

Kadiyali M Srivatsa, NHS & Private
Healthcare, UK,

E-mail: medifix@gmail.com

Received Date: 28 Jun 2020

Accepted Date: 27 Jul 2020

Published Date: 29 Jul 2020

Citation:

Srivatsa KM. How Do We Catch
COVID-19 Infected Person and Prevent
them Spread?. *Int J Fam Med Prim
Care.* 2020; 1(3): 1015.

Copyright © 2020 Kadiyali M
Srivatsa. This is an open access
article distributed under the Creative
Commons Attribution License, which
permits unrestricted use, distribution,
and reproduction in any medium,
provided the original work is properly
cited.

and macroscopic world and stop inflicting pain and suffering to other living soul, the world will be a better place for us to live. Sooner we shun our ego and stop thinking we are strongest and more intelligent than the bugs we cannot see or understand and adapt to live in symbiotic relationship, and shed tears of happiness in our eyes.

I believe, humanity created religion, money (banker), law (Judges) and healthcare (doctors), to control our free will. By inflicted fear of pain, suffering if we do not agree, and helped us if we follow the advice, the people in power allowed us to live in peace and be happy.

Life is all about loving, caring and doing things to neither please our soul and not people in power, religion, courts nor impress others to make you feel good. Happiness is mental and physical wellbeing. When someone asked me what I do for a living, I said "I sell happiness". Yes, I am a doctor, but my job is to Alleviate pain and suffering and not "Save lives" as you are made to believe. I am sharing information to help you understand what you can do to help reduce worrying about COVID-19, and the fear of dying.

Knowledge of Health is Knowledge of Life" I know, I cannot find a "Miracle Cure" to fight infection. I know, sharing the knowledge and experience I gained working as a doctor managing very sick and dying children every day in intensive care for more than forty years, will help you learn more about yourself.

When you hear stories, watch video of sick and crowded hospitals with dying patients, you are scared and do all that you can to prevent getting infected. The flight and fright reaction is a protective sympathetic reflex that makes you waste energy, suppress immunity and make you tired and unhappy.

I collected information and am publishing this review article to explain how you can remove the veil of illusion (Maya) of finding a vaccination, new drugs that will save your life and continue to live the life you are used to. Unfortunately, this may not happen, because the lockdown and fear has pitched your brain and so you are unable to see the true color of a beautiful world and shed tears of happiness (mental and physical wellbeing).

How COVID-19 & bacteria behave and act

It was worrying for me to hear surface contamination and fleeting encounters are less of a problem than close-up, person-to-person interactions for extended periods. The world will never be the same again, because people are now going to be paranoid and be obsessed about using chemicals thinking it will help save their lives.

I have been warning, warning and warning about this treat after I encountered *Staphylococcus aureus*, a friendly bacterium that has lived on us, thrived on and started threatening our very existence. Then known as normal commensal, later as the MRSA (*Methicillin-Resistant Staphylococcus aureus*) that spread in hospitals and soon in our community, killing thousands of people all over the world [3].

I spent years observing their behaviors, methods of spreading and so invented devices to help slow down the spread of these bugs in hospitals [4-7]. I was convinced; these bugs are stronger, more intelligent and have the technology and know-how to quickly adapt to survive.

Device manufacturers, pharmaceutical companies and antiseptic and disinfectant manufacturers I met in Medica Tradefair 2006, in Dusseldorf, Germany were not keen to help me move forward [8-9]. They were protecting their products, innovations to protect their

investment, and so stifled and abandoned my contribution. Doctors, healthcare providers and institutions gave more importance to HIV and promoted safety cannula. It's sad cause the callous attitude has not only brought the company's survival but helped bacteria threaten our profession and our very existence.

Institutions like The World Medical Association (WMA), The World Health Organization (WHO), General Medical Council (GMC), The British Medical Association (BMA), The Royal Colleges and The National Health Service (NHS) are living under an illusion of theoretical idealism, not understanding the practical realities of managing the 21st century crisis. They are fighting tooth and nail to protect their institutions, using their power to harass, humiliate doctors and scientists for not following their guidelines. The callous attitude and lack of support to implement a simple strategy of identifying "Infected" individual and isolate them and not "Lockdown" that is now ripping apart families, bankrupting business and nations.

