Mustansar N and Rizwan Rafi, J Cancer Biol Trea 2020, 6: 015
DOI: 10.24966/CBT-7546/100015

HSOA Journal of Cancer Biology and Treatment

Research Article

Novel Coronavirus (2019-Ncov) -Quarantine of CPEC Chinese officials in Military Settings of Pakistan

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Abstract

Coronaviruses are zoonotic, meaning they are transmitted between animals and people. Detailed investigations found that SARS-CoV was transmitted from civet cats to humans and MERS-CoV from dromedary camels to humans. Several known coronaviruses are circulating in animals that have not yet infected humans.

Common signs of infection include respiratory symptoms, fever, and cough, shortness of breath and breathing difficulties. In more severe cases, infection can cause pneumonia, severe acute respiratory syndrome, kidney failure and even death.

In this article we have surveyed and did surveillance of 10 military camps of CPEC Chinese officials. No confirmed case would have been found though a lot of suspected cases were put into quarantine for further investigation. Moreover, WHO defined strategic Objectives and Preparedness and response redefined. Public recommendations and awareness was also discussed in detail.

Keywords: CoV; Corona Virus; Military Camps; WHO guidance; Zoonotic components

Introduction

Progress in corona virology is illustrated by the number of workshops convened and reviews written. International meetings have been held in Germany (1980), the Netherlands (1983) and the U.S.A. (1986), and the Fourth Coronavirus Symposium was (D.C.) in Cambridge, U.K. in July 1989. In addition, reviews have appeared which highlighted particularly interesting characteristics of the family, e.g. the replication strategy and the glycoprotein's 1985. As the last general accounts were published some decades ago 1983 and update is timely.

Coronaviruses cause infections in man, other mammals and birds. Most experimental data have been obtained from studies of Mouse Hepatitis Virus (MHV) and Infectious Bronchitis Virus of chickens (IBV) [1-3].

Coronaviruses (CoV) are a large family of viruses that cause illness ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS-CoV) and Severe Acute Respiratory Syndrome (SARS-CoV). A Novel Coronavirus (nCoV) is a new strain that has not been previously identified in humans.

Coronaviruses are zoonotic, meaning they are transmitted between animals and people. Detailed investigations found that SARS-CoV was transmitted from civet cats to humans and MERS-CoV from dromedary camels to humans. Several known coronaviruses are circulating in animals that have not yet infected humans.

Common signs of infection include respiratory symptoms, fever, and cough, shortness of breath and breathing difficulties. In more severe cases, infection can cause pneumonia, Severe Acute Respiratory Syndrome, kidney failure and even death [4].

Standard recommendations to prevent infection spread include regular hand washing, covering mouth and nose when coughing and sneezing, thoroughly cooking meat and eggs. Avoid close contact with anyone showing symptoms of respiratory illness such as coughing and sneezing [5].

In this article we will show the quarantine study performed in the 10 Military camps where the Chinese were recruited for CPEC in Pakistan till now. No case has been confirmed yet but many suspected cases have been observed and are under quarantine [6].

Technical focus

Zoonotic component of 2019-nCoV and human-animal interface Increasing evidences demonstrate the link between the 2019-nCoV and other similar known coronaviruses (CoV) circulating in bats, and more specifically those of the *Rhinolophus* bat sub-species. These sub-species are abundant and widely present in Southern China, and across Asia, the Middle East, Africa and Europe. Recent studies indicate that more than 500 CoVs have been identified in bats in China. To be noted that serological studies conducted in rural population living close to bats natural habitat in caves revealed a 2.9% bat-CoV seroprevalence, demonstrating that humans exposure to bat-CoVs might be common [7].

However, the route of transmission to humans at the start of this event remains unclear. Bats are rare in markets in China but hunted and sold directly to restaurants for food. The current most likely hypothesis is that an intermediary host animal has played a role in the transmission [8].

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Citation: Mustansar N, Rizwan Rafi (2020) Novel Coronavirus (2019-Ncov) - Quarantine of CPEC Chinese officials in Military Settings of Pakistan, J Cancer Biol Trea 6: 015.

