

## Abstract

**COVID-19 1-Year Outbreak Report as of January 19, 2021 in the Republic of Korea**

Kim Younghwa, Kim Yoo-Yeon, Yeom Hansol, Jang Jinhwa, Hwang Insob, Park Kwangsuk, Park Young Joon, Lee SangWon, Kwon Donghyok  
Data Analysis Team, Epidemiological Investigation and Analysis Task Force, Central Disease Control Headquarters, Korea Disease Control and Prevention Agency (KDCA)

This 1-year report (from January 20, 2020 to January 19, 2021) on the Coronavirus Disease-19 (COVID-19) situation in Korea was written by the disease management division of the Korea Disease Control and Prevention Agency (KDCA). This report was based on the number of confirmed cases reported through the integrated system in accordance with Article 11 of the 「Infectious Disease Prevention and Management Act」 and on epidemiological investigations conducted by central and local health authorities.

By January 19, 2021, there were 73,115 confirmed cases of COVID-19 in Korea (141.0 incidence rate per 100,000 population) and 1,283 deaths. Confirmed cases were reported in all 17 provinces and cities in Korea, with the highest number of cases recorded in the metropolitan area (Seoul, Gyeonggi and Incheon) and Daegu and Gyeongbuk. The results indicated that, by gender, 51.0% confirmed cases were female and 49.0% were male. Furthermore, the most common age group for confirmed cases was 50-59 years of age (18.8%). The number of deaths over the age of 60 was 95.7% (1,228 cases), and 50.7% of the deaths were female.

The main infection cases identified as a result of epidemiological investigations over a one year period were local cluster occurrences (33,223 cases, 45.4%), contact with confirmed cases (20,157 cases, 27.6%), and cases under investigation (unclassified) (13,473 cases, 18.4%). The major infection routes of outbreaks were related to religious gatherings not related to the Shincheonji Church (5,791 cases, 7.9%), related to the Shincheonji Church (5,214 cases, 7.1%), related to nursing hospitals and facilities (4,271 cases, 5.8%), workplace related (3,817 cases, 5.2%), and family and acquaintance gatherings (3,470 cases, 4.7%).

This report concluded that continuous monitoring of major cluster outbreaks and enhanced guidelines on social distancing are essential in controlling cluster outbreaks.

**Keywords:** 2019 Novel Coronavirus (2019-nCoV), Coronavirus Disease-19 (COVID-19), Outbreaks, Epidemiological monitoring, Epidemiological investigation, Social distancing