People in power in the turn of the 20th century used the media to spread message claiming the advances in modern medicine will make us live longer and healthier life. Propaganda to educate people about healthy living, healthy food, exercise, stop smoking, organic food and drinking made people believe we are immortal. As a new GP, with years of experience managing critically ill children in acute and intensive care, I was finding it hard to believe what was going on. Majority of doctors I met believed we have the technology and know-how to soon invent a drug to fight infections to postpone our return from journey from the planet earth.

Doctors were offered reward to screening, promoting vaccination, prescribe a statin, perform tests and screening claiming this was in the interest of public health. Escalated cost of health care and shortage of doctors because of increasing demand, nurses and pharmacists were given greater powers to prescribe drugs, in a move which ministers say will give patients quicker access to medicine. Nearly 7,000 nurses who already prescribe under special arrangements will assume the right while others will have to be put forward by employers [10].

Doctors, who raised concern to protect medical ethics "Do No Harm", were harassed, humiliated and often ostracized by people in power in institutions like the National Health Service (NHS), The General Medical Council (GMC) and not supported by The World Medical Association (WMA) or The British Medical Association (BMA) [11]. More than 400 doctors committed suicide after 2005-2018 in UK [12]. Not many people nor the media invested time, highlighted the problem nor contacted doctors to ask what was going on and why these doctors killed themselves. The NHS managers and medical directors were ruthless, shared information with factual errors to conceal truth about wrong doings that brought us shame. The GMC, WMA and BMA did not support doctors who were victimized for raising concern but imposed punitive sanctions that drove doctors insane resulting in mental illness and committing suicide.

Majority of doctors who turned a blind eye were incentivized for prescribing generic drugs, statins, vitamins, vaccinations and promote lifestyle changes claiming this will improve health and well-being. No one seems to care or worried about the microscopic enemies that were rapidly spreading, killing more people day after day.

The continuing increase in very-short-term admission of children with common infections, increase avoidable death, medical errors and

scandals suggests a systematic failure, both in primary care (by general practice, out-of-hours care and National Health Service Direct) and in-hospital (by emergency departments), in the assessment with an acute illness that could be managed in the community. Solving the problem is likely to require a restructuring of the way acute and emergency care is delivered [13].

Knowing cross infections and abusing antibiotic will help create superbugs, I wanted to reduce wasted consultation and so collected information to find out what makes a person rush to consult a doctor. Using the data I created a simple tool "MAYA" (Medical Advice You Access). The so-called experts and leaders, realized my tool will help educate you to reduce access to healthcare professionals.

My article, Superbug Pandemic and How to prevent them and The Elephant in the doctor's room explain the problem and offered a solution that was easy to implement and manage. This innovation could have prevented ripping family's apparatus, saved the business from bankruptcy and destabilized economy that may take generations to recover [14,15].

I was surprised when politicians-imposed lockdown, saying the expert public health professionals advised them. Based on the information we gathered, I am sure the so called "Authorities" must stop and think hard to justify their action. Article published in the Wall Street Journal "How Exactly Do You Catch COVID-19? There is a growing consensus surface contamination and fleeting encounters are less of a worry than close-up, person-to-person interactions for extended periods. These questions the reason what made the so-called scientific advisers take drastic measure, to reduce demand and save NHS.

Six months into the COVID-19 crisis, we have not understood how do people become infected? We now know, it's not common to contract COVID-19 from a contaminated surface, and fleeting encounters with people outdoors are unlikely to spread. Close-up, person-to-person interactions for extended periods. Crowded events, poorly ventilated areas and places where people are talking loudly or singing, in one famous case maximize the risk.

Businesses and governments are using the findings to devise reopening strategies to protect public hoping to get economies going again. The business that has lost earnings with the dwindling reserve is expected to install plexiglass barriers, force staff to wear masks in stores and other venues, using good ventilation systems and keeping windows open when possible. Do they think these strategies help? Are they not aware more than 50% of people died due to secondary bacterial infections.

