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Psychosocial Support during the COVID-19 Outbreak in Korea: Activities of Multidisciplinary Mental Health Professionals



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Address for Correspondence:

Un Sun Chung, MD, PhD

Department of Psychiatry, Kyungpook National University Children's Hospital, 807 Hoguk-ro, Buk-gu, Daegu 41404, Republic of Korea.
E-mail: unsunchung@gmail.com

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


Jinhee Hyun <https://orcid.org/0000-0002-4088-1055>
Sungeun You <https://orcid.org/0000-0002-1677-0910>
Sunju Sohn <https://orcid.org/0000-0002-8416-9211>
Seok-Joo Kim <https://orcid.org/0000-0002-9080-9086>
Jeongyee Bae <https://orcid.org/0000-0002-4877-3753>
Myungjae Baik <https://orcid.org/0000-0001-8989-7405>
In Hee Cho <https://orcid.org/0000-0002-9270-7067>
Hyunjung Choi <https://orcid.org/0000-0002-5722-9047>
Kyeong-Sook Choi <https://orcid.org/0000-0003-3933-7121>

Jinhee Hyun ¹, Sungeun You ², Sunju Sohn ³, Seok-Joo Kim ¹, Jeongyee Bae ⁴, Myungjae Baik ⁵, In Hee Cho ⁶, Hyunjung Choi ², Kyeong-Sook Choi ⁷, Chan-Seung Chung ⁸, Chanyoung Jeong ⁹, Hyesun Joo ¹⁰, Eunji Kim ¹¹, Heeguk Kim ¹², Hyun Soo Kim ¹³, Jinsun Ko ¹⁴, Jung Hyun Lee ¹⁵, Sang Min Lee ¹⁶, So Hee Lee ¹⁷ and Un Sun Chung ¹⁸

- ¹Department of Social Welfare, College of Social Sciences, Daegu University, Gyeongsan, Korea
²Department of Psychology, College of Social Sciences, Chungbuk National University, Cheongju, Korea
³Department of Social Welfare, College of Humanities & Social Sciences, Cheongju University, Cheongju, Korea
⁴School of Nursing, Inje University, Busan, Korea
⁵Mental Health Center, The Armed Forces Capital Hospital, Seongnam, Korea
⁶Department of Psychiatry, WIM Psychiatric Clinic, Seongnam, Korea
⁷Department of Neuropsychiatry, Eulji University School of Medicine, Daejeon, Korea
⁸Department of Psychiatry, Maum Dream Clinic, Seoul, Korea
⁹Department of Psychiatry, Saemirae Hospital, Gwangju, Korea
¹⁰Korea Trauma Research & Education Institute, Seoul, Korea
¹¹MaumToDoc Psychiatric Clinic, Ansan, Korea
¹²Department of Social Welfare, College of Humanities and Social Sciences, Sangji University, Wonju, Korea
¹³Department of Psychiatry, Myongji Hospital, Goyang, Korea
¹⁴Our Neighborhood Mental Health Research Institute, Seoul, Korea
¹⁵National Center for Disaster Trauma, National Center for Mental Health, Seoul, Korea
¹⁶Department of Psychiatry, Kyung Hee University Hospital, Seoul, Korea
¹⁷Department of Psychiatry, National Medical Center, Seoul, Korea
¹⁸Department of Psychiatry, Kyungpook National University Children's Hospital, Daegu, Korea

ABSTRACT

As of April 18, 2020, there have been a total of 10,653 confirmed cases and 232 deaths due to coronavirus disease 2019 (COVID-19) in Korea. The pathogen spread quickly, and the outbreak caused nationwide anxiety and shock. This study presented the anecdotal records that provided a detailed process of the multidisciplinary teamwork in mental health during the COVID-19 outbreak in the country. Psychosocial support is no less important than infection control during an epidemic, and collaboration and networking are at the core of disaster management. Thus, a multidisciplinary team of mental health professionals was immediately established and has collaborated effectively with its internal and external stakeholders for psychosocial support during the COVID-19 outbreak.

