SPECIAL COMMUNICATION

CORONAVIRUS (COVID-19): LET'S PREVENT NOT PANIC

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It was on 31st December 2019, that a cluster of pneumonia cases was reported to the World Health Organization (WHO) by China. The initial investigations revealed the cases to be due to a previously unknown "never before seen strain of coronavirus". Coronaviruses are a group of viruses, which are normally present among animals such as cows, bats, camels and cats. The disease was officially named COVID-19 by WHO on 11th February 2020. The International Committee on Taxonomy of Viruses named the virus as SARS-CoV-2 due to its resemblance to SARS coronavirus. According to WHO's Situation Report-28 as of 17th February 2020, globally there were 71,429 confirmed cases, which included both laboratories confirmed and clinically diagnosed cases (applicable only to Hubei province of China). Cases are clinically diagnosed based on their signs and symptoms and chest x-rays without laboratory testing. More than 99% of these are in China i.e. 70,635 and 794 are outside China. The cases reported outside of China belong to 25 countries in various regions of WHO: China having the epicenter of the disease bears the greatest brunt, with 1772 deaths. The three deaths outside China have been reported in Philippines, Japan and France. The case fatality rate of COVID-19 ranges between 2-3% A wide spectrum of disease, ranging from mild to severe, has been reported in confirmed cases of COVID-19. Respiratory symptoms, fever, cough, dyspnoea, myalgia, fatigue, breathing difficulties and bilateral lung infiltrates on C.T are common findings. Pakistan so far has not reported any confirmed case of COVID-19. Government is showing its commitment towards the threat of importation. This novel coronavirus, called as a "devil" by Chinese Prime Minister, Xi Ping is really an enigma.

Keywords: Coronavirus, COVID-19, Wuhan, SARS, SARS-CoV-2

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"I hope it is safe to eat meat?"

My friend inquires given the scare, panic and misinformation that has been circulating since the emergence of this novel coronavirus in Wuhan, a city in the Hubei province of China. It was on 31st December 2019, that a cluster of pneumonia cases was reported to the World Health Organization (WHO) by China. The initial investigations revealed the cases to be due to a previously unknown "never before seen strain of coronavirus". Coronaviruses are a group of viruses, which are normally present among animals such as cows, bats, camels and cats. They may at times jump from animals to humans, a process called "spill over". This new coronavirus was first isolated on 7th January 2020 and was tentatively named as 2019-nCoV on 17th January 2020. The disease was officially named COVID-19 by WHO on 11th February 2020. The International Committee on Taxonomy of Viruses named the virus as SARS-CoV-2 due to its resemblance to SARS coronavirus.[1]

SARS-CoV-2 belongs to the same family of viruses, which cause diseases as serious as Middle East Respiratory Syndrome (MERS), which originated in Saudi Arabia in 2012 and Severe Acute Respiratory Syndrome (SARS), which originated in China in 2003 or as mild as flu. Unlike MERS and SARS whose source of origin were identified as camels and civet cats respectively. We till now have no confirmed information about the source of this novel virus.[2] But cases have been geographically linked to a seafood wholesale market in Huanan, which also sold freshly slaughtered game animals. This market was closed down on 1st January 2020 as a preventive measure.[3],[4] COVID-19 nCoV is a zoonotic disease. Its occurrence in a household cluster and in health care workers treating patients of

COVID-19 points to a person-to-person route of transmission.[3]

According to WHO's Situation Report-28 as of 17th February 2020, globally there are 71,429 confirmed cases, which include both laboratories confirmed and clinically diagnosed cases (applicable only to Hubei province of China). Cases are clinically diagnosed based on their signs and symptoms and chest x-rays without laboratory testing. More than 99% of these are in China, i.e., 70,635 and 794 are outside China. The cases reported outside of China belong to 25 countries in various regions of WHO: Western Pacific Region (China, Singapore, Korea, Australia, Malaysia, Vietnam, Philippines, Cambodia), South East Asia Region (Thailand, India, Nepal, Sri Lanka), Region of the Americas (USA, Canada), European Region (Germany, France, Italy, United Kingdom, Belgium, Finland, Spain, Sweden,

Russian Federation) and Eastern Mediterranean Region(United Arab Emirates, Egypt). No case as yet has been reported from the African Region of WHO. The largest number of confirmed cases (355) in any State outside mainland China have been reported from the cruise ship Diamond Princess quarantined on the port of Yokohama, south of Tokyo.[5]

China having the epicentre of the disease bears the greatest brunt, with 1772 deaths. The three deaths outside China have been reported in Philippines, Japan and France. The case fatality rate of COVID-19 ranges between 2–3%. It is believed that this case fatality rate might be an overestimate since there may be a far larger pool of people who have been infected by the virus but who have not suffered severe enough symptoms to attend hospital and so have not been counted in the data. This is heartening, given SARS and MERS belonging to the same family of coronavirus had a case fatality rate of 10% and 37% respectively.[5] According to a Chinese study among 44,672 confirmed COVID-19 cases in Mainland China as of February 11, 2020, elderly patients and those with co-morbidity had greater risk of death. Those aged 10-39 years had a case fatality rate of 0.2% and 14.8% for those above 80 years.[6] The youngest victim of the disease is a baby who tested positive 36 hours after delivery. But there is no evidence of vertical transmission of the disease.[7]

