International Journal of Social Science and Education Research Volume 4 Issue 12, 2021
ISSN: 2637-6067 DOI: 10.6918/IJOSSER.202112_4(12).0082

# East Asia's Response to the COVID-19 Crisis and It'S Implications

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## Abstract

**Under the outbreak, the related research and practice of global epidemic prevention and mitigation of countries pay more attention to the community is the common trend of disaster risk management, emphasis on community is no longer passively accept aid, but by integrating various resources, organize various main form cooperation network chain, improve disaster response capacity of the community, make it become the leader of the construction of epidemic prevention and mitigation and actors, thereby reducing real community disaster risk. Therefore, this paper will study the differences and effects of community prevention and control strategies in East Asian countries represented by Japan, South Korea and China, analyze the differences between the community prevention and control systems in Japan and South Korea and China by literature, and then investigate the current situation and results of epidemic prevention and control in a typical Chinese community in practice. Share the research results with countries where the epidemic is still developing, so as to contain the epidemic at an early date.**

## Keywords

**COVID-19; Community Prevention and Control in East Asian Countries.**

## 1. Background

At the end of 2019, a novel Coronavirus with a long incubation period and strong infectiousness swept the world and brought an unpredictable disaster to people all over the world. The World Health Organization (WHO) defined this public health emergency as an 'international public health emergency'. In early 2020, an outbreak of COVID-19 broke out in Wuhan, China, and several locations around the world, and a growing number of countries declared a state of emergency. On 28th February, WHO upgraded the risk of global transmission and impact of the COVID-19 attack from 'high' to 'very high', and on 11 March identified the COVID-19 outbreak as 'characteristically termed a pandemic'. [1] According to the official website of China National Health Commission, the number of new cases and deaths in Wuhan has dropped from a peak of 5,328 in a single day to a height or 251, from 99.0 percent in the beginning to 3.2 percent now. In the past two months, local governments have taken measures to effectively contain the spread of COVID-19 from transmission. Besides, since the first confirmed imported COVID-19 case was screened in March 2020, a total of 2,802 imported COVID-19 points have been detected in China as of September 26th [3], with 15 newly imported COVID-19 instances in a single day. At present, the new number of confirmed cases in China is mainly imported from abroad. Following the principle of 'preventing imported cases from abroad and preventing proliferation from within', We continue to fight against Coronavirus. China epidemic prevention and control work has made initial progress and won high praise from the WHO.

At the same time, adjacent to the Japanese, as a perfect medical system, medical level of developed countries, in processing as the new epidemic on public health emergencies, such as its public health emergency management system is relatively mature and perfect, under the outbreak, the detection of January 15th, 2020, national institute of infectious diseases

ISSN: 2637-6067 DOI: 10.6918/IJOSSER.202112_4(12).0082

diagnosed with Japan first case of COVID - 19 patients, a slew of new diagnosed, now appeared two peak values, for the first time is the peak number of patients with confirmed on April 11st, after two months, its diagnosis from more than 188 daily controlled within the one-day new diagnosis of 100. Still, the Japanese government announced to cancel too early national emergency caused outbreaks in the second wave of rebound. [4] On July 29th, Japan COVID - 19 one-day new number more than 1000, the peak of 1603 patients with confirmed, across Japan successively after the pandemic alert level to the highest, district council to restaurants, bars and other places of public entertainment strictly control after business hours, schools, and half months, Japan outbreak spread to control effectively, and it confirmed the number is still growing at more than 200. [3]

As South Korea in the East Asian region is the prevention and control of China after another was praised by the world health organization (WHO) countries: A COVID - 19 outbreak in South Korea after the episode, the Government of The Republic of Korea guided the public to participate in actively and conduct orderly consultations to achieve government-social coordination. The ROK has learned from the experience of neighboring China in epidemic prevention and control. Government and the public have jointly monitored the prevention and control work. The ROK government has conducted spot checks on epidemic prevention measures at cluster facilities, and citizens have actively reported violations of epidemic prevention requirements. According to the investigation, the large church because the assembly was written by a large number of community residents, the epidemic prevention department of its supervision is also more strict. In contrast, off-campus cram schools are rarely reported by community residents. The after-school classes adjusted their business hours according to the development of the epidemic situation in their communities and maintained a reasonable operating rate.

The East Asian countries represented by China, Japan, and the Republic of Korea have been able to contain the spread of COVID-19 rapidly because of political factors and government actions and regulations and effective control and outstanding achievements in community epidemic prevention. Therefore, community prevention and control are essential in the prevention and treatment of infectious diseases.