Chan-Seung Chung 
<https://orcid.org/0000-0002-6356-102X>
 Chanyoung Jeong 
<https://orcid.org/0000-0001-9314-9557>
 Hyesun Joo 
<https://orcid.org/0000-0002-7204-2061>
 Eunji Kim 
<https://orcid.org/0000-0002-8749-1169>
 Heeguk Kim 
<https://orcid.org/0000-0003-1103-6642>
 Hyun Soo Kim 
<https://orcid.org/0000-0002-6219-8820>
 Jinsun Ko 
<https://orcid.org/0000-0002-0636-8207>
 Jung Hyun Lee 
<https://orcid.org/0000-0001-9116-4593>
 Sang Min Lee 
<https://orcid.org/0000-0002-7834-8272>
 So Hee Lee 
<https://orcid.org/0000-0002-9005-3207>
 Un Sun Chung 
<https://orcid.org/0000-0003-3871-1425>

Disclosure

The authors have no potential conflicts of interest to disclose.

Author Contributions

Conceptualization: Chung US, Hyun J, You S, Chung CS, Kim H, Bae JY; Data curation: Lee JH, Choi KS, Lee SH, Sohn S, Joo H, Jeong C, Kim HS; Investigation: Baik M, Cho IH, Choi H, Kim EJ, Ko JS, Lee SM; Supervision: Hyun J, Chung US, You S, Lee SH, Choi KS; Writing - original draft: Chung US; Writing - review & editing: Hyun J, You S, Kim SJ, Chung US, Sohn S.

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INTRODUCTION

On December 31, 2019, the Korea Centers for Disease Control and Prevention (KCDC) started to operate a 24-hour response system right after the World Health Organization's (WHO) report about 44 cases of pneumonia of unknown cause in China.¹ Afterwards, on January 20, 2020, the first confirmed Coronavirus disease 2019 (COVID-19) patient was found in Korea.^{2,3} Since the first confirmed case was identified in Korea, 554,834 people have been tested for COVID-19 by April 18, 2020. Among them, 10,653 (1.9%) confirmed cases were identified, with 232 deaths due to COVID-19.⁴ Most confirmed cases (n = 8,188; 76.9%) were from the residents of the Daegu region, a metropolitan city, and the Gyeongsangbuk-do (hereafter Gyeongbuk) province.⁴

A serious outbreak of infectious disease and panic that often occurs during a health crisis could lead to significant psychosocial consequences in the general population. Physical and social isolation due to social distancing and/or a quarantine process might leave individuals, families, or communities to lose emotional bonds with their significant others, thereby contributing to a weakening social support.⁵ Social stigma and discrimination arising from the spread of misinformation could also aggravate stress responses among people presumed to be affected by the disease.^{5,6} During this time, patients' families might deal with the loss of a family or community member without appropriate grief processes. A drastic income decline was also a problem, as travel and work restrictions applied, businesses collapsed, and unemployment increased during the outbreak, which in turn hinder individuals and communities from recovering.^{5,6}

Due to the strong infectivity of COVID-19, the number of infected people had rapidly increased in a short period of time. This had considerably caused collective fear and anxiety in the society.⁶ Nonetheless, unlike other virus-hit countries, no panic-buying was observed in Korea. People had lined up to take a test or buy face masks only for a few weeks in February, an early stage of the outbreak.^{7,8}

An academic association called the Korean Society for Traumatic Stress Studies (KSTSS) was organized in November 2015 after the Sewol ferry disaster in April 2014, as the demand for networking and collaboration of mental health professionals increased in order to deal with mental health issues in times of disasters in Korea.⁵ The members of the KSTSS consisted of diverse professionals; psychiatrists, social workers, psychologists, nurses, counselors, emergency medicine doctors, and researchers.⁵ The KSTSS has cooperated with Korean government institutions in managing disaster mental health while going through several disasters in Korea since 2015. Based on this preexisting relationship, the cooperative work between the KSTSS and Korean government institutions for disaster mental health management had initiated from the beginning of the COVID-19 outbreak in Korea. This paper described the multidisciplinary team's activities to provide psychosocial support during the COVID-19 outbreak in Korea from January 20 to March 31, 2020. In **Fig. 1**, major social events related to COVID-19 and psychosocial support provided by the KSTSS and Korean government institutions were described in chronological order.