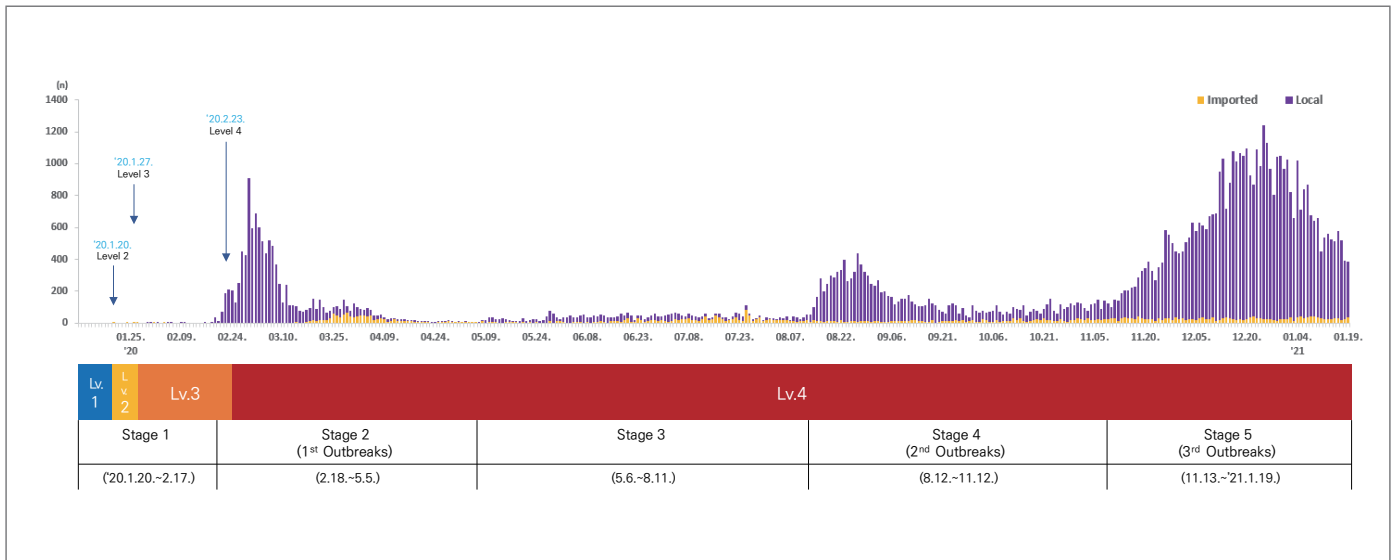


Figure 1. COVID-19 outbreak status

Table 1. Characteristics of each COVID-19 outbreak period

	Stage 1	Stage 2 〈1st Outbreaks〉	Stage 3	Stage 4 〈2nd Outbreaks〉	Stage 5 〈3rd Outbreaks〉
	(2020.1.20.~2.17.)	(2.18.~5.5.)	(5.6.~8.11.)	(8.12.~11.12.)	(11.13.~2021.1.19.)
	Imported cases	Large-scale clusters	Local clusters, sporadic cases	Small and medium-scale clusters many outbreaks	A large outbreak nationwide
Confirmed cases	30 cases	10,774 cases	3,856 cases	13,282 cases	45,173 cases
Daily average	1.0 (min 0 – max 5)	138.1 (min 2 – max 909)	39.3 (min 2 – max 113)	142.8 (min 38 – max 441)	664.3 (min 191 – max 1,240)
Proportion of imported cases	56.7% (17/30 cases)	10.1% (1,084/10,774 cases)	38.2% (1,473/3,856 cases)	11.0% (1,462/13,282 cases)	4.3% (1,944/45,173 cases)
Characteristics of outbreaks	– Individual-level, people coming from overseas, sporadic Individual cases	– Large-scale outbreak related to Shincheonji Church	– Nightclub, distribution center, etc. → religious facilities, small gatherings, sales, etc.	– Religious facilities, Large-scale urban assembly, Multi-use facilities, etc. incidence increases rapidly – Increasing Severe Patients	– Religious facilities, hospitals and nursing facilities, correctional facilities, etc. – Spread nationwide in the center of the metropolitan area – Increased family-to-family infections – Deaths and severe patients continue to increase