## 2. Methods

Japan, South Korea, and China are studied in this document will be the prevention and control strategy between the different effects and, through literature analysis of community prevention and control system of Japan and South Korea and China, the differences between the practice and use the investigate the epidemic situation and achievements of the Chinese community, to better share community preparedness outputs to now still serious epidemic areas.

## 3. Main Part

### 3.1. Current Situation and Achievements of Community Prevention and Control in the Three Countries

#### 3.1.1. Community of China

Under this outbreak, many measures have been improved and innovated based on the previous handling of public health incidents. The most important thing for China to successfully contain the spread of COVID-19 is the ‘three-line battle’ under the unified leadership, command, and action of the Chinese government, and the joint prevention and control and mass prevention and mass control. ‘three-line war’: First, urban and rural prevention and control, to interrupt community transmission. Intervene with society as the subject. The second ' line ' is medical treatment, rapid social, medical supplies, to maximize the limited medical supplies, grading, the

ISSN: 2637-6067 DOI: 10.6918/IJOSSER.202112_4(12).0082

patient's condition, and resettled in the place of aid, main rescuing critically ill patients, the most sigificant degree to reduce the fatality rate. The third ' line ' takes the community prevention and control; the community is the concentration mass groups, and also is the need to pay attention to hidden under the outbreak could erupt. The one-person infection causes a knock-on effect: increasing the pressure of hospital treatment, making it difficult for urban and rural prevention and control to be carried out as a whole, so it is difficult to prevent the spread of the epidemic. Community is the first line of defense from spreading. Therefore, the external input, the proliferation of the most effective protection, as long as the city to hold the line, can effectively cut off the spread of the channel, the organization of the sniper role into play, will play in mind, and the epidemic prevention work of bottom base layer upon layer, all kinds of measures to raise is epidemic focus of China today. [5] The " three-line campaign " is the core of China epidemic prevention, but there is still a focus in this battle. To quickly control the epidemic and prevent the situation from becoming severe, we should base ourselves on three fronts. First, we should carry out risk assessment and classification for all territories in the country, from top to bottom, from small to large provinces and regions: high-risk areas, medium-risk areas, and low-risk areas, and corresponding control for communities at different levels. The second is to provide health codes for suspected cases or close contacts and for every citizen to record trajectory data. The statistical method of big data dramatically improves the efficiency of flow control. It makes the travel data of each citizen transparent, which is conducive to the prevention and control work. Third, we will step up nucleic acid testing, set no strict threshold for testing, and implement the principle of ' all tests should be performed, and all tests will be performed ', to relieve the worries of the epidemic prevention campaign. Third, restrictive management should be adopted for the community streets in each region. Strict and humanized personnel entry and exit should be controlled. Daily temperature detection, wearing of masks, and daily essentical elimination work should be done. Under various measures, China effectively contained the COVID-19 within two months, and Wuhan, a high-risk city, ended its ' lockdown ' within 76 days. The epidemic situation in China has become clear and has been highly praised by the World Health Organization (WHO) many times. The Chinese people also welcomed the National Day double Mid-Autumn festival golden holiday. Six hundred thirty-seven million trips were made, and domestic tourism revenue reached 466.56 billion CNY, boosting economic recovery. [6]

### 3.1.2. The Japanese Community

As the Japanese community is an open community, there are residents' spontaneous organizations such as the 'Machi Association' and 'Autonomous Association,' which are the smallest governance units in the Japanese community. The 'Machi Council' and 'Autonomous Council' do not have the Civil Code's legal force and are therefore not obliged to assist the government. Under public control, the Japanese government is in a passive position and can only call on the private sector to cooperate with the government to comply with measures related to the epidemic. [7] Although from the point of view of the relationship between the central Government and local governments, local self-governing bodies have a lot of autonomy. For example, when Shinzo Abe did not saying a state of emergency, most local self-governing bodies took the lead in declaring a state of emergency based on the actual local conditions, which played a containment role the early stage of the spread of the epidemic. Under strict called for and declared a state of emergency in Japan, most Japanese people do not consciously go out, do not participate in large gatherings, schools were closed, and claims in patients with mild isolation itself, not bother for hospitals, not to the state, thus ensuring the regular operation of the hospital, and makes the other patients can get routine treatment, for the first wave of the spread of the epidemic has played a role effectively. But because this is the end of the Japanese Government declared a state of emergency in advance, the rebound in the second wave of Japan, confirmed a surge, across Japan successively after the pandemic alert level to

ISSN: 2637-6067 DOI: 10.6918/IJOSSER.202112_4(12).0082

the highest, district council to restaurants, bars and other places of public entertainment strictly control after business hours, schools, and half months, Japan outbreak spread under control.