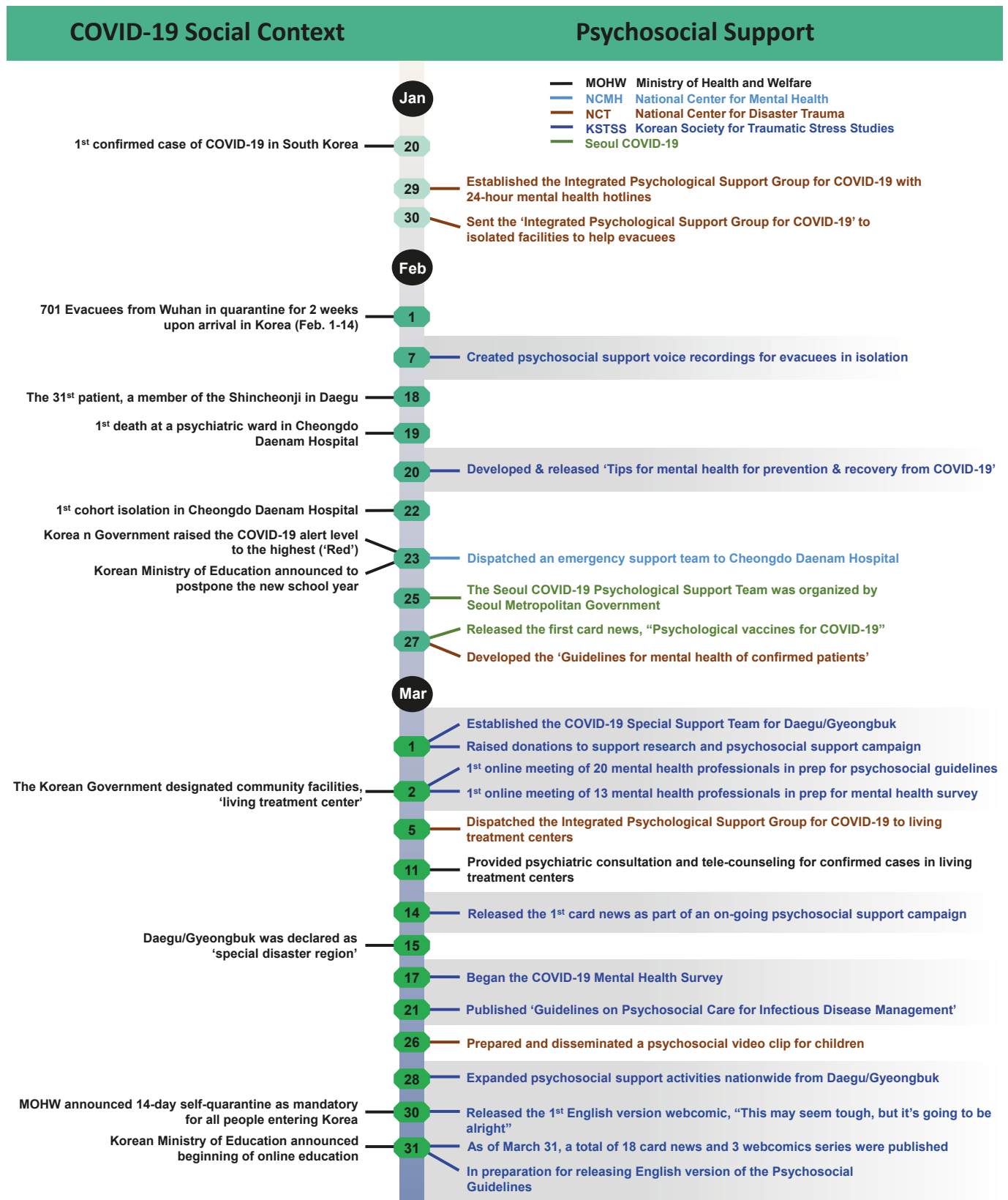


Fig. 1. Timeline of psychosocial support in the social context during the COVID-19 outbreak in Korea. COVID-19 = coronavirus disease 2019.

