COVID 19 PANDEMIC (AFFECTS & RECOVERY)

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ABSTRACT

Severe acute respiratory syndrome (SARS) virus caused a severe outbreak in several regions of the world in 2003. The virus is a novel coronavirus, which may have an origin in wild animals such as civet cats in southern China. Its genome structure, gene expression pattern and protein profiles are similar to those of other coronaviruses. However, distinct patterns of several open reading frames in the SARS virus genome may contribute to its severe virulence. The potential mutability of the coronavirus genome may pose problems in the control of future SARS outbreaks. The mechanism of SARS pathogenesis may involve both direct viral cytocidal effects on the target cells and immune-mediated mechanisms. The life cycle of the SARS virus is largely unknown; however, based on the analogy with other coronaviruses, several potential targets for antiviral development are identified. Vaccines offer an important preventive measure for possible future recurrences of SARS, but the prospect for their development is still unknown because of the uncertainty regarding the role of immune responses in SARS virus pathogenesis. The comparative studies of other coronaviruses offer insights into the understanding of SARS virus. Avoid the 3Cs: spaces that are closed crowded or involve close contact. Outbreaks have been reported in restaurants, choir practices, fitness classes, nightclubs, offices and places of worship where people have gathered, often in crowded indoor settings where they talk loudly, shout, breathe heavily or sing. The risks of getting COVID-19 are higher in crowded and inadequately ventilated spaces where infected people spend long periods of time together in close proximity. These environments are where the virus appears to spread by respiratory droplets or aerosols more efficiently, so taking precautions is even more important. Avoid crowded or indoor settings but if you can't, then take precautions: Open a window. Increase the amount of 'natural ventilation' when indoors. WHO has informed on ventilation and air conditioning for both the general public and people who manage public spaces and buildings. Wear a mask. Phylogenetic analysis is essential to understand viral evolution, whereas homology modeling is important for vaccine strategies and therapies. Highly

sensitive and specific diagnostic assays are key to case identification, contact tracing, identification of the animal source, and implementation of control measures.

Index Terms - Covid-19, pandemic, VUCA, WHO,MERS, SARS-Cov2,Asymptomatic.

INTRODUCTION

Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus. Most people infected with the COVID-19 virus will experience mild to moderate respiratory illness and recover without requiring special treatment. Older people, and those with underlying medical problems like cardiovascular disease, diabetes, chronic respiratory disease, and cancer are more likely to develop serious illness. Some of them cause the common cold in people. Others infect animals, including bats, camels, and cattle. But how did SARS-CoV-2. Experts say SARS-CoV-2 originated in bats. That's also how the coronaviruses behind Middle East respiratory syndrome (MERS) and severe acute respiratory syndrome (SARS) got started. SARS-CoV-2 made the jump to humans at one of Wuhan's open-air "wet markets." They're where customers buy fresh meat and fish, including animals that are killed on the spot. Some wet markets sell wild or banned species like cobras, wild boars, and raccoon dogs. Crowded conditions can let viruses from different animals swap genes. Sometimes the virus changes so much it can start to infect and spread among people. Still, the Wuhan market didn't sell bats at the time of the outbreak. That's why early suspicion also fell on pangolins, also called scaly anteaters, which are sold illegally in some markets in China. Some coronaviruses that infect pangolins are similar to SARS-CoV-2.As SARS-CoV-2 spread both inside and outside China, it infected people who have had no direct contact with animals. That meant the virus is transmitted from one human to another. It's now spreading in the U.S. and around the globe, meaning that people are unwittingly catching and passing on the coronavirus. This growing worldwide transmission is what is now a pandemic.

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 coronaviruses can infect humans. The one that causes SARS emerged in southern China in 2002 and quickly spread to 28 other countries. More than 8,000 people were infected by July 2003, and 774 died. A small outbreak in 2004 involved only four more cases. This coronavirus causes fever, headache, and respiratory problems such as cough and shortness of breath. MERS started in Saudi Arabia in 2012. Almost all of the nearly 2,500 cases have been in people who live in or travel to the Middle East. This coronavirus is less contagious than its SARS cousin but more deadly, killing 858 people. It has the same respiratory symptoms but can also cause kidney failure.

The problem statement is that how to recover from adverse affects of covid-19
The main objective of the research is to study on spread of coronavirus. How it affected global economy.