### 3.1.3. South Korean Community

At the beginning of February 2020, the ROK is mainly guarding against imports and preparing and responding to the global public health emergency in advance. In late February, the South Korean Government shifted its focus to containing the country's outbreak, primarily to preventing the spread of the disease in the community. First, will alert level upgraded to ' severe ' red alert, the South Korean Government established the department of the central disaster safety countermeasures, further strengthen across departments and the coordination of the central and local governments support system and depending on the disease development degree of regional management, such as on February 21st, in Daegu, South Korea government will contract severe disease, Igawa is sweeping north road, the county-designated as a ' special administrative regions .' Secondly, in terms of community control, residents and outsiders in the area should try not to go out within two weeks. If they have symptoms of COVID-19, they should receive prompt treatment. In dealing with coVID-19, the ROK has learned from its neighbor China experience in epidemic prevention and control, and guided the public to participate in actively and conduct orderly consultation to achieve Government and social coordination. The Government and the public jointly supervise the prevention and control work. The Government randomly checks the epidemic prevention measures of congregative facilities, and the people actively reports the phenomenon of violating the epidemic prevention requirements. According to the investigation, large churches are informed by many community residents for holding gatherings, and the epidemic prevention department also strictly oversees them. In contrast, off-campus cram schools are rarely reported by community residents. The after-school classes adjusted their business hours according to the development of the epidemic situation in their communities and maintained a reasonable operating rate. As of March 31st, 2020, in Daegu city, the worst-hit city, the quality of suspension of after-school classes was 88.4 percent, while in Seoul, where the epidemic is relatively subdued, the quality of rest of after-school classes was 16.3 percent. It can be seen that community prevention and control will need more effort in the future. Also, after reducing the increase/cumulative ratio to 20% in 10 days from the first day, it took only three days for South Korea to reduce it to below 10% further and remain below 10% all the time. [8] After China, it has become another country praised by the World Health Organization.

## 4. Discussion

### 4.1. Comparative Analysis Of Community Prevention and Control Strategies in China, Japan, and South Korea

Through data search and research, the prevention and control strategies of communities in East Asian countries represented by China, Japan, and South Korea were compared and analyzed. Main analysis factors: risk grading management, trajectory statistics, restrictive management, nucleic acid testing ability.

First of all, China, Japan, and the ROK all put epidemic risk management and control at different levels within each region during the epidemic response period. China, depending on the development of the epidemic, divides the epidemic into high-risk, medium-risk, and low-risk areas from province to county to the township. For places with severe outbreaks, Japan can apply for national key support regions [7]. South Korea's response to the spread of the epidemic is divided into four levels: 'alert' (blue alert), 'alert' (yellow sign), 'alert' (orange alert), and 'severe' (red signal). Regional risk classification management can effectively allocate medical resources, make reasonable response measures, and improve the ability to deal with public emergencies. Besides, to effectively contain the spread of the epidemic, the three countries have

ISSN: 2637-6067 DOI: 10.6918/IJOSSER.202112_4(12).0082

taken appropriate measures to restrict and control the community to ensure the efficiency of medical treatment.

Secondly, in the face of an outbreak, the trajectory information of suspected patients, confirmed patients, and the general public is incredibly important. A good grasp of trajectory information is conducive to the conduct of flow modulation. In this epidemic, China and South Korea have developed appropriate big data trajectory statistics strategies based on their respective characteristics. China depends on big data, and cloud computing, digital technology in the country more launched local health code, around each other, and make use of big data and the authority of the relevant departments can make user identities, check to see if I am to COVID - 19 patients with confirmed or suspected, whether patients with new champions have close contact, whether for 14 days immigration personnel, nucleic acid, and antibody testing results, etc. Two anti-epidemic apps have been developed in South Korea. One is the 'self-diagnosis' APP. Users need to input self-diagnosis information (such as whether they are experiencing symptoms or not) in the APP every day. The APP always prompts users to turn on the location function and records the movement track of each user. The other is the ' Home Quarantine ' APP, which can use the location function. When the user leaves the designated location, the APP of the user and the staff of the Administrative Security Department who is responsible for the supervision of the user will receive an alarm at the same time. Then the staff of the Administrative Security Department will persuade the home quarantine person back. The big data trajectory statistical method developed through information technology can not only track every citizen more accurately but also facilitate the statistical analysis of data to facilitate the update and practice of prevention and control work plans. [9] Japan did not adopt this approach, however, and its epidemic control was hampered.