PSYCHOSOCIAL SUPPORT DURING THE COVID-19 OUTBREAK IN CHRONOLOGICAL ORDER

The first week (from January 20 to 26): activate contingency plans

The first case in Korea was detected on January 20, 2020. The case was a 35-year-old Chinese female who came from Wuhan, China.³ That day, the KCDC raised the alert level from 'Blue' (level 1) to 'Yellow' (level 2) out of the country's 4-level national crisis management system.⁴

The second week (January 27 to February 2): establish the Integrated Psychological Support Group for COVID-19 and public-private partnership

On January 27, three more cases were identified, who were all Korean males from Wuhan, China. The KCDC raised the alert level to 'Orange' (level 3). On January 30, the WHO declared the COVID-19 outbreak as a 'Public Health Emergency of International Concern (PHEIC).'⁹ The KCDC completed the validation process of the new genetic test for COVID-19, a 6-hour real time reverse transcription polymerase chain reaction.¹⁰

On January 29, the 'Integrated Psychological Support Group for COVID-19' under the Ministry of Health and Welfare (MOHW) was established to provide psychological support and a 24-hour mental health hotline to confirmed patients, their families, and isolated people. It consisted of the National Center for Disaster Trauma (NCT), Trauma Center for Yeongnam region in Daegu and Gyeongbuk, two national hospitals for mental health, and community mental health welfare centers. The NCT, a Korean government institution for disaster mental health management, was founded under the National Center for Mental Health (NCMH) in April 2018, and was put in charge of the overall coordination of activities.¹¹ The NCT has built a public-private partnership for disaster mental health services.

The Korean government evacuated 701 Korean nationals from Wuhan, China to Korea by two chartered flights. All evacuees except one confirmed patient were isolated at the national facilities and released after their 14-day isolation.¹² For two weeks beginning on January 30, the Integrated Psychological Support Group for COVID-19 provided psychological support for 700 evacuees at two isolated facilities. This was the first psychological support given at isolated facilities where face-to-face psychological services were not available. A stress relief kit with brochures on psychoeducation, stress management, and information on psychological support was provided to each isolated person.¹³ In addition, high-risk screenings for mental health using web-based instruments and tele-counseling for isolation stress were offered by mental health professionals in the Integrated Psychological Support Group for COVID-19.¹⁴

The third week (February 3 to 9): provide psychological support via audio recordings at the isolation facilities

On February 5, the Ministry of Education advised all the universities to postpone the start of the school year on March 2 for a duration of 4 weeks.¹⁵ In the meantime, a total of 14 audio recordings were made by 10 mental health professionals in KSTSS (Table 1) for isolated people until February 7. The Integrated Psychological Support Group for COVID-19 had broadcasted these recordings twice a day at the isolation facilities. It could be effective in situations where face-to-face psychological supports are unavailable.

Table 1. Topics of mental health voice recordings for the quarantined individuals in living treatment centers

No.	Topics
1	Mental health during the early phase of quarantine
2	Stress management during quarantine
3	Helpful tips to calm yourself down
4	Guidelines for adults caring for children
5	Psychological guidelines for people in quarantine
6	Improving resilience during quarantine
7	How to overcome adversities
8	Dealing with stress from isolation
9	Possible emotional changes during the 14 days of isolation
10	How to meditate while walking
11	Psychological preparedness before returning home from quarantine
12	How to deal with stigma
13	Helpful tips on getting back to the new normal
14	Psychological guidelines for citizens during the infectious disease outbreak

The fourth week (February 10 to 16): find ways to provide psychosocial support

The KCDC continued the posting of corona-related information in its homepage twice a day.¹⁶ The members of the KSTSS discussed the necessity for psychosocial support and how mental health professionals can help people cope better with the outbreak.

The fifth week (February 17 to 23): strengthen collaboration between infection control authorities and mental health professionals

On February 18, a 61-year-old female patient living in Daegu was identified as the 31st confirmed COVID-19 case in Korea.^{6,7} It was reported that the doctor advised her to take the COVID-19 test, but she refused because she did not go abroad. The epidemiological surveillance discovered that she had come into contact with 166 people before being confirmed. It turned out that she belonged to the Shincheonji, known as the Temple of the Tabernacle of the Testimony, viewed as a cult by mainstream Korean Christian organizations.^{6,7} The Shincheonji has strategically instructed its members to hide their membership from others.^{6,17,18} These characteristics of the Shincheonji contributed to a rapid spread of infection and difficulties in infection control. Furthermore, this made Korean people dramatically fall into collective panic responses because the number of infections related to the Shinchenji rapidly increased to nearly 3,000.^{6,7,17,18}

