



Review Article

## COVID-19 Public Health Measures During National Assembly Elections of the Republic of Korea



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### ABSTRACT

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The general elections for the 21<sup>st</sup> National Assembly in the Republic of Korea were scheduled for April 15<sup>th</sup>, 2020, which was during the novel coronavirus disease (COVID-19) outbreak. To ensure a safe election, the Korean Centers for Disease Control and Prevention (KCDC) recommended several public health measures. The KCDC developed key interventions after reviewing the general election strategy that targeted COVID-19 patients and individuals isolating at home. Four voters who participated in the election tested positive, but did not contract COVID-19 during voting. The results demonstrated that the KCDC minimized the spread of infection in the community during the election. The measures implemented by KCDC during the election held under a COVID-19 outbreak cannot be generalized to elections as a whole because cultural and national consciousness vary between countries. Nevertheless, it demonstrates that the systemic strategies and applications against the pandemic can minimize the possibility of viral spread.

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## Introduction

Korea borders with China where there has been active passage of materials and personnel between countries. After reports of unexplained pneumonia cases in Wuhan [1], the KCDC assessed the risk and organized a task force. The cases of unexplained pneumonia were monitored, resources such as protective equipment and hospital facilities were managed, and a new quarantine and diagnosis system was introduced. On January 20<sup>th</sup>, the first COVID-19 case in Korea was reported during a customs inspection [2]. This patient was a Chinese national living in Wuhan. Initially, the cases in Korea emerged due to the influx of foreigners and a few families with the infection. However, on February 18<sup>th</sup> there was viral transmission at a church in Daegu leading to a large outbreak. Since infection in the community was serious, Korea raised the

national crisis alert to the most severe level and strengthened the response to the pandemic. Due to the large number of patients, temporary isolation facilities called Living Treatment Centers were established, and mild cases of symptomatic and asymptomatic disease were managed. From 1<sup>st</sup> to 14<sup>th</sup> April, the average number of patients per day was 56. The average number of overseas immigrants was 5,218.

In Korea, the general elections for the 21<sup>st</sup> National Assembly were planned for April 15<sup>th</sup>, 2020. The participation in the election of COVID-19 patients and individuals who were isolating at home was a task to ensure the constitutional right of suffrage, and to achieve the public health goal of preventing the spread of infectious disease in the community. It was important to have an accurate understanding of the voting process, a precise guide for COVID-19 patients and individuals who were isolating at home who wanted to vote, and

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management guidelines for support personnel. To that end, the Election Commission, the Ministry of Interior and Safety, and the KCDC worked closely together.

Since patients and individuals who were isolating at home had indicated their desire to participate, preparations were made for the election. There was a lot of concern regarding spread of infection in the community because of mass gatherings during the election, which facilitated contact with each other. To ensure a safe election, the KCDC envisaged multiple scenarios and introduced steps to alleviate the risk of infection. In this review, the public health interventions adopted in Korea are presented and a public health plan and related measures for an election during the COVID-19 outbreak are discussed.

### 1. The Korean election and vote

The types of voting for the National Assembly elections in Korea include resident voting, overseas voting, early voting, and general voting. The prevention of infection is described in this article for resident voting, early voting, and general voting. Voting at the place of residence was previously registered. Early voting was held on April 10<sup>th</sup> and 11<sup>th</sup>, and was reported in 3,500 polling stations nationally. On April 15<sup>th</sup>, the general election was held. There were 29,126,396 Koreans (constituting 66.2% of all voters), who cast their ballot. Patients with COVID-19 were allowed to vote from their place of residence by mail. Patients and individuals who were isolating at home were required to vote early. There were 446 voters at the Living Treatment Centers who were registered to vote from their place of residence. Amongst individuals who were isolating at home, 13,789 (23.2%) voters were registered to vote in the election. In this election, 525,000 participated as election staff, assistants, and election observers.

