



## Aspects Cooperation of Military-Civilian in COVID-19 Pandemic

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### Dear Editor,

The new type of deadly coronavirus (SARS-COV-2), which led to a global crisis, required an immediate response. Military systems are at the forefront of natural and unnatural crises because of their capabilities and preparedness with the maneuvers they perform. Both civilian and military organizations of many countries participated extensively in to fight against COVID-19 (1). The military and civilian systems work together in parallel to increase the capacity of the health system when necessary. In COVID-19 crisis, both parallel and non-parallel cooperations have been seen. There has been widespread cooperation between military and civilian health systems in some cases. In other cases, it was a parallel arrangement that the military system operated independently of the civilian system. For example, military field hospitals were run by military personnel with minimal civilian involvement or without civilian involvement. In Iran, there were happy both types of participation (2). In a way, the combination of military and civilian efforts was helpful and led to a significant retreat of this dangerous disease in human societies. They have many core capabilities to support civilian sector responses, including planning, assistance, transport, logistics, manpower, and health services (1).

This joint venture was the first in China to yield practical results. A joint military-government operation in Wuhan, China, where the COVID-19 was first diagnosed, helped control the disease by sending 40 military doctors for the first time. Specialists from the Chinese Academy of Medical Sciences, along with Chinese pharmaceutical companies, even developed a serum-type drug that effectively controlled the growth of the virus. The serum was developed based on the experience of producing a vaccine against the Ebola virus (3).

In Iran, the military and civilian medical units provided quarantine, disinfection, treatment, follow-up of pa-

tients in convalescent homes, personal protective equipment, PCR test, and transportation services for COVID-19 patients (4).

Moreover, in other countries, as needed, such as Russia and Switzerland, a joint military-civilian cooperation plan was used to combat COVID-19 (5). In general, in addition to protecting the borders of countries in natural and unnatural crises and epidemics of emerging diseases, the military forces perform various tasks due to their facilities and potential capabilities. The letter aims to introduce the aspects of cooperation of military-civilian in COVID-19 pandemic.

As one of the essential measures to prevent the further spread of the virus in various areas, quarantine was implemented by the military to combat COVID-19 through government care protocols. Quarantine includes the prevention of traffic at the air, sea, land borders of countries and cities, and certain areas within cities. Experience has shown that the use of military force in various countries has been effective in quarantining to control the spread of the virus. For example, in some cases, the military system can only quarantine the contamination of ship passengers with COVID-19. The cruise ship fiasco in Japan, whose passengers were contaminated with COVID-19, was quarantined by the military and prevented from spreading the contamination to others (6).

Military units have equipped facilities and human resources. Another effective action of the military forces is to disinfect the affected areas and medical centers and produce disinfectants in their laboratories and production workshops to help the civilian sector. Besides, a large portion of the mask and protective clothing required to combat COVID-19 was provided by the garment production centers of the military system to help civilian units due to high necessity and demand. Isolation and disinfection were some of the primary measures recommended for

the fight against COVID-19, and military systems could perform these measurements using their facilities (7).

Participating in COVID-19 pandemic was like a war for the military. They were able to disinfect virus-infected areas in a short time with various facilities, some of which were creative and used new methods with ultraviolet radiation and new antiseptic disinfectants (8).

The military system has several facilities, including mobile hospitals and convalescent homes, which provide experienced troops to treat wounded soldiers due to their participation in wars. In the COVID-19 crisis, the number of patients was high in different countries globally; however, civilian medical facilities were insufficient. Therefore, the military used their medical facilities to assist the civilian medical system.

Military system measures include the construction of mobile hospitals, special wards with sufficient facilities, mobile CT scan units, and radiology to help public hospitals, as well as changing the use of hotels and stadiums, as a convalescent home to receive improved patients from hospitals, and looking after them until receiving the negative result in the COVID-19 test. These facilities were also used to assist civilian hospitals in recruiting and replacing employed personnel due to their experience in the military system (9).

The military system has laboratory and pharmaceutical facilities with many biological warfare capabilities to produce or counter various weapons of the enemy. There are also several drug factories in the military system that can use these facilities to control the disease in the civilian system. Military medical staff can also conduct mass vaccinations against the disease and assist the civilian system. In this regard, the U.S. military laboratories are developing a vaccine for COVID-19 due to their previous experience in the Ebola vaccine. The U.S. military researchers also have excellent records of producing vaccines for yellow fever, adenovirus, and many other diseases (10).

The COVID-19 crisis resulted in many deaths in different parts of the world. Consequently, the funeral departments could not manage the death toll according to health care protocols for burial. In this regard, the military forces assisted these units and took action to bury the dead. These prompt measures prevent further spreading of the virus, leading to respectfully burying the dead more quickly to prevent further consequences (11).

Because of its many capabilities, the military system intervened and cooperated with civilian systems in countries facing large numbers of COVID-19 patients' deaths. Because of the involvement of military systems in crisis, they have the ability and experience to bury a large number of dead people. This contributes to the health of the community (12).

The armed forces have a vast capacity to participate in crises. They always maintain their readiness by performing various maneuvers. When a crisis arises, the military system is a potent resource to control and manage the crisis. The armed forces have a wide range of capabilities, many of which are unique, making a significant difference in the ability of a country to control a crisis. As is evident, due to the release of COVID-19 by different countries, there is a growing trend to add to the civilian roles of the armed forces, given the growing expansion of COVID-19 and the rising incidence and mortality rate.

## Footnotes

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