On February 19, the first death of a psychiatric patient, a 63-year-old male with schizophrenia who had been hospitalized for 20 years, occurred in Cheongdo Daenam Hospital located in Gyeongbuk.¹⁹ The central government (MOHW & KCDC) dispatched a special task force team to Daegu to implement infection control measures with the local government.²⁰ The KCDC began to trace all people related to the Shinchenji and Cheongdo Daenam Hospital.^{6,7,17}

On February 20, the KSTSS developed a public guideline entitled 'Tips for mental health to cope with outbreaks of emerging infectious diseases' which was posted on the KSTSS homepage.

On February 22, the first cohort isolation was done on 600 people in Cheongdo Daenam Hospital after 93 confirmed cases were identified in a day, resulting in 109 confirmed cases.^{20,21} Most of the confirmed cases were from a closed ward where most of them were revealed to be infected. The emergency support team, which was comprised of two psychiatrists, sixteen nurses, and a few internal medicine physicians, was immediately

dispatched from the NCMH to Cheongdo Daenam Hospital in order to provide psychiatric management for the isolated patients. The confirmed patients were sequentially transferred to the hospitals nationally designated for severe cases of COVID-19 and to the NCMH for mild cases. All the confirmed cases in Cheongdo Daenam Hospital were transferred to negative pressure rooms at the NCMH on February 27.²² These patients were transferred to regional mental health hospitals after they had recovered from COVID-19.²³ The process mentioned above would be one of the good examples of collaboration between infection control authorities and mental health professionals during a disaster.

On February 23, the KCDC raised the alert level to 'Red (level 4)', the highest, to strengthen the overall response system.²⁴ The government decided to dispatch 162 medical doctors and nurses from military organizations and public hospitals to Daegu and operated the 'Nationally Designated Hospitals for COVID-19' for the screening.²⁵ The Ministry of Education announced the postponement of the beginning of the new school year from March 2 to March 9 in all schools in Korea.²⁶

The sixth week (February 24 to March 1): refine and expand psychosocial support for the public

As the COVID-19 outbreak reached the level of community infection, the 'Seoul COVID-19 Psychological Support Team' was organized on February 25 to support the Seoul Metropolitan Government. It embarked on providing mental health information in order to reduce anxiety among citizens in Seoul.²⁷ The first information from this team explained the natural emotional processes of community infection in order to normalize anxiety and fear, and the second one discussed how people dealt with rumors and misinformation.²⁷

During this time, it was very difficult to buy masks so the government banned the export of masks on February 26.²⁸ Through the media, the NCT and the KSTSS reported the importance of psychological care for young children and adolescents during the COVID-19 outbreak. They also recommended that people should focus more on trustworthy information, get help from mental health professionals, express hard feelings, and take care of their body and mind.^{29,30}

On February 27, an additional 449 cases were confirmed positive in one day and the authorities of epidemiological investigations and quarantine measures were transferred from the central government (KCDC) to the local governments. The KCDC provided training programs and technical support to the local governments. Because of the lack of hospital beds, 576 patients, or almost half of the confirmed patients, were self-quarantined at home.²²

On February 27, the Seoul COVID-19 Psychological Support Team released the first news card about 'Psychological vaccines' for COVID-19.³¹ A volunteer added voice recording to the news card and sign languages were also provided for people with hearing impairment. The NCT developed 'the guidelines for mental health of confirmed patients' and started to make educational materials for teens at the request of mental health professionals.³²

At this time, many doctors and nurses volunteered to work in Daegu. On March 1, the KSTSS established the 'COVID-19 Special Support Team for Daegu and Gyeongbuk' and raised donations to develop psychosocial guidelines and conduct a mental health survey.

The seventh week (March 2 to 8): develop elaborate strategies for responding to specific needs

On March 2, the Ministry of Education announced the postponement of the opening of schools for an additional two weeks. On the same day, twenty mental health professionals of the KSTSS had an online meeting using SNS group chats to develop psychosocial guidelines. Another thirteen mental health professionals held an online meeting to plan a mental health survey. These two multidisciplinary teams were composed of social workers, psychologists, nurses, and psychiatrists. The team for guideline development discussed the main topics and agreed to develop 28 specific topics on psychosocial care during an infectious disease outbreak.