A wide spectrum of disease, ranging from mild to severe, has been reported in confirmed cases of COVID-19. Respiratory symptoms, fever, cough, dyspnoea, myalgia, fatigue, breathing difficulties and bilateral lung infiltrates on C.T are common findings.[8] In more severe cases, pneumonia, severe acute respiratory syndrome, kidney failure, septic shock and even death may occur. Elderly patients, or those who are immune-compromised, or have some underlying comorbidity are more likely to be at the severe end of the disease spectrum and require intensive care.[9] Given the limited information available regarding this novel coronavirus, MERS coronavirus (MERS-CoV) was used as the guideline for postulating the incubation period for COVID-19, which was believed to be 14 days, with symptoms appearing in as few as 2 days after exposure.[10] However, new research now shows that it may even go up to 24 days.[11] As of now, there is no specific antiviral therapy for treating COVID-19, nor is there any recommended vaccine for its prevention. Management of infected individuals is focused on infection control, symptomatic relief, and supportive care such as oxygen therapy, fluid management, empiric antimicrobial administration for secondary bacterial infections, and appropriate management of sepsis and respiratory failure, in order to aid vital organ function.[12]

The Director-General of WHO Dr Tedros Adhanom Ghebreyesus declared COVID-19 as a Public Health Emergency of International Concern (PHEIC).[13] Which according to International Health Regulations 2005, is "an extraordinary event which constitutes a public health risk to other States through the international spread of disease and potentially requires a coordinated international response". However, its sustained spread on arrival in a new country is dependent on the reproduction number "R_0", the index of virus transmissibility. It represents the average number of new infections generated by an infectious person in a naïve population. If R_0 is greater than 1, sustained transmission can occur; if R_0 is less than 1, then transmission is likely to die out. WHO estimates COVID-19 R_0 to range between 1.4–2.5. A study by Liu et al estimated an average R_0 for COVID -19 to be 3.28.[14] Hence it is too soon to predict the direction or the outcome of this disease.

The DG, WHO recommends nations to "combat the spread of rumours and misinformation". This "*infodemic*", the spread of fake news regarding the epidemic is creating fear, chaos and confusion among the public. It diverts concerted efforts from preventive and control activities. What is required is preparedness and prevention!

Given the outbreak is concentrated in Wuhan, China it is advised that its exportation from China and importation into other countries should be prevented. No unnecessary international travel restriction has been imposed by WHO. To limit export of disease, exit screening of travellers at international and domestic airports, bus stations and ports of affected areas should be undertaken. This would lead to early diagnosis and appropriate management of diseased person. If a traveller provides history of contact with COVID-19 patient or with potential source of infection, then quarantine for 14 days (maximum incubation period) should be practiced.[15]

Entry screening of travellers from affected areas is done through thermal screening methods. This mechanism has its ups and downs. Travellers coming from affected areas such as China in the winter months may have fever and flu like symptoms but due to a respiratory infection other than this novel coronavirus. Such patients can impose significant economic burden on the health care system. Hence prudent decisions should be made keeping in mind national capacity. This temperature screening is also going to miss patients who are incubating the disease. All said, temperature screening in the current outbreak has helped detect and prevent import of cases. It is strongly recommended that at points of entry and exit, risk communication messages should be disseminated through posters, leaflets or electronic

media. These messages should provide health awareness regarding signs and symptoms of the disease, where and when to seek medical advice and most importantly encourage travellers to share their TRAVEL HISTORY with health care provider.[15]

The general public can prevent itself from infection through simple measures such as: the frequent washing of hands with soap and water (good hand hygiene), staying away from people suffering from fever and cough, eating properly and adequately cooked meat, coughing and sneezing in the bend of their elbow- cough etiquette (good respiratory hygiene), avoid travelling if they are sick and in case of complaints of fever and cough they should seek medical advice. It's very important to share truthfully your previous travel history with the health care provider. In order to facilitate doctors to arrive at a probable diagnosis.[16]

Pakistan so far has not reported any confirmed case of COVID-19. Government is showing its commitment towards the threat of importation. Pakistan has taken preventive steps in line with the International Health Regulations 2005 (IHR-2005) to halt the entry of this novel virus at the country's entry points. Thermal screening of passengers entering the country has been initiated. In case of suspicion of disease passengers will be transported to a nearby tertiary care hospital for management. In Punjab five airports have been linked to teaching hospitals for this purpose[17] Pakistani government has developed risk communication pamphlets in local language for awareness of passengers entering and leaving the country. A 24- hour helpline to answer queries related to coronavirus is also operational for the benefit of the people of Pakistan. Mass media such as radio and television are also being employed to educate the masses regarding COVID-19. The NCV emergency operation centre convenes a meeting every 24 hours to discuss the situation.[18]

The WHO is offering a free online training course to interested individuals in order to fight the new virus. Additionally, it's offering a tabletop exercise package to support countries preparedness in dealing with an imported case titled "Coronavirus disease (COVID -19) training: Simulation exercise".
This novel coronavirus, called as a "devil" by Chinese Prime Minister, Xi Ping is really an enigma. There are still so many unanswered questions;
What is the source of the epidemic?
What is the transmissibility of the disease?
What is the secondary attack rate of the disease?
What is the number of subclinical cases or asymptomatic cases?