Threat lurking behind the current COVID-19 outbreak, one that is already killing hundreds of thousands of people around the world and that will complicate the care of many COVID-19 patients. It is the hidden threat from antibiotic resistance bacteria that are not killed by standard antibiotics. Unfortunately, the pipeline of drugs to manage these deadly infections is nearly dry [16]. Secondary bacterial infections is a major problem, and we need to ramp up research or develop new strategies to fight them and stop wasting time and money thinking of developing drugs that kill viruses. If we have not invented or developed an anti-viral drug to destroy viruses for more than a century, and a new antibiotic since 1970, how can we think of inventing one new?

Antibiotic resistance could lead to more COVID-19 deaths

Two recent large studies claim wide-scale lockdowns stay-

at-home orders, bans on large gatherings and business closures prevented millions of infections and deaths around the world, but they do not know what would have happened if they had not imposed lockdowns [17]. Now, with more knowledge in hand, cities and states are deploying targeted interventions to keep the virus from taking off again.

They claim to offer better protections for nursing homes, multi-generational families living in crowded houses, knowing the majority of the sick and vulnerable patients are dead. They continue to stress physical distancing and masks and reducing the number of gatherings in enclosed spaces.

Knowing test and investigation are riddled with problems, the expert advisors continue to recommendations testing, contact tracing and isolation of people who are infected or exposed. It's not the virus but Overuse of antibiotics for COVID-19 raises the threat of 'superbugs' while bacterial and viral infections manifest as similar symptoms, they are treated very differently, as antibiotics cannot kill viruses. There is now concern that COVID-19 could drive up antibiotic resistance, causing an increase in "superbugs."

The Director-General of the World Health Organization (WHO), Tedros Adhanom Ghebreyesus, voiced the agency's concerns over the misuse of antibiotics in treating the coronavirus and response to other health emergencies and new disease outbreaks, has been ignored.

WHO received information in May; four deaths caused by Ebola, in Mbandaka Health Zone, Mbandaka city, Equateur Province, the Democratic Republic of the Congo [18]. They also reported the world's largest measles outbreak was in DRC [19]. Did any of use hear about this? Now you know, there are emerging and treatment resistant bacteria killing thousands ever day in some countries.

We all know that the impacts of COVID-19 extend well beyond the death and disease caused by the virus itself. The pandemic has forced countries to make difficult choices about suspending some health services.

Ensuring coordination and development of new ways to deliver care while limiting visits to health facilities is key to keeping people safe and ensuring health systems are not overburdened. This means using digital technologies to deliver some routine services remotely, and expanding the number of medications delivered to the home.

WHO conducted a rapid assessment of service delivery during the COVID-19 pandemic with 155 countries submitting data? The results released today show that more than half of the countries surveyed have partially or completely disrupted services for the treatment of hypertension; half for treatment of diabetes and related complications; and 42% for cancer treatment, and 31% for cardiovascular emergencies [20].

The COVID-19 pandemic has led to increased use of antibiotics, which ultimately will lead to higher bacterial resistance rates that will impact the pandemic and beyond. COVID-19 pandemic to drive up antibiotic resistance in bacteria and so. The biggest we must be a concern for those who may need an antibiotic in the future. The secondary bacterial infection is a common complication of severe viral infections such as the flu or the coronavirus is a secondary, superimposed bacterial infection, or super-infection. These super-infections are often resistant to most antibiotics, including ones used earlier during treatment [21].

Interestingly, this problem is not discussed outside hospitals, but it is not a surprise for infectious disease experts. Even though the Spanish Flu pandemic of 1918 is long past, several studies have shown that many deaths were caused by secondary bacterial infections.

Article “The 1918 Influenza Pandemic”, published in the Oxford Journal of Infectious Diseases, showed that many deaths were caused by secondary bacterial infections that began as a severe acute viral infection that spread down the respiratory tree, causing severe tissue damage that often resulted in a secondary bacterial invasion [22].

More than 50% of the deaths of people hospitalized on ventilators so far are actually a consequence of bacterial super infections. It’s not only the mortality that I am concerned about but the morbidity, that no one is talking about [23].