The Korean government designated new community facilities, called the 'living treatment center,' for confirmed patients with mild symptoms, following suggestions from the Daegu Medical Association.³³ One hundred medical staffs including 25 doctors, 47 registered nurses, and 38 nursing assistants were placed at six living treatment centers. On March 5, the government regulated that one person with an identity card could purchase only two masks per week at official retailers (i.e., pharmacies and postal offices).⁸

From March 5, the Integrated Psychological Support Group for COVID-19 started psychological support for patients in the living treatment centers. The team members stayed at each center during the first week and provided psychoeducation and high-risk screening in a similar way as before. Tele-counseling services were continuously offered to the patients throughout the entire period. With the positive feedback from patients and staffs for their services in the centers, the importance of psychological support for confirmed and quarantined people has been emphasized yet again. The counseling services of psychiatrists at 15 living treatment centers began after an agreement was made between the MOHW and the Korean Neuropsychiatric Association on March 11.

Twenty members of the COVID-19 Special Support Team for Daegu and Gyeongbuk under the KSTSS agreed 1) to develop practical guidelines for diverse subpopulations and for the phases of infectious disease and 2) to create empathetic, empowering, warm messages in the form of news cards for the general public. The specific themes and subtitles of the 28 guidelines were listed in **Table 2**. A plan was also made to develop an international version of the guidelines to help other countries with COVID-19.

COVID-19-related psychological counseling through telephone conducted in community mental health welfare centers reached 18,060 and those done in NCT for confirmed patients and their families reached 540 within 5 weeks since January 29.³⁴ Around this time, many positive and heartwarming stories were introduced on the media. For example, some citizens shared masks with frontline workers, delivery persons, and public servants.³⁵ Medical staffs in Gwangju, another metropolitan city which historically has held opposing political views of Daegu, accepted the transfer of 60 confirmed patients with COVID-19 from Daegu. Citizens and communities voluntarily tried to help and support each other.³⁶⁻³⁸

In the group chat, the COVID-19 Special Support Team for Daegu and Gyeongbuk of the KSTSS gathered diverse resources regarding psychosocial support in times of infection disaster and organized them to make the guidelines. The team not only worked tightly to complete the guidelines in a timely manner, but also tried to create positive energy to work. The group meetings opened every night (around 10 pm) on a regular basis. In addition, unscheduled meetings were held whenever the group members wanted to. Because all

Table 2. Topics and 28 subtitles of the KSTSS guidelines on psychosocial care in infectious disease management

Topics of the guidelines	No.	Subtitles of the guidelines	
Part I. Guidelines for specific groups			
Victims and their immediate families, relatives, and friends	1	Patients and people in self-quarantine	
	2	Individuals placed under active monitoring	
	3	Bereaved families	
Infectious disease outbreak service workers	4	Healthcare professionals	
	5	First responders (firefighters and police officers)	
	6	On-site support personnel	
	7	Mental health professionals	
Vulnerable groups during disasters	8	Infants, toddlers, and children	
	9	Adolescents	
	10	Older adults	
	11	Pregnant women and families with infants or toddlers	
	12	People with physical disabilities	
	13	People with underlying health conditions (acute or chronic illnesses)	
	14	Psychiatric patients	
	15	People in residential care facilities	
	16	Immigrants and foreigners	
	Residents of affected areas and the general public	17	Residents of affected areas
		18	The general public
Relevant occupation groups	19	Government authorities	
	20	Media	
	21	Educators	
	22	Military personnel	
	23	Religious leaders and faith-based communities	
	Part II. Guidelines for topics of interest		
		24	Severe trauma reactions and suicide prevention
		25	Misinformation and rumors
	Part III. Guidelines for stages of epidemic		
		26	The early stage of an epidemic
27		The middle stage of an epidemic	
28		The late stage of an epidemic	

KSTSS = Korean Society for Traumatic Stress Studies.

members positively shared feedback and opinions, they could trim the guidelines very quickly. The guidelines consisting of 28 topics were shared and mutually reviewed by the group members. Hot discussions continued, especially for the guidelines on religion and spiritual care in times of disaster. The KSTSS opened a Facebook page and began to distribute their work to the public.³⁹