RESEARCH METHODOLOGY

COVID-19 prevalence estimation by random sampling in population - optimal sample pooling under varying assumptions about true prevalence. The number of confirmed COVID-19 cases divided by population size is a coarse measurement for the disease in population. Coronavirus disease 2019 (COVID-19) has created a challenging, yet opportunistic, environment in which to conduct transformative service research (TSR) and assess research methodology. The purpose of this paper is to evaluate and gain important new insights of a group interviewing method with vulnerable people and their support group, adapted and transferred online during COVID-19. Initiated due to COVID-19, this paper investigates the use of online group interviewing in a study that involved young people as vulnerable participants), surrounded by a support group (parent/parents), while investigating a sensitive topic (alcohol consumption and family communication). The research explores the experiences of 35 participants (nine family groups composed of parents and young people aged 12–22 years – please see for a description of participants), who participated in online group interviews during COVID-19. At the end of the online group interviews participants were asked to share their thoughts and experience of participating in a group interview online. Further, with the need for greater reflexivity in consumer and service, researchers' reflections and experiences were also documented and utilized.

Methods we analyzed characteristics of journal articles with original data indexed by March 19, 2020, in World Health Organization (WHO) COVID-19 collection, articles published on preprint servers medRxiv and bioRxiv by April 3, 2010. Additionally, we assessed characteristics of clinical trials indexed in the WHO International Clinical Trials Registry Platform (WHO ICTRP) by April 7, 2020.Results Among the first 2118 articles on COVID-19 published in scholarly journals, 533 (25%) contained original data. The majority was published by authors from China (75%) and funded by Chinese sponsors (75%); a quarter was published in the Chinese language. Among 312 articles that self-reported

study design, the most frequent were retrospective studies (N = 88; 28%) and case reports (N = 86; 28%), analyzing patients' characteristics (38%). Median Journal Impact Factor of journals where articles were published was 5.099.

COVID-19 question list:

	COVID-19 question list
1	Country
2	Age
3	Sex
4	Are you aware of COVID-19 or coronavirus?
5	Are you worried that you can get infected?
6	If no, why?
7	Where do you get the information regarding coronavirus or COVID-19 from?
8	Do you go to any specific websites?
9	If yes, name of the website
10	What are the symptoms of the disease that you know?
11	How does the disease spread?
12	How can you prevent the spread and protect yourself?
13	Who should wear a mask?
14	Do you wash your hands more frequently now?
15	Are you aware of the technique of hand washing and use of sanitizer?
16	How many times do you wash your hands?
17	Do you avoid social gatherings or events?
18	Have you cancelled a personal trip?
19	If you are suffering from any of the symptoms but not having difficulty in breathing what will you do?
20	If you have fever, cough and shortness of breath what should you do?
21	Do you think the government of India is taking proper steps to control the spread of the disease?
22	Do you believe that there is a treatment for the disease?
23	Do you believe that there is a vaccine for the disease?
24	Do you take the influenza vaccine every year?
25	Do you have old people at home who take the influenza vaccine?
26	If someone gets infected, for how long can he infect others?
27	If you are exposed to an infected person, how long will it take to show symptoms of the disease?
28	Would you be willing to self-isolate and work from home for 7 to 14 days if needed?
29	Is your organization giving you the provision of working from home?
30	What steps do you take to protect yourself?