Received: March 05, 2020; **Accepted:** April 16, 2020; **Published:** April 28, 2020

Both Chinese and external expert groups are working in trying to identify the animal source of this new virus. Identifying the animal source of the 2019-nCoV would help to ensure that there will be no further future similar outbreaks with the same virus and will also help understanding the initial spread of the disease in the Wuhan area. It would also increase our understanding of the virus and help us understand how these viruses jump from animals to humans. Thus, providing critical knowledge on how to protect us from future similar events. In this regard, strengthening food control and market hygiene activities in live food market will be essential to protect people from similar and other zoonotic diseases [9].

- WHO has developed interim guidance for laboratory diagnosis, advice on the use of masks during home care and in health care settings in the context of the Novel coronavirus (2019-nCoV) outbreak, clinical management, infection prevention and control in health care settings, home care for patients with suspected Novel coronavirus, risk communication and community engagement and Global Surveillance for human infection with Novel coronavirus (2019-nCoV).
- WHO has prepared disease commodity package that includes an essential list of biomedical equipment, medicines and supplies necessary to care for patients with 2019-nCoV.
- WHO has provided recommendations to reduce risk of transmission from animals to humans.
- WHO has published an updated advice for international traffic in relation to the outbreak of the Novel coronavirus 2019-nCoV.
- WHO has activated of R&D blueprint to accelerate diagnostics, vaccines, and therapeutics.
- WHO has developed an online course to provide general introduction to emerging respiratory viruses, including novel coronaviruses.
- WHO is providing guidance on early investigations, which are critical to carry out early in an outbreak of a new virus. The data collected from the protocols can be used to refine recommendations for surveillance and case definitions, to characterize the key epidemiological transmission features of 2019-nCoV, help understand spread, severity, spectrum of disease, impact on the community and to inform operational models for implementation of countermeasures such as case isolation, contact tracing and isolation [10].
- WHO is working with its networks of researchers and other experts to coordinate global work on surveillance, epidemiology, modeling, diagnostics, clinical care and treatment, and other ways to identify, manage the disease and limit onward transmission. WHO has issued interim guidance for countries, which are updated regularly.
- WHO is working with global expert networks and partnerships for laboratory, infection prevention and control, clinical management and mathematical modeling [11].

Methods

Suspected Chinese officials of CPEC from different camps were investigated and put for quarantine (14 days) in isolated cells. Moreover, blood samples were taken for further analysis and following results were seen.

As seen in table 1 the overall Chinese officials suspected were 32 but none of them were found to be having the disease. Out of 32 suspected cases few were declared clear after investigations and few were put for quarantine till processing of the investigations.

Region/Camps	Suspected Cases	Cases Under Quarantine	Confirmed Cases
Camp-1	2	1	0
Camp-2	3	2	0
Camp-3	4	2	0
Camp-4	2	2	0
Camp-5	6	4	0
Camp-6	3	1	0
Camp-7	4	2	0
Camp-8	2	1	0
Camp-9	2	1	0
Camp-10	4	2	0

Table 1: Out of 32 suspected cases few were declared clear after investigations and few were put for quarantine till processing of the investigations.

Than further all the new cases in every camp were recorded. Until now no confirmed case has been recorded in all the CPEC regions in military settings though the investigations of the suspected cases turned out to be clear of virus as shown in table 2. Present government is taking special measures to fight with this emergency situation.

Results

In this article we have surveyed and did surveillance of 10 military camps of CPEC Chinese officials. No confirmed case would have been found though a lot of suspected cases were put into quarantine for further investigation. It has been concluded that proper quarantine protocol has been followed in the military settings for the foreigners working within the boundary. Moreover all the protective gears have been provided by the respective organization for combat against this deadly virus. Though the investigation strategies still need improvements for future.

