

COMMENTARY

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Strict Containment Strategy and Rigid Social Distancing Successfully Contained COVID-19 in the Military in South Korea

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INTRODUCTION

With regard to the ongoing COVID-19 pandemic, as of June 30, 2020, South Korea has had 12,800 confirmed cases (24.69 cases per 100,000 persons) and 282 deaths since the first case recorded on January 19.¹ Historically, the military has been vulnerable to infectious diseases.² Because of the close-contact environment in the military, outbreaks of infectious diseases can easily occur within the bases. Noncombat casualties result in the loss of precious life and combat power. A wellknown example of COVID-19 in the military is the recent massive outbreak in the USS Theodore Roosevelt.³ For this reason, the South Korean military has been making great efforts to block the inflow and transmission of COVID-19. Consequently, only 58 confirmed cases have been reported in a military strength of 599,000 personnel (9.68 cases per 100,000 persons). This is a valuable achievement of the military's strict containment and rigid social distancing policy.

STRICT CONTAINMENT: I WILL FIND YOU, TRACE YOU, AND BLOCK YOU

Immediate Actions

All military measures were implemented immediately after the first civilian patient case was reported in January 19. A curfew that no soldiers are allowed to go out after 6 p.m. was imposed to block any source of the disease from the community (Figure 1). Officers also had to remain at home

after duty hours. Personnel were allowed to take only transition leave before retirement and sick leave. The schedule of transition leave was adjusted to the very end of the service so that soldiers would not have to return to the base during the pandemic. International travel of personnel was banned except for official trips.

Entry Restrictions

All military personnel had to wear a facial mask before entering the base. They were asked to undergo check-up for body temperature and health condition at the main gate of the base. Those who had fever of 37.5 °C (99.5 °F) and higher or suspected symptoms were advised to visit the nearest military hospital's screening clinic for a confirmatory test. As of January 23, the Central Disaster and Safety Countermeasures Headquarters increased a crisis warning level to the highest 'Red Alert' because of massive outbreak in Daegu city, and the Ministry of National Defense declared lockdown in the military.

Early Identification

The military's central epidemiological investigation teams (35 officers on three teams) were dispatched to conduct epidemiological investigations such as contact tracing when suspected cases were reported in the base. The team consisted of 20 medical officers and 15 veterinary officers who serve as military preventive medicine specialists. By early March, the military began to operate its own laboratories (at three different institutions) to actively identify patients, processing a maximum of 280 tests per day. A recruit with a history of travel to any hotspot and/or development of any symptoms consistent with COVID-19 was considered as a high-risk group and underwent a confirmatory test and isolation. As of May 18, active surveillance with a confirmatory test began for all new recruits to aid early detection.

Quarantine and Isolation Policies

Military quarantine standards have been more stringent than those set by public health authorities (Table I). All overseas

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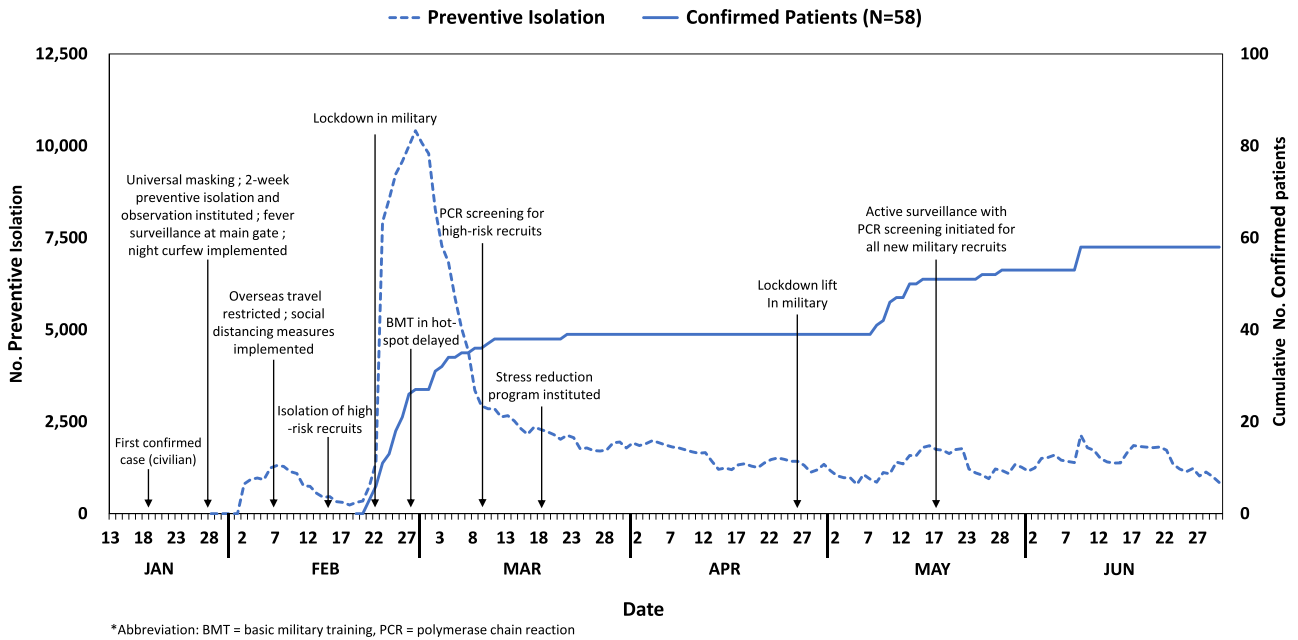


FIGURE 1. Cumulative Number of COVID-19 Confirmed Cases and Total Number of Preventive Isolation and Interventions Implemented, Republic of Korea Armed Forces, January 13–June 30, 2020.

travelers, visitors to the country’s outbreak hotspot areas, secondary contacts of confirmed patients, and contacts of the patients under investigation were in “preventive isolation” for 14 days from the date of contact. Self-isolation was recommended to prohibit contact with other people, and the travelers were checked twice a day, as per the isolation management guidelines. If COVID-19 symptoms were observed, the affected person was advised to visit a screening clinic at a nearby military hospital. To establish space for preventive isolation, each base converted the bachelor officer quarters, resorts, and old barracks into single rooms. Environmental cleaning and disinfection with 500 ppm sodium hypochlorite or 70% alcohol were performed at least daily in the base. At the end of February, the total number of preventive isolation cases reached over 10,000. For low-risk cases, such as contacts of soldiers who had traveled abroad and contacts of visitors to massive outbreak area, “preventive observation” was conducted to observe any symptoms daily, including body temperature without isolation until 14 days after contact.