The long-term ramifications associated with the increased use of antibiotics in treating COVID-19 patients are still not fully known. Brown suggests the practice could jeopardize the use of antimicrobials to prevent infections after surgeries like hip replacements, C-sections, and organ transplants if bacteria in patients are resistant to them.

Some doctors are now pumping in Dexamethasone and will soon realize it’s the secondary bacterial infection will start spreading faster and kill more people cause the immunity is compromised [24].

It is easy to say doctors must not treat a viral infection with antibiotics, regardless of it being the flu or the coronavirus. As a doctor, I have seen and managed thousands of people with infection only based on my intuition or hunch, because there are no tests, signs or investigations to help differentiate viral from bacterial or fungal infections. If I can get it wrong, how can I expect any doctor not make the same mistake? So no doctor will stop or reduce prescribing antibiotics. Patient often are demanding and doctors will prescribe because they do not immune from prosecution. Only way we can help is by educating you to take responsibility and reduce wasted consultation.

How does Covid-19 spread?

One important factor in the transmission is that seemingly benign activities like speaking and breathing produce respiratory bits of varying sizes that can disperse along air currents and potentially infect people nearby. Health agencies have so far identified respiratory-droplet contact as the major mode of COVID-19 transmission. These large fluid droplets can transfer the virus from one person to another if they land on the eyes, nose or mouth. But they tend to fall to the ground or on other surfaces pretty quickly [25].

Some researchers say the new coronavirus can also be transmitted through aerosols or minuscule droplets that float in the air longer than large droplets. These aerosols can be directly inhaled [26].

An infected diner who was not yet ill transmitted the virus to five others sitting at adjacent tables. Ventilation in the space was poor, with exhaust fans turned off, according to one study looking at conditions in the restaurant [27]. Ventilation systems can create complex patterns of airflow and keep viruses aloft, so simply spacing tables six feet apart the minimum distance that the CDC advises you keep from other people may not be sufficient to safeguard restaurant patrons.

Aerosolized virus from the patient’s breathing or speaking could have built up in the air over time and strong airflow from an air-conditioning unit on the wall may have helped recirculate the

particles in the air, according to authors of the study, which hasn’t yet been peer-reviewed.

Sufficient ventilation in the places people visit and work is very important, said Yuguo Li, one of the authors and an engineering professor at the University of Hong Kong. Proper ventilation such as forcing air toward the ceiling and pumping it outside, or bringing fresh air into a room dilutes the amount of virus in a space, lowering the risk of infection [28].

This is likely to make air travel difficult if robust screening of infected individual is not implemented. Checking temperature or expecting travelers to share information about health is like ley to be a major problem.

Another factor is prolonged exposure. That’s generally defined as 15 min or more of unprotected contact with someone less than 6 feet away (Centers for Disease Control and Prevention’s). But that is only a rule of thumb, he cautioned. It could take much less time with a sneeze in the face or other intimate contact where a lot of respiratory droplets are emitted [29].

My strategy is to “Identify infected individual initially at home (as soon as a person recognizes the symptoms) using Dr. Maya App. Once the user enters the symptoms and clicks “NEXT”, the name, location, contact details are sent to the infection controller’s office. The monitor can recognize clusters of similar symptoms in the community.

At a March 10 church choir practice in Washington State, 87% of attendees were infected. Study on an investigation that warned about the potential for “super spreader” events, in which one or a small number of people infect many others. Members of the choir changed places four times during the 2½ h practice, were tightly packed in a confined space and were mostly older. When singing, people can emit many large and small respiratory particles. Singers also breathe deeply, increasing the chance they will inhale infectious particles. Fifty three of 61 attendees at the practice were infected, including at least one person who had symptoms. Two died [30].

Similar transmission dynamics could be at play in other settings where heavy breathing and loud talking are common over extended periods, like gyms, musical or theatre performances, conferences, weddings and birthday parties. Heavy breathing in close proximity, such as karaoke parties, cheering at clubs, talking in bars and exercising in gyms, according to a recent study in the Journal Emerging Infectious Diseases.

The so-called attack rate the percentage of people who were infected in a specific place or time can be very high in crowded events, homes and other spaces where lots of people are in close, prolonged contact.