### 2. The risk of COVID-19 during the election

The experiences during the past elections including the expected number of voters, polling stations, and individuals isolating at home on election day were reviewed. Based on this analysis, a review meeting was held, and discussions with the relevant government departments were conducted. It was concluded that the infection could be managed adequately by regulating the environment at the polling stations with good ventilation [3], and encouraging the management, staff, and voters to wear personal protective equipment (PPE).

Public measures during the election consisted of planning, practice, and assessment (Table 1). The KCDC personnel coordinated with the government departments related to the election such as the Ministry of the Interior and Safety, local governments, and the National Election Commission. The electoral guidelines for individuals isolating at home were

established and distributed via continuous meetings (offline and online) to address the public health concerns during the election.

### 3. The election step

Since the general elections for the 21<sup>st</sup> National Assembly were held during the COVID-19 pandemic, separate polling booths were set up to regulate the flow of voters to ensure a safe election. The voters who had a fever and/or respiratory symptoms voted at isolated polling booths and asymptomatic voters cast their vote at the regular polling booth. Before the vote was cast, the voters' temperature was measured and checks for respiratory symptoms were performed. The asymptomatic voters used a hand sanitizer before putting on disposable gloves and maintained 1-meter distance from each other. They carried an ID card for verification checks by the election staff and submitted their digital signature to receive a ballot paper. They went behind the voting screen and posted the ballot paper in the box. Before leaving, they removed their disposable gloves and sanitized their hands again.

The voters who had fever and/or respiratory symptoms were guided to an isolated polling booth and the election staff handed them a ballot. After casting their vote, they placed the ballot in the envelope, sealed it, and handed it to the election staff at the isolated voting booths, who then delivered it to the election staff to post it into the box. The election observers accompanied the election staff at the isolated booth throughout the election and witnessed the whole electoral process. After the voters left, the election staff disinfected the surface environment, and equipment used in the election.

The KCDC established guidelines for COVID-19 patients and individuals isolating at home during the general elections for the 21<sup>st</sup> National Assembly (Table 2). The patients were registered to vote in their place of residence for 5 days from March 24<sup>th</sup>. The ballot paper and return envelope for the voters were received via the mail. The patients who were diagnosed after the registration period cast their ballot during an early voting period between April 10<sup>th</sup> and 11<sup>th</sup>. The National Election Commission installed and managed the early voting stations specifically set up at the Living Treatment Centers. The election step was the same as usual and the election managers in the Living Treatment Centers used PPE.

Each of the local government officials generated a list of names via a mobile application and texting for the individuals isolating at home who wanted to vote. The public authorities checked the temperature and the respiratory symptoms of the cases isolating at home on April 15<sup>th</sup>. They were only allowed to leave the home when they had no symptoms. The public officials checked their route from time to time and managed their use of the app. Individuals isolating at home, who were

Table 1. Public measures and key considerations for an election during the COVID-19 pandemic.

Stage	Key considerations	Measures	Governmental bodies*
The planning stage	• Establishment of a cooperative system	• Cooperation with the relevant government departments - Determination of key factors and previous discussions via continuous meetings (online and offline)	A
	• Analysis of potential risk	• Risk factors associated with the current strategy - Expected number of voters in each polling station, the environment inside and outside the polling station, and general voting measures • Risk factors associated with individual voters - Number of suspected, asymptomatic, and confirmed cases, and individuals isolating at home	
	• Management	• Design of a cooperative system with relevant departments • Recommendations for infectious disease prevention and control based on specific departmental decisions • Development of electoral plan by the National Election Commission based on key recommendations: - Installation of separate polling booths - Recruitment of key personnel - Monitoring of symptoms before entry into the polling station - Preventive measures (wearing mask and disposable gloves, maintaining a physical distance of 1m, and wearing personal protective equipment) - Monitoring the voters for 14 days after the election - Training the election staff - Communication of the election steps and public health guidelines • Support strategy for the local election developed by the Ministry of the Interior and Safety, and the local government registration - Evaluation of symptoms of individuals isolating at home before the election Monitoring for the election using a mobile app Management strategy and movement on the election day	A, B, C, D
	• Assessment of competence and resource	• Assessment of the testing capability and management competence for home isolation • Information sharing system (list of names and contacts) for rapid investigation of close contacts • Assessment of resources, such as thermometers and hand sanitizers, by the National Election Commission	
	• Communication strategy	• Announcement of the election steps and national code of conduct	B
The practice stage	• Management inspection	• Inspection of management conditions compared with the plan - Evaluation of the environment in the polling station, voting step, and resources • Supplemental strategy during preliminary voting • Sharing challenges during the election and regulatory measures - Non-compliance with the guidelines by individuals isolating at home	B, C, D
	• Monitoring	• Checking of symptoms before entering the polling station • Close monitoring of suspected cases with the local health center • Monitoring individuals isolating at home	
	• Communication of risk	• Communication of the national code of conduct via emergency warning text - Wearing mask, maintaining social distance, using own vehicle or walking alone • Announcement of the election step and live broadcast by the press	
The evaluation stage	• Monitoring and epidemiological investigation	• Voter investigation and tracing of confirmed cases • Analysis of the risk of disease spread via epidemiological investigation • Assessment of compliance for preventive measures during the election	A
	• General assessment	• Results of management assessment	