Return Duty Considerations

After taking care of confirmed patients in the epidemic areas, medical officers were allowed to return to work if they showed negative findings on confirmatory tests on the first and the 14th day of isolation. As for recruits, those who came from massive outbreak areas such as Daegu city began training after 14 days of quarantine in the training center. Approximately, 43,000 recruits were present at training centers during March 9–May 11. Among these, 2,300 (5.3%) high-risk trainees were quarantined for 14 days.

RIGID SOCIAL DISTANCING: AS FAR AWAY AS POSSIBLE

To reduce contact rate, face-to-face meetings in the military were restricted and tele-conferences were encouraged. All social gatherings in the base were banned. Duty hours were changed from fixed routine to flexible working hours and work from home. Major events such as graduation ceremonies and commissioned ceremonies were postponed or cancelled as much as possible. No family members, relatives, or other civilians were allowed to attend the events, and the events were broadcast live. In inevitable cases, small-scale events were held. Military benefit facilities such as country clubs and resorts, where many people gather, were temporarily suspended.

Field training exercises involving large troops were conducted in the form of command post exercises or war games. Rather than field tactical training, shooting training focused on firearms was conducted, and indoor education was conducted while maintaining physical distance and taking preventive measures such as frequently washing hands and wearing facial masks. Annual training for military reserve force has been postponed. Combined or joint exercises with other military troops have also delayed. Military guidelines for social distancing have been disseminated and implemented.

REOPENING AND ITS CONSEQUENCES: UNDER CONTROL SO FAR

Corona Blues and Reopening

With around 10 confirmed cases a day in April, the government of South Korea considered easing the current restrictions

TABLE I. Comparison of Local Community and Military Quarantine/Isolation Guidance

Category	Definition	Local community	Military
Confirmed case	– A person whose infection with a pathogen has been confirmed in accordance with laboratory criteria, regardless of the clinical condition.	– Isolation at a hospital (national-designated containment unit)	– Same as local community
Suspected case	– A person who is a known close contact of a case who subsequently develops a fever (37.5 C or higher) or respiratory symptoms within 14 days of exposure.	– Quarantine in a separate place at home – Isolation at an infectious diseases control facility, quarantine office, and hospital (national-designated containment unit), according to severity classification or high-risk groups	– Same as local community
Preventive isolation	– A person with overseas travel, travel to a domestic hotspot, a secondary contact of confirmed cases, or a contact of a suspected case, within 14 days of the exposure, regardless of symptoms.	– None	– Isolation in a separate place at home or at quarters (single-room) in the base – Active surveillance by medical unit
Preventive observation	– A person identified as a contact of someone undergoing preventive isolation	– None	– Active surveillance by medical unit

to prevent economic damage and stress among the citizens and decided to reopen the country at the early of May⁵. The military also faced fatigue and stress, known as “Corona Blues”, because of long-term response measures in place. Thus, the military has regularly assessed degrees of stress among troops by self-rating questionnaire, evaluated a high-risk group, and provided them with counseling by professional counselors, including tele-counseling for isolated personnel. As of April 24, the Ministry of National Defense partially lifted lockdown in the military, and soldiers began to go out. As soon as the country reopened, a cluster of infections occurred around clubs and bars in the early of May. Additional confirmed cases in the military were linked with these clusters.

A Success Story

As a result of these efforts, there have been no more confirmed cases than the 58 reported cases by the end of June (Figure 1). The median age of the cases was 27 years; 93.1% (54) cases were male. The branch was 67.2% (40) army, 5.2% (3) navy, and 25.9% (15) air-force. The rank was 31.0% (18) enlisted soldiers, 31.0% (18) noncommissioned officers, 24.1% (14) officers, and 13.8% (8) civilian employees. The route of transmission was 48.3% (28) close contact with a military member, 46.6% (27) local community, 3.4% (2) healthcare-associated, and 1.7% (1) unknown. All were from upper respiratory infection to mild pneumonia and there were no deceased cases.

CONCLUSION

The world recognizes South Korea as an exemplary country that has succeeded in responding to COVID-19. Moreover, the South Korean military is in a stable situation with only a

small number of COVID-19 confirmed cases because of strict containment and rigid social distancing policies. Although a successful response to COVID-19 with social distancing, quarantine, and source control in the basic training center of U.S. Air Force was reported⁴, this is the first report of successful intervention across the entire armed forces. The main strategy was to treat the military as a separate community, isolated from its local surroundings, so that influx and spread of cases could be controlled. Effective measures taken by the Armed Forces Medical Command and public health expertise in the military and active participation of each troop are important factors in the success of containment of the disease. In particular, the public health departments of the military led other departments such as personnel, operations, and logistics. Thus, the South Korean military could cope with the COVID-19 pandemic. Although there was an influx of cases linked with community clusters after reopening, it was a manageable level. Consequently, we believe that the success of response to COVID-19 in the South Korean military might be applicable to other country’s military.

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