An estimated 10% of people with COVID-19 are responsible for about 80% of transmissions, according to a study published recently in Wellcome Open Research [31]. Some people with the virus may have a higher viral load or produce more droplets when they breathe or speak, or be in a confined space with many people and bad ventilation when they’re at the most infectious point in their illness.

But overall, the risk of a given infected person transmitting to people is pretty low. For every super spreading event you have a lot of times when nobody gets infected.”

The attack rate for COVID-19 in households ranges between 4.6%

and 19.3%, according to several studies. It was higher for spouses, at 27.8%, than for other household members, at 17.3%, in one study in China [32].

Being outside is generally safer, experts say, because viral particles dilute more quickly. But small and large droplets pose a risk even outdoors, when people are in close, prolonged contact. No one knows for sure how much virus it takes for someone to become infected, but recent studies offer some clues. In one small study published recently in the journal *Nature*, researchers were unable to culture live coronavirus if a patient's throat swab or milliliter of sputum contained less than one million copies of viral RNA [33].

Samples from contagious patients with virus levels up to 1,000 times that which could help explain why the virus is so infectious in the right conditions: It may take much lower levels of the virus than what's found in a sick patient to infect someone else.

Based on this emerging picture of contagion, some policies are changing. The standard procedure for someone who tests positive is to quarantine at home. Some cities are providing free temporary housing and social services where people who are infected can stay on a voluntary basis, to avoid transmitting the virus to a family member [34].

The CDC recently urged Americans to keep wearing masks and maintaining a distance from others as states reopen. "The more closely you interact with others, the longer the interaction lasts, the greater the number of people involved in the interaction, the higher the risk of COVID-19 spread," said Jay Butler, the CDC's COVID-19 response incident manager [35].

Aerosol transmission is a scary thing because an exposure that's hard to manage and it's invisible. Ensuring infected individuals stay home is important, she said, but that can be difficult due to testing constraints. Some scientists say while aerosol transmission does occur, it doesn't explain most infections. In addition, the virus doesn't appear to spread widely through the air.

If this were transmitted mainly like measles or tuberculosis, where infectious virus lingered in the airspace for a long time or spread across large airspaces or through air-handling systems, we will see a lot more people infected.

Air travel is full of opportunities for coronavirus transmission. Touchless check-in, Plexiglas shields, temperature checks, back-to-front boarding and planes with empty middle seats are all now part of the flying experience, and the future may bring even more changes, increasing cost and delay [36,37].

Using Dr. Maya or DR121.COM, we can screen travelers before they check-in using a Smartphone or computer at home. By preventing travelers enter airports if they have symptoms that suggest infections. This simple tool which can be used now and future pandemics and epidemics. By reducing spreading infections in the airport and preventing the infected person with the visible or non-visible symptom, enter the airport or board a flight, we can help prevent the spread of infection to staff and fellow travelers [38].

Conclusion

I hope this review article helped you learn more about spreading infections and how and why you must be educated. Take responsibility and not depend on doctors and nurses to help you manage your health. We are born with every drug or chemical we need to protect

ourselves.

To protect yourself from COVID-19 or other emerging infections, stay positive and away from healthcare professionals, because there is not a doctor who can tell you, nothing is wrong with you. Once a doctor labels your symptom and associate this with a long-term illness, you will never be the happy person but shed tears of sorrow all your life. To stay strong and healthy, change your mind set and believe you are happy and positive.