\* A = The Korea Centers for Disease Control and Prevention; B = The National Election Commission; C = The Ministry of the Interior and Safety; D = local governments.

Table 2. Election strategy for COVID-19 patients and individuals isolating at home.

Parameter	COVID-19 patients	Individuals isolating at home
Type	Resident voting, early voting	General voting
Polling station	Hospitals and Living Treatment Center	Near the place of isolation
Manager	Managers and representatives of hospitals and Living Treatment Center (new designation for the election)	Management of public officials
PPE		
Voter	Mask, disposable gloves after hand hygiene using a hand sanitizer	Mask, disposable gloves after hand hygiene using a hand sanitizer
Election staff	Mask, gloves, goggles, coverall gown	Mask, gloves, goggles, coverall gown
Disinfection		
Polling booth	Each time	Each time
Ballot	Disinfection of the sealed envelope	No extra disinfection of the ballots
Voting procedure	Registration to vote Proceeding to the special polling station in the hospital/Living Treatment Center Wearing disposable gloves after hand hygiene Vote Disinfection of the polling booth Hand hygiene after removing the disposable gloves Return to the place of isolation	Registration to vote Allowance for going out after checking the symptoms Walking alone using own vehicle Registration on the app and recording Checking symptoms/wearing disposable gloves after hand hygiene Entry into the waiting room /waiting after 6 pm Distribution of the waiting tickets / entry to the polling station Vote Disinfection of the polling booth Hand hygiene after removing disposable gloves Return to the place of isolation/end of app monitoring

allowed to go out to vote, were required to wear a mask, and either use their own vehicle or walk alone. They could only vote after 6 pm following the general vote. Cases of COVID-19, if confirmed after the vote between April 10<sup>th</sup> and 29<sup>th</sup>, were contacted and monitored.

#### 4. Confirmed COVID-19 case

As of April 15<sup>th</sup>, 2020, the total number of cases isolating at home was 59,387. Among those individuals, 13,789 were registered to vote in the election as of April 14<sup>th</sup>, and 11,511 (83.5%) individuals participated in the election on April 15<sup>th</sup>. Among the COVID-19 patients who were confirmed after the Election Day, 4 participated in the vote, and they were all males (1 in his 40s, 2 in their 50s, and 1 in his 60s). Two cases were from the Gyeonggi and Gyeongbuk provinces, respectively. Three of the 4 patients were infected due to close contact with a confirmed case, and 1 was an imported case from the Arab Emirates. At the time of the vote, these patients declared that they exhibited no symptoms, and they had either walked or drove their car to the polling station. It was determined that

these patients had spent less than 10 minutes at the polling station. All of these patients adhered to the rules of wearing a mask and maintained physical distance. Hence, no potential risk of spreading the virus was determined during the voting process (Table 3).