Discussion

Strategic objectives

WHO's strategic objectives for this response are to:

- Limit human-to-human transmission including reducing secondary infections among close contacts and health care workers, preventing transmission amplification events, and preventing further international spread from China*
- Identify, isolate and care for patients early, including providing optimized care for infected patients;
- Identify and reduce transmission from the animal source;
- Address crucial unknowns regarding clinical severity, extent of transmission and infection, treatment options, and accelerate the development of diagnostics, therapeutics and vaccines;
- Communicate critical risk and event information to all communities and counter misinformation;
- Minimize social and economic impact through multispectral partnerships.

Region	Area	Confirmed* cases (new)	Total cases with travel history to China (New)	Total cases with Possible Travel outside of Country (New)	Total Cases under investigation(new)	Total deaths
CPEC Areas In Pakistan	Camp-1	0	2(1)	0	2	0
	Camp-2	0	3(2)	0	3	0
	Camp-3	0	4(2)	0	4	0
	Camp-4	0	2(0)	0	2	0
	Camp-5	0	6(3)	2	6	0
	Camp-6	0	3(2)	0	3	0
	Camp-7	0	4(0)	0	4	0
	Camp8	0	2(1)	1	3	0
	Camp-9	0	2(0)	0	2	0
	Camp-10	0	4(2)	0	2	0

Table 2: Than further all the new cases in every camp were recorded.

*This can be achieved through a combination of public health measures, such as rapid identification, diagnosis and management of the cases, identification and follow up of the contacts, infection prevention and control in health care settings, implementation of health measures for travelers, awareness-raising in the population and risk communication.

Preparations and response

- WHO is working closely with International Air Transport Association (IATA) and have jointly developed a guidance document to provide advice to cabin crew and airport workers, based on country queries.
- WHO has developed a protocol for the investigation of early cases. The protocol is designed to gain an early understanding of the key clinical, epidemiological and virological characteristics of the first cases of 2019-nCoV infection detected in any individual country, to inform the development and updating of public health guidance to manage cases and reduce potential spread and impact of infection.
- WHO has been in regular and direct contact with Member States where cases have been reported. WHO is also informing other countries about the situation and providing support as requested.

Recommedations and advice for the public

During previous outbreaks due to other coronavirus (Middle-East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS), human-to-human transmission occurred through droplets, contact and fomites, suggesting that the transmission mode of the 2019-nCoV can be similar. The basic principles to reduce the general risk of transmission of acute respiratory infections include the following:

- Avoiding close contact with people suffering from acute respiratory infections.
- Frequent hand-washing, especially after direct contact with ill people or their environment.
- Avoiding unprotected contact with farm or wild animals.
- People with symptoms of acute respiratory infection should practice cough etiquette (maintain distance, cover coughs and sneezes with disposable tissues or clothing, and wash hands).
- Within health care facilities, enhance standard infection prevention and control practices in hospitals, especially in emergency departments.

WHO does not recommend any specific health measures for travelers. In case of symptoms suggestive of respiratory illness either during or after travel, travelers are encouraged to seek medical attention and share their travel history with their health care provider.

Conclusion

In order to prevent the spread of the deadly disease, individuals coming from china should be Isolated / Quarantine near the Air-ports and Quarantine phase must be completed at a single place (14 days Isolation / Quarantine). Isolation / Quarantine Centers must be established outside the premises of living area / kitchen. Separate Washrooms / Toilets to be used by the quarantined individuals. Cleanliness of the washrooms / Isolation rooms to be conducted twice a day.

Instructions regarding signs & symptoms/ prevention of corona virus to be displayed at prominent places inside the camp. Alcohol based hand sanitizers to be used by all individuals. N-95 Face masks must be provided to all the patients. Availability of disposable masks is mandatory. Disposable Food boxes / utensils to be used for the quarantined individuals. Everyone should be educated to wash their hands frequently with soap and water for at least 20 seconds and avoid close contact with the suspected individuals (6 feet distance). Restrict the number, of the individuals entering the isolation / Quarantine rooms. Make sure that every camp be provided with at least basic isolation rooms and basic diagnostic test facility to diagnose the confirmed cases.

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