Moreover, a country ability to detect nucleic acids makes a big difference in how quickly it can contain an outbreak. During the COVID-19 outbreak, Both China and the ROK have conducted large-scale and large-scale testing of their citizens, whether ordinary residents or suspected or confirmed cases, free of charge. Residents can conduct testing through local medical centers equipped with nucleic acid testing. The alleged and established patients can be separate in time or sent to designated hospitals for treatment. Because the key to interrupting transmission in epidemiology is to isolate infected people, both countries have the initiative in the prevention and control process. Japan, on the other hand, adopts intensive care and self-isolation at home for mild cases, focusing on severely ill patients rather than screening out asymptomatic patients with no specific contact history and mild cases in a wide range, to reduce their exercise in public places and other places, avoid the risk of epidemic spread, and prevent community transmission. As a result, when the first wave of the epidemic came, Japan provided timely detection and treatment to severe patients to control the spread of the outbreak in the short term. However, the second wave of the pandemic rebounded later, with high detection threshold and complicated detection procedures, leading to a slow increase in the number of confirmed cases. The declaration of the lifting of the state of emergency in advance has made the bottom line of community prevention and control out of control, resulting in a surge in the number of confirmed cases and tremendous pressure on hospitals and treatment centers. The cross-spread of various regions has made it difficult for Japan to skillfully control the epidemic.

Finally, through simple comparative analysis, the crticial factors for the effective control of the epidemic situation are the hierarchical risk management in the first region, the establishment of an epidemic prevention network in the general direction, and the rational allocation of limited resources. Secondly, the screening of people through large-scale nucleic acid testing and treating them in isolation prevents the spread of the epidemic. Thirdly, the influence of community communication should not be ignored. Community is the bottom line and the priority of prevention and control. Fourth, the transparent and efficient operation of epidemic prevention is an indispensable way to track big data.

ISSN: 2637-6067 DOI: 10.6918/IJOSSER.202112_4(12).0082

### 4.2. Three-line Table

**Table 1.** Comparison of Prevention and control strategies of China, Japan and South Korea.

| Country | Management mode of regional risk classification | Big data trajectory statistics (such as health code, APP, etc.) | Restrictive management | Nucleic acid detection capability |
|---|---|---|---|---|
| China | √ | √ | √ | All those in need are tested, isolated, hospitalized, or treated was implemented. |
| japan | √ | × | √ | High detection threshold |
| South Korea | √ | √ | √ | Similar to China widespread, large-scale testing, suspected cases can also be tested. |

## 5. Investigate

In order to analyze the experience of community prevention and control, and to provide expertise for countries currently ravaged by the severe epidemic, this study investigated the hot spring community in Nan'an city, Fujian Province. During the epidemic period, the community strictly implemented national standards and regulations to achieve zero infection, reflecting the value of community prevention and control. According to the community leaders, during the epidemic, the leaders proposed the ‘ two sectors and three domains ’ mode in the deployment work.

### 5.1. ‘Two Sectors and Three Domains’ Go Hand in Hand

The ‘two sectors’ are staff and community residents; ‘ three domains ’: security, cleaning, and publicity. For the community’s staff, their body temperature shall be measured before going to work every day. If their body temperature is no less than 37.3 centigrade, they shall not go to work. If they have symptoms such as fever, cough, retching, and running nose, they shall immediately take a rest for observation, or take corresponding measures, and inform the project leader. For new employees, strictly control, do a good job of backtracking before entry, fill in and keep the QR code of recent action track. Masks shall be worn by all on-duty personnel, and necessary protective measures such as masks and rubber gloves shall be taken by personnel in critical positions, such as spraying drugs in the park, garbage cleaning, transportation, and transportation.

Migrants entering the community need to have their temperature measured and information registered, and showing their health code. Outsiders without masks are not allowed to join the city. The household's takeaway and delivery services are placed in the security booth, and the family picks them up. If you have outside to enter a province or enter a city or enter county personnel, the person in charge needs to report to the neighborhood committee for the record above all, next according to the notice that the government issues, take to its stay at home to isolate. The community medical staff takes their temperature daily, and the person in charge keeps track of the situation and reports to the superior. Rigorous reporting processes, no ambiguity, no cover-up the work to do an excellent job of epidemic prevention.

Cleaning staff shall disinfect the inside and outside buttons and handrails in the elevator car at least twice a day, keep the elevator ventilation, and disinfect the elevator car’s floor. The elevator buttons and fences shall be specially used for wiping the required towels. The air outlet of the central air conditioner in the corridor and lobby of each unit and the equipment and facilities in the lobby shall be disinfected three times a day. The entrances and exits shall not be

ISSN: 2637-6067 DOI: 10.6918/IJOSSER.202112_4(12).0082

placed on the ground. Door handles, access control call panels, and passageways of each floor shall be disinfected twice a day. The densely populated area of floor personnel shall be disinfected at least twice a day. If vomiting occurs, cover the vomit with absorbent material and disinfectant immediately and disinfect it again after the vomit is clear. The garbage cans, garbage transfer stations, and the surrounding areas of classified garbage houses put by residents shall be disinfected at least twice a day. The ground around 2 meters of garbage houses, garbage booths, and garbage cans shall be sprayed. Unique masks shall be set up for the waste collection buckets, and the bags shall be covered. High-frequency contact points of parking lot personnel (guard post door handle, access door handle, and out-of-sight corner area) shall be disinfected at least three times a day, and drainage ditches shall be disinfected two times a day. The key areas of the green belt in the community public areas shall be disinfected, not less than once. After disinfection, warm tips and precautions shall be posted on the prominent positions of households and communities. Cleaning tools used by daily staff shall be soaked, cleaned and disinfected. Each post should be equipped with at least two different rags colors, which can be used to distinguish other areas for cleaning. The cleaning tools shall be managed by designated personnel and not placed in the park at will.

Community leaders and staff settled the community safety work and cleaning work during the epidemic to strengthen the publicity of epidemic prevention knowledge: the responsible person issued the epidemic prevention guidelines to the owners of the group, WeChat public number. Warm tips for epidemic prevention are pasted at the entrance of each building, small TV in the elevator plays the knowledge of epidemic prevention, and loudspeakers are set up in the community for publicity: if residents are reminded not to gather, they should cooperate with the epidemic prevention work, etc.

### 5.2. Control Mode for Community Residents

The movement of people in the community should be strictly controlled. Residents should wear masks, take their temperature and register, buy daily necessities, seek medical treatment when they are sick, and meet the needs of epidemic prevention and control work. Other people should try not to go out except those who work in enterprises that guarantee public services, people lives, and other related enterprises that are important to the national economy and people livelihood. Each family assigns one family member to go out to purchase daily supplies every two days. The gate that the community does not often go in and out is closed (until now). Only some vital import and export are open. With substantial community work, no one in this community is infected with COVID-19. Behind it are not only the strict control of the responsible persons, the meticulous efforts of community workers, and the good cooperation of residents but also the strict supervision of governments at all levels. We learned from the relevant person in charge that during the epidemic, there were cases in all parts of China where the owners refused to cooperate with the community staff in epidemic prevention testing, and the cars blocked the important gate areas. The local general security sub-bureau took them into administrative detention for 10 days. In addition, if there are ineffective community prevention and control, the local public security organ will investigate and punish the responsible person of the community according to law. The closed management of organizations does not mean ‘imprisonment’. Second, the intensity of epidemic prevention should be strengthened to stop the spread of epidemic communities and advance the fight against the epidemic.

## 6. Summary

Community prevention and control of infectious diseases are indispensable. Set up a strict epidemic prevention network and build a fortress to fight against coronavirus. Before a sig public health emergency, the state and the people are one. They have not only one interest but also a community of responsibilities. Therefore, under the stringent work network,

ISSN: 2637-6067 DOI: 10.6918/IJOSSER.202112_4(12).0082

departments at all levels above the level of community-based organizations should establish a strict punishment mechanism, like China, to improve the enforcement and deterrence of epidemic prevention measures. The impact of COVID-19 is affecting everyone. The significance of a community of responsibility lies in the fact that people should not only realize that cooperation in epidemic prevention is not only beneficial to them but also conducive to overcoming the crisis as soon as possible. Moreover, government agencies should adopt a rigorous attitude to promote epidemic prevention. In the establishment of prevention and control strategy, South Korea has learned from China' mechanism. On March 23th, Seoul sued Xintiandi Church and its leader Lee Wan-hee for deliberately delaying the report and falsely reporting the church facilities and the list of believers, which caused the spread of the epidemic and increased the cost of epidemic prevention, and demanded compensation for the loss. [8] To various community risk classification management, intensify the nucleic acid detection, restrictive management, big data track statistics method, the punishment mechanism of community control method, is one of China' resistance to disease, hope that the United States, India, and other new crown epidemic situation is quite severe countries can learn from, to fight the epidemic effectively, to usher in the dawn of victory.

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