The eighth week (March 9 to 15): distribute messages for the most affected

At least 100,000 people were isolated due to their exposure to confirmed patients. In Daegu and Gyeongbuk, more than 3,000 confirmed patients were self-isolated at home, or were waiting for hospitalization or a space in living treatment centers. More than 5 million students and their families were staying at home because all schools were closed.⁴⁰

On March 9, as the COVID-19 rapidly spread to social welfare facilities, the local government of Gyeongbuk instructed all 537 residential social welfare facilities to shut down for two weeks as preventive cohort isolation. About 10,000 people including residents and staff should stay within their facilities for two weeks excluding medical staffs.⁴¹

On March 14, the COVID-19 Special Support Team for Daegu and Gyeongbuk of the KSTSS started to make and release news cards (Table 3). The team members voted for the most urgent messages that needed to be distributed and selected five topics for the news cards. The first news cards for confirmed patients, persons placed under active monitoring, and misinformation and

Table 3. List of the KSTSS news cards and webcomics

No.	Type	Title	Release date
1	News card	We support the confirmed and quarantined people	Mar 14
2	News card	We support people who are under active surveillance	Mar 15
3	News card	Transmission of reliable and accurate information is key to protecting community	Mar 16
4	Webcomic	Now is the good time (to be grateful)	Mar 16
5	News card	We are cheering for physicians fighting the COVID-19	Mar 17
6	News card	Guidelines for psychosocial care in keeping the community healthy	Mar 17
7	News card	Make sure that individuals with underlying physical illness continue their medical treatment	Mar 17
8	News card	Important things to consider during the early phase of the epidemic	Mar 19
9	Webcomic	This may seem tough, but it's going to be all right	Mar 20
10	News card	We are cheering for the teenagers battling with COVID-19	Mar 21
11	News card	We support people in isolated community facilities	Mar 22
12	News card	School is where children learn and practice personal hygiene	Mar 24
13	News card	Tips for improving psychological immunity	Mar 25
14	News card	Tips for keeping our children safe and healthy during the COVID-19 outbreak	Mar 27
15	News card	Dealing with COVID-19 with wisdom and experience of the elderly	Mar 28
16	Webcomic	"Tokasari" (<i>a symbolic character warning against misinformation and rumors in times of disaster</i>)	Mar 28
17	Webcomic (Eng. ver.)	This may seem tough, but it's going to be all right	Mar 30
18	News card	We are together with people with disabilities in coping with COVID-19	Mar 31
19	News card	Coping with overwhelming stress from myself, my family, and significant others	Apr 1
20	News card (Eng. ver.)	Transmission of reliable and accurate information is key to protecting the community	Apr 4
21	News card	Helpful tips on stress management for psychiatrists, patients, families, and mental health professionals	Apr 12

KSTSS = Korean Society for Traumatic Stress Studies, COVID-19 = coronavirus disease 2019.

rumors were distributed. On March 15, the central government declared Daegu and Gyeongbuk as the special disaster region for the first case after the COVID-19 outbreak.⁴²

The ninth week (March 16 to 22): publish 'the Guidelines on Psychosocial Care in Infectious Disease Management'

On March 16, the KSTSS released their first webcomic based on positive psychology, stating, 'Now is a difficult time but maybe a very good time to realize how great our ordinary life has been.' It reminded people that it could be a good time to call someone who cares for them, to spend time with family, and to make their days meaningful by doing one little thing that helps around.

On March 17, the KSTSS began the COVID-19 mental health survey and released the fourth news cards for the frontline medical staffs. Also, on the same date, the Ministry of Education postponed the schedule of school openings by two more weeks until April 6.⁴³

On March 21, the KSTSS published a 110-page PDF version of 'the Guidelines on Psychosocial Care in Infectious Disease Management.' The second webcomic, entitled 'This may seem tough, but it's going to be all right' was also released. The news cards for communities with infectious outbreak, persons with preexisting diseases, adolescents, people living in residential care facilities, and for the early period of infectious outbreak were distributed.

The tenth week (March 23 to 29): expand activities and enhance dissemination

On March 24, the number of views at the KSTSS homepage rapidly hit up. The International Cooperation Committee of the KSTSS