RESULTS

This narrative review discusses the relevant literature, including updated studies, Case series, protective measure, treatment guidelines and the implications for practice with respect to (novel Coronavirus, nCoV) infection. After performing a literature search using ProQuest, MEDLINE, and PUBMED, Google Scholar search engines. The search terms used were COVID-19, Corona viruses, outbreak, "respiratory illness", "transmission", and " infection control and management". After reading the article titles and abstracts, full text, 43 articles were included based on the quality of the studies. Corona viruses belong to a family that comes under the order "Nidovirales". Nidovirales order includes the viruses that use a nested set of mRNAs for their replication. Further, the coronavirus sub-family has four genera (alpha, beta, gamma, and delta coronaviruses). As per the World Health Organization (WHO), the Centers for Disease Control and Prevention (CDC), and the FDA, there are presently no medicines or vaccinations that are believed to be likely to succeed for SARS-CoV-2 management or preventing the spread .The only alternative available is to use wide-spectrum antiviral drugs such as nucleoside analogs, as well as HIV-protease inhibitors that can attenuate viral infection before the actual antiviral is available. Pharmacological management of young, stable patients with minor symptoms and no inherent comorbid circumstances is usually not recommended. "There may be more interaction than we previously understood between these endemic coronaviruses that our bodies already know and SARS-2," Cummings says. "And these interactions might not be entirely mediated by just antibodies. This is definitely a research area that needs to be explored." Another area in need of research is the role that immune responses might play in contributing to disease. Huang says the team found a small number of papers suggesting that cross-reactions between coronaviruses might contribute to more severe symptoms or disease, a phenomenon known as study. To study the spatiotemporal COVID-19 spread, we use the Global Epidemic and Mobility Model (GLEAM), an individual-based, stochastic, and spatial epidemic model. GLEAM uses real-world data to perform in-silico simulations of the spatial spread of infectious diseases at the global level. We use the model to analyze the spatiotemporal spread and magnitude of the COVID-19 epidemic in the continental US. The model generates an ensemble of possible epidemic projections described by the number of newly generated infections, times of disease arrival in different regions, and the number of traveling infection carriers. Approximate Bayesian Computation is used to estimate the posterior distribution of the basic parameters of the model. The calibration of the global model for COVID-19 is reported in Science. The US model considers the timeline of mitigation interventions that are integrated as detailed in the model description published here. The projections will be regularly updated as new data and information about mitigation policies become available. Sensitivity analysis on the basic parameters is routinely performed along with the baseline projections considered. In order to calculate the number of deaths the model uses estimates of COVID-19 severity from available data. In 1 study involving 204 confirmed COVID patients, 7.8% of the patients required intensive care unit stay, and 17.6% of the patients died despite treatment. As per available evidence, an overall case fatality rate of 2.3% to 3.6% has been observed. However, the case fatality rate (CFR) is significantly higher for elderly patients and those with comorbidities and immunosuppression as high as 14.8%. In the same study, the CFR for patients that were diagnosed as critical had mortality of 49%.Currently; there is no clinically proven medication available for the treatment of COVID 19 patients. Various agents such as Hydroxychloroquine, Lopinavir/Ritonavir, Remdesivir, and Azithromycin are being evaluated. Other experimental medications include interleukin 6 antibodies (tocilizumab). Another limitation of the study is that the questionnaire was in the form of google forms and the language of conduct was English. This implies that the people who did not have access to the internet and were not literate were unable to be a part of this survey. But as the source of information for all the general public remains similar (television is ubiquitous in India), we can infer that they would have a similar response. We base this inference as the main sources of information of the public at large were newspapers, television, and WhatsApp despite having access to websites and other online sources. In villages, often the literate readout regional newspapers and news received on mobiles to the rest of the family/friends to ensure dissemination of information.