There is an ongoing investigation by CDC and WHO to determine more about this outbreak. In this rapidly evolving situation, new information will keep pouring in for our consumption. We will find answers to our questions…. we have to be patient and wait. And not panic!

REFERENCES

1. Coronavirus disease (COVID-19) outbreak [Internet]. Wold Health Organization; [cited 2020 Feb 17]. Available from: https://www.who.int/emergencies/diseases/novel-coronavirus-2019
2. Current novel coronavirus (2019-nCoV) outbreak [Internet]. Wold Health Organization; [cited 2020 Feb 17]. Available from: https://www.who.int/westernpacific/health-topics/coronavirus
3. Wang C, Horby PW, Hayden FG, Gao GF. A novel coronavirus outbreak of global health concern. Lancet Lond Engl 2020;395(10223):470–3.
4. Chan JFW, Yuan S, Kok KH, To KKW, Chu H, Yang J, *et al*. A familial cluster of pneumonia associated with the 2019 novel coronavirus indicating person-to-person transmission: a study of a family cluster. Lancet Lond Engl 2020;395(10223):514–23.
5. WHO. Novel Coronavirus (2019-nCoV) situation reports 28. World Health Organization 2020.
6. Novel Coronavirus Pneumonia Emergency Response Epidemiology Team. [The epidemiological characteristics of an outbreak of 2019 novel coronavirus diseases (COVID-19) in China]. Zhonghua Liu Xing Bing Xue Za Zhi Zhonghua Liuxingbingxue Zazhi 2020;41(2):145–51.
7. Chen H, Guo J, Wang C, Luo F, Yu X, Zhang W, *et al*. Clinical characteristics and intrauterine vertical transmission potential of COVID-19 infection in nine pregnant women: a retrospective review of medical records. Lancet 2020.
8. Huang C, Wang Y, Li X, Ren L, Zhao J, Hu Y, *et al*. Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. Lancet Lond Engl 2020;395(10223):497–506.
9. Wang D, Hu B, Hu C, Zhu F, Liu X, Zhang J, *et al*. Clinical Characteristics of 138 Hospitalized Patients With 2019 Novel Coronavirus-Infected Pneumonia in Wuhan, China. JAMA 2020.
10. CDC. 2019 Novel Coronavirus (2019-nCoV) [Internet]. Centers for Disease Control and Prevention. 2020 [cited 2020 Feb 17]. Available from: https://www.cdc.gov/coronavirus/2019-ncov/about/symptoms.html
11. Guan W, Ni Z, Hu Y, Liang W, Ou C, He J, *et al*. Clinical characteristics of 2019 novel coronavirus infection in China. medRxiv [Internet]. 2020 Feb 9 [cited 2020 Feb 17];2020.02.06.20020974. Available from: https://www.medrxiv.org/content/10.1101/2020.02.06.20020974v1
12. WHO. Clinical management of severe acute respiratory infection when novel coronavirus (2019-nCoV) infection is suspected: interim guidance, 28 January 2020. World Health Organization; 2020.
13. International Health Regulations Emergency Committee on novel coronavirus in China [Internet]. [cited 2020 Feb 17]. Available from: https://www.who.int/news-room/events/detail/2020/01/30/default-calendar/international-health-regulations-emergency-committee-on-novel-coronavirus-in-china
14. Liu Y, Gayle AA, Wilder-Smith A, Rocklöv J. The reproductive number of COVID-19 is higher compared to SARS coronavirus. J Travel Med [Internet]. 2020 Feb 13 [cited 2020 Feb 17];taaa021. Available from: https://academic.oup.com/jtm/advance-article/doi/10.1093/jtm/taaa021/5735319

15. WHO. Updated WHO advice for international traffic in relation to the outbreak of the novel coronavirus 2019-nCoV [Internet]. World Health Organization. [cited 2020 Feb 17]. Available from: http://www.who.int/ith/2019-nCoV_advice_for_international_traffic/en/
16. Coronavirus disease (COVID-19) advice for the public [Internet]. [cited 2020 Feb 17]. Available from: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public
17. Reporter TNS. Coronavirus scare: Health experts urge people to be cautious but not panicky [Internet]. DAWN.COM. 2020 [cited 2020 Feb 17]. Available from: https://www.dawn.com/news/1531308
18. Junaidi I. Four Pakistanis infected with coronavirus in China: PM's aide [Internet]. DAWN.COM. 2020 [cited 2020 Feb 17]. Available from: https://www.dawn.com/news/1531396

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