Table 2. Confirmed cases and deaths status by gender, age, and region

	January 20, 2020 – January 19, 2021					
	Confirmed cases				Deaths	
	Total (n, (%))	Domestic cases (n, (%))	Imported cases (n, (%))	Incidence rate (n, per 0.1M population)	Total (n, (%))	Fatality rate (%)
<b>Gender</b>						
Male	35,861 (49.0)	31,764 (47.3)	4,097 (68.5)	138.7	633 (49.3)	1.77
Female	37,254 (51.0)	35,371 (52.7)	1,883 (31.5)	143.4	650 (50.7)	1.74
<b>Age group (yrs)</b>						
≤9	2,715 (3.7)	2,528 (3.8)	187 (3.1)	65.4	0 (0.0)	–
10–19	4,661 (6.4)	4,220 (6.3)	441 (7.4)	94.3	0 (0.0)	–
20–29	11,295 (15.4)	9,433 (14.0)	1,862 (31.1)	165.9	0 (0.0)	–
30–39	9,361 (12.8)	7,935 (11.8)	1,426 (23.8)	132.9	6 (0.5)	0.06
40–49	10,483 (14.3)	9,506 (14.2)	977 (16.3)	125.0	9 (0.7)	0.09
50–59	13,750 (18.8)	13,059 (19.4)	691 (11.6)	158.6	40 (3.1)	0.29
60–69	11,519 (15.8)	11,193 (16.7)	326 (5.5)	181.6	151 (11.8)	1.31
70–79	5,684 (7.8)	5,623 (8.4)	61 (1.0)	157.6	352 (27.4)	6.19
≥80	3,647 (5.0)	3,638 (5.4)	9 (0.2)	192.0	725 (56.5)	19.88
<b>Region<sup>1)</sup></b>						
Seoul	22,717 (31.1)	21,984 (32.7)	733 (12.3)	233.4	277 (21.6)	1.22
Busan	2,442 (3.4)	2,334 (3.5)	108 (1.8)	71.6	85 (6.6)	3.48
Daegu	8,176 (11.2)	8,059 (12.0)	117 (2.0)	335.6	206 (16.1)	2.52
Incheon	3,580 (4.9)	3,395 (5.1)	185 (3.1)	121.1	44 (3.4)	1.23
Gwangju	1,452 (2.0)	1,348 (2.0)	104 (1.7)	99.7	13 (1.0)	0.90
Daejeon	957 (1.3)	910 (1.4)	47 (0.8)	64.9	12 (0.9)	1.25
Ulsan	900 (1.2)	825 (1.2)	75 (1.2)	78.5	36 (2.8)	4.00
Sejong	172 (0.2)	148 (0.2)	24 (0.4)	50.2	1 (0.1)	0.58
Gyeonggi	18,378 (25.1)	17,107 (25.5)	1,271 (21.3)	138.7	393 (30.6)	2.14
Gangwon	1,562 (2.1)	1,508 (2.2)	54 (0.9)	101.4	27 (2.1)	1.73
Chungbuk	1,478 (2.0)	1,398 (2.1)	80 (1.3)	92.4	46 (3.6)	3.11
Chungnam	1,918 (2.6)	1,789 (2.7)	129 (2.2)	90.4	30 (2.3)	1.56
Jeonbuk	995 (1.4)	903 (1.3)	92 (1.5)	54.8	34 (2.7)	3.42
Jeonnam	669 (0.9)	607 (0.9)	62 (1.0)	35.9	6 (0.5)	0.90
Gyeongbuk	2,803 (3.8)	2,684 (4.0)	119 (2.0)	105.3	64 (5.0)	2.28
Gyeongnam	1,798 (2.5)	1,666 (2.5)	132 (2.2)	53.5	7 (0.5)	0.39
JeJu	500 (0.7)	470 (0.7)	30 (0.5)	74.5	0 (0.0)	–
Quarantine <sup>2)</sup>	2,618 (3.6)	0 (0.0)	2,618 (43.8)	–	2 (0.2)	0.08
<b>Nationality</b>						
Korean	68,576 (93.8)	65,311 (97.3)	3,265 (54.6)	–	1,275 (99.4)	–
Foreigner	4,539 (6.2)	1,824 (2.7)	2,715 (45.4)	–	8 (0.6)	–
<b>Total</b>	<b>73,115 (100)</b>	<b>67,135 (100)</b>	<b>5,980 (100)</b>	<b>141.0</b>	<b>1,283 (100)</b>	<b>1.75</b>

1) Based on the reported data of patients, etc. via the Integrated System in Korea Centers for Disease Control and Prevention by a healthcare institution. The table may be different from the statistics of the address of patients, etc. The data may change due to delays in report and/or new findings of epidemiological investigation

2) Cases reported during the quarantine process in Incheon Airport and the Busan National Quarantine Station, etc.