References

1. Miles Ott AB, Shaw SF, Danila RN, Lynfield R. Lessons Learned from the 1918–1919 Influenza Pandemic in Minneapolis and St. Paul, Minnesota. *Public Health Rep.* 2007;122(6):803-10.
2. Bradford A. Penicillin: Discovery, benefits and resistance. 2019.
3. Methicillin Resistant Staphylococcus aureus (MRSA) CDC Report.
4. Srivatsa KM. Fixation of Tracheal Tubes. *Anaesthesia.* 1991;46(2):153-4.
5. Kadiyali S, Benzing M. Cannula with introducer, needle protection guard and blood collection system. 2009.
6. Srivatsa KM. Cannulation of vessels using a spring-loaded device. *Anesth Analg.* 1992;75(5):867-8.
7. Benzing M, Srivatsa KM. Alternative method of cannulation to reduce needle stick injury and spreading hospitals acquired infections. *Infectious disease Control;* 2005.
8. Srivatsa KM. Reducing medical waste by revolutionising blood testing. *Medica Tradefair.* 2006.
9. Safer Than Safety Cannula -- MEDICA - World Forum for.
10. Nurse drug prescribing extended, BBC. 2006.
11. Report warns of 'inherent risks' with nurse-led GP practices. *Pulse.* 2011.
12. Wickware C. Top GP issues mental health warning as 400 doctors die by suicide. *Pulse.* 2018.
13. Gill PJ, Goldacre MJ, Mant D, Heneghan C, Thomson A, seagroatt V, et al. Increase in emergency admissions to hospital for children aged under 15 in England, 1999–2010: National database analysis. *Arch Dis Child.* 2013;98:328–34.
14. Srivatsa KM. Superbug Pandemic and how to prevent them. *American Interest.* 2017.
15. Srivatsa KM. Elephant in the doctors room. *Arch Infect Dis Ther.* 2018;2(1):1-12.
16. Gerberding JL. Antibiotic resistance could lead to more covid-19 deaths. *Stat.* 2020.
17. Coronavirus: The first three months as it happened. *Nature.* 2020.
18. Ebola virus disease – Democratic Republic of the Congo. WHO. 2020.
19. DR Congo measles: More than 6,000 dead in world's worst outbreak. *BBC News.* 2020.
20. WHO Director-General's opening remarks at the media briefing on COVID-19 - 1 June 2020.
21. Zarei K. Emerging threat to coronavirus patients: 'Superinfections' with drug-resistant bacteria. *Philadelphia Enquiry.*
22. Morens DM, Fauci AS. The 1918 influenza pandemic: Insights for the 21st century. *The J Infect Dis.* 2007;195(7):1018-28.
23. Graham K. Overuse of antibiotics for COVID-19 raises threat of 'superbugs'. 2020.
24. Q&A. Dexamethasone and COVID-19. CDC; 2020.
25. Catherine Offord. Scientists' latest understanding of the facts, the

- suspicions, and the discounted rumors of SARS-CoV-2's transmission from person to person. *The Scientist*. 2020.
26. The Conversation. Coronavirus drifts through the air in microscopic droplets – here's the science of infectious aerosols.
27. Lu J, Gu J, Li K, Xu C, Su W, Lai Z, et al. COVID-19 Outbreak Associated with Air Conditioning in Restaurant, Guangzhou, China, 2020. *Emerg Infect Dis*. 2020;26(7):1628-31.
28. Tang JW, Y Li, I Eames, Chan PKS, Ridgway GL. Factors involved in the aerosol transmission of infection and control of ventilation in healthcare premises. *J Hosp Infect*. 2006;64(2):100-14.
29. Interim U.S. Guidance for risk assessment and work restrictions for healthcare personnel with potential exposure to COVID-19. 2020.
30. Hamner L. High SARS-CoV-2 attack rate following exposure at a choir practice Skagit county, Washington. 2020;69(19):606–10.
31. Endo A. Estimating the over dispersion in COVID-19 transmission using outbreak sizes outside China. 2020;5:67.
32. Household Secondary Attack Rate of COVID-19 and Associated Determinants. medRxiv. 2020.
33. Wang WK, Chen SY, Liu JI, Hen YC, Chen HL, Yang CF, et al. Detection of SARS-associated coronavirus in throat wash and saliva in early diagnosis. *Emerg Infect Dis*. 2004;10(7):1213–9.
34. People 'shed' high levels of coronavirus but most are likely not infectious after recovery begins. 2020.
35. CDC encourages wearing masks, other coronavirus precautions at gatherings. *Wall Street J*. 2020.
36. Being and airbus study how coronavirus behaves during air travel. *Wall Street J*. 2020.
37. Scientists probe how coronavirus might travel through the air. 2020.
38. How airline operators can help screen and prevent pandemics and epidemic.