DISCUSSION

Every crisis has three phases: the emergency, a regression, and, finally, a recovery. And while the latter phase may seem like smooth sailing in comparison to maneuvering your business through Covid-19, it can actually be filled with withdrawal, loss, and doubt. That's because, during the emergency, the sense of purpose seemed crystal clear: Act now. Safeguard the business. As the recovery unfolds, more fundamental and nagging questions arise: What comes after? What parts of our business and organization will even be relevant in the future? What is the new big picture? To address and answer these questions, leaders should focus on three areas: recognizing that they're faced with a new, broader challenge; recalibrating their team; and reopening with attention paid to the small stuff. In the COVID-19 crisis food security, public health, and employment and labor issues, in particular workers' health and safety converge. Adhering to workplace safety and health practices and ensuring access to decent work and the protection of labor rights in all industries will be crucial in addressing the human dimension of the crisis. Immediate and purposeful action to save lives and livelihoods should include extending social protection towards universal health coverage and income support for those most affected. These include workers in the informal economy and in poorly protected and low-paid jobs, including youth, older workers, and migrants. Particular attention must be paid to the situation of women, who are over-represented in low-paid jobs and care roles. Different forms of support are key, including cash transfers, child allowances and healthy school meals, shelter and food relief initiatives, support for employment retention and recovery, and financial relief for businesses, including micro, small and medium-sized enterprises. In designing and implementing such measures it is essential that governments work closely with employers and workers. Countries dealing with existing humanitarian crises or emergencies are particularly exposed to the effects of COVID-19. Responding swiftly to the pandemic, while ensuring that humanitarian and recovery assistance reaches those most in need, is critical. Now is the time for global solidarity and support, especially with the most vulnerable in our societies, particularly in the emerging and developing world. Only together can we overcome the intertwined health and social and economic impacts of the pandemic and prevent its escalation into a protracted humanitarian and food security catastrophe, with the potential loss of already achieved development gains. World scientists on COVID-19 then met at the World Health Organization's Geneva headquarters on 11–12 February 2020 to assess the current level of knowledge about the new virus, agree on critical research questions that need to be answered urgently, and to find ways to work together to accelerate and fund priority research to curtail this outbreak and prepare for those in the future. The discussion led to an agreement on two main goals. The first was to accelerate innovative research to help contain the spread of the epidemic and facilitate care for those affected. The second was to support research priorities that contribute to global research platforms in hopes of learning from the current pandemic response to better prepare for the next unforeseen epidemic. The severity of illness was well identified by all who were surveyed as being difficulty in breathing. Another heartening aspect was that precautionary measures were well known to both the groups of participants with appropriate hand washing techniques, avoidance of public gatherings, and covering of the mouth while coughing and sneezing as the top three precautionary measures. During the first week of March in India, all the telephone and cellular caller tunes were changed to advisories of how to prevent coronavirus disease and when to seek medical help, which included the above messages apart from appeals on television, etc. In a pandemic situation, this disparity in access can be catastrophic and hence most journals have provided open access to all coronavirus-related publications. Healthcare professionals accessed websites such as WHO, Medscape, MOHFW, CDC, Worldometers, covid19.com, ICMR, UpToDate, and PubMed, for reliable information, which is an indicator of their faith in health organizations across the world. Interestingly though at a low 29.3%, much of the general public accessed similar websites such as WHO, MOHFW, CDC, and ICMR. At the time that the survey was administered, online webinars via zoom or other applications were just beginning in India to educate clinicians searching for answers. In a changing world, both healthcare professionals and the general public need to have reliable and accurate sources of information. It is now known that the basic reproductive number (R0) of coronavirus is more in healthcare professionals as compared to the lay public and hence the relative indifference or "no worries" approach of healthcare professionals towards getting infected by SARS-CoV-2 is a concern. In the scenario where adequate personal protective equipment (PPE) may not be available to the healthcare facilities in India due to increased global demand, it is important that healthcare workers know their risk for being infected. In a recent study in Mumbai, 79% of the healthcare professionals were aware of the various PPE required with only 54.5% of them being aware of isolation procedures needed for SARS-CoV-2 infected patients. The numbers for paramedical staff were also lower. India imports raw materials for PPE production from China and South Korea. Due to the shortage of materials and low rate of supply, the availability has taken a massive hit resulting in an acute

shortage in the market. It is highly likely that many healthcare professionals will not use appropriate PPE, will get infected, and further spread infections to patients .The Bhilwara cohort in Rajasthan is an example of how a healthcare professional needs to protect against infection since he/she is likely to transmit it to others [Another example in Mumbai is Saifee hospital, which was shut down due to an infected healthcare professional who continued to work and passed on the infection to many during the asymptomatic phase. The SARS-CoV-2 disease presents a unique organism that can be spread for at least five days before developing symptoms and up to 37 days after presentation. Given its high infectivity, it is a recipe for disaster if healthcare personnel get it. We have not collected demographic information from the participants and hence it is possible that many of them work in situations where they may not anticipate getting infected. The previous few months have shown how surgeons, orthopedicians, dentists, etc., who typically do not deal with infectious diseases are getting infected by coronavirus. In this scenario, it is worrying that only 80% of healthcare professionals were worried while the public was slightly more worried (82%).

CONCLUSION

Most healthcare professionals and the general public that we surveyed were well informed about SARS-CoV-2 and have been taking adequate measures in preventing the spread of the same. There is a high trust of the public in the government. There are common trusted sources of information and this need to be optimally utilized to spread accurate information. The COVID-19 pandemic has affected the world in various ways. The deficiency of information, the need for accurate information, and the rapidity of its dissemination are important, as this pandemic requires the cooperation of entire populations. The rapid survey that we conducted had a good response and we show that healthcare professionals and the general public were quite well informed about the coronavirus. They are aware of the measures needed to be taken to reduce the spread of the disease. The knowledge present allows the authors to speculate that the lockdown in India would be effective. The public receives a large amount of information from social media such as WhatsApp and the medical fraternity and government need to develop strategies to ensure that accurate information needs to spread in these for. The public awareness is quite high and it is important that the knowledge of communication channels be known and be kept at the topmost priority throughout the pandemic.

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