Table 3. COVID-19 major infection routes

	Total (n, (%))	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
		(2020.1.20.-2.17.)	<1st Outbreaks> (2.18.-5.5.)	(5.6.-8.11.)	<2nd Outbreaks> (8.12.-11.12.)	<3rd Outbreaks> (11.13.-2021.1.19.)
		(n, (%))	(n, (%))	(n, (%))	(n, (%))	(n, (%))
<b>Clusters</b>	<b>33,223 (45.4)</b>	<b>0 (0.0)</b>	<b>7,303 (67.8)</b>	<b>1,907 (49.5)</b>	<b>7,336 (55.2)</b>	<b>16,677 (36.9)</b>
Religion related	5,791 (7.9)	0 (0.0)	216 (2.0)	330 (8.6)	1,920 (14.5)	3,325 (7.4)
Shincheonji Church related	5,214 (7.1)	0 (0.0)	5,214 (48.4)	0 (0.0)	0 (0.0)	0 (0.0)
Nursing hospital/facilities related	4,271 (5.8)	0 (0.0)	616 (5.7)	92 (2.4)	565 (4.3)	2,998 (6.6)
Workplace related	3,817 (5.2)	0 (0.0)	334 (3.1)	366 (9.5)	1,207 (9.1)	1,910 (4.2)
Family/acquaintance gatherings related	3,470 (4.7)	0 (0.0)	143 (1.3)	158 (4.1)	1,257 (9.5)	1,912 (4.2)
Medical institution related	2,629 (3.6)	0 (0.0)	623 (5.8)	27 (0.7)	533 (4.0)	1,446 (3.2)
Physical/leisure facilities related	1,322 (1.8)	0 (0.0)	123 (1.1)	72 (1.9)	260 (2.0)	867 (1.9)
Educational facilities related	1,321 (1.8)	0 (0.0)	8 (0.1)	12 (0.3)	306 (2.3)	995 (2.2)
Correctional facilities related	1,254 (1.7)	0 (0.0)	3 (0.0)	0 (0.0)	3 (0.0)	1,248 (2.8)
General restaurants/cafes related	714 (1.0)	0 (0.0)	0 (0.0)	15 (0.4)	199 (1.5)	500 (1.1)
Door-to-door sales related	664 (0.9)	0 (0.0)	0 (0.0)	504 (13.1)	127 (1.0)	33 (0.1)
Other multi-use facilities related	657 (0.9)	0 (0.0)	1 (0.0)	18 (0.5)	119 (0.9)	519 (1.1)
Urban assembly related	651 (0.9)	0 (0.0)	0 (0.0)	0 (0.0)	651 (4.9)	0 (0.0)
Entertainment facilities related	636 (0.9)	0 (0.0)	8 (0.1)	284 (7.4)	53 (0.4)	291 (0.6)
Bathhouse/Sauna related	413 (0.6)	0 (0.0)	0 (0.0)	0 (0.0)	74 (0.6)	339 (0.8)
Military unit related	399 (0.5)	0 (0.0)	14 (0.1)	29 (0.8)	62 (0.5)	294 (0.7)
<b>Contact with confirmed cases</b>	<b>20,157 (27.6)</b>	<b>0 (0.0)</b>	<b>1,240 (11.5)</b>	<b>132 (3.4)</b>	<b>2,464 (18.6)</b>	<b>16,321 (36.1)</b>
<b>Under investigation (unclassified)</b>	<b>13,473 (18.4)</b>	<b>0 (0.0)</b>	<b>1,002 (9.3)</b>	<b>302 (7.8)</b>	<b>1,980 (14.9)</b>	<b>10,189 (22.6)</b>
<b>Imported cases</b>	<b>5,980 (8.2)</b>	<b>17 (56.7)</b>	<b>1,084 (10.1)</b>	<b>1,473 (38.2)</b>	<b>1,462 (11.0)</b>	<b>1,944 (4.3)</b>
<b>Imported cases related</b>	<b>282 (0.4)</b>	<b>13 (43.3)</b>	<b>145 (1.3)</b>	<b>42 (1.1)</b>	<b>40 (0.3)</b>	<b>42 (0.1)</b>
<b>Total</b>	<b>73,115 (100)</b>	<b>30 (100)</b>	<b>10,774 (100)</b>	<b>3,856 (100)</b>	<b>13,282 (100)</b>	<b>45,173 (100)</b>