#### Discussion

Korea is not the first country to hold an election during a pandemic. In the United States in 1918, elections were held during the influenza pandemic [4]. During the elections, preventive measures such as wearing a mask and maintaining adequate distance were taken at polling stations in San Francisco. When influenza was prevalent in San Francisco during October 1918, official orders were issued for mandatory wearing of masks when in public or in groups of 2 or more people. In addition, all employees and voters at polling stations were required to wear masks on Election Day. In Idaho, all voters were mandated to stand in a single line at the polling

Table 3. Status of confirmed cases participating in the election during period of communicability.

Case	A	B	C	D
General characteristics				
Gender	Male	Male	Male	Male
Age (y)	66	51	46	55
Providence	Gyeongbuk	Gyeonggi	Gyeongbuk	Gyeonggi
Epidemic characteristics				
Day of voting	April 10 <sup>th</sup>	April 15 <sup>th</sup>	April 15 <sup>th</sup>	April 15 <sup>th</sup>
COVID-19 confirmed date	April 12 <sup>th</sup>	April 23 <sup>rd</sup>	April 21 <sup>st</sup>	April 26 <sup>th</sup>
No. of contacts	4	40	0	1
Person-to-person transmission case ( <i>n</i> )	0	0	0	0
Travel history	No	No	No	Yes <sup>†</sup>
Isolation state	Na	Na	Home	Home
Election characteristics				
Type of voting	Early	General	General	General
Symptoms during voting	No	No	No	No
Travel to the polling station	Own vehicle	Own vehicle	Walked	Walked
Approximate duration of stay at the polling station (min)	10	10	15	25
Wearing of masks	Yes	Yes	Yes	Yes
Use PPE (mask, gloves, etc.)	Yes	Yes	Yes	Yes
Physical distance	Yes	Yes	Yes	Yes
Contact with others	Yes*	No	No	No

\* Met an acquaintance and exchanged greetings for 5 minutes after exiting the polling station.

† Stayed in the United Arab Emirates from January 1<sup>st</sup>, 2020 to April 13<sup>th</sup>, 2020.

PPE = personal protective equipment.

station to prevent disorderly crowds that may spread the disease [4]. In this election, in Korea, all voters were required to wear masks, and keep a distance of more than 1 meter. The voters used disposable gloves after engaging in hand hygiene at the entrance to the polling station.

The turnout rate in the 1918 elections in the United States was lower than in previous elections. There were many reasons for such low turnout in the elections, such as the ongoing war, but the main factor for the low turnout was the influenza pandemic. Many voters chose to stay at home because they were already ill due to the disease or feared becoming infected during the voting process [4].

One remarkable distinction between the elections of the 2 countries was that the voter turnout rate in Korean election was 66.2%, which was higher than in previous elections.

Further investigation underlying the findings is needed, but it appears that the isolated polling booths reduced voters' anxiety about disease transmission. Furthermore, special measures adopted to facilitate voting by patients and individuals isolating at home also reduced anxiety levels.

Furthermore, resident voting measures guaranteed suffrage to qualifying citizens to vote from their place of residence. Temporary polling stations were set up at the Living Treatment Centers to allow patients to participate in early voting. Voters isolating at home were granted a separate voting time to encourage their participation in the election. After the election, it was determined that 4 individuals who had participated in the voting were confirmed as COVID-19 patients. However, these individuals had not contracted COVID-19 during the voting process of the election. There were no other confirmed

cases of infection among voters and the election management team. Hence, such results suggest that the overall process and preventive measures taken during the election process minimized the spread of infection.

In 2015, the Korean government was criticized for its weak measures for the prevention, cooperation, and control of the MERS epidemic. The lesson of Korea's preventive measures during the COVID-19 epidemic is attributed to a systematic operational plan and implementing various strategies through cooperation between related ministries and agencies.

Due to differences in other nations' election processes, confirmed cases, culture, public awareness, and response capabilities, the public health measures adopted by Korea in this election cannot be generalized and applied to other countries. However, it can be concluded that well-established strategies and applications may reduce the risk of contagion.

### Conflicts of Interest

The authors have no conflicts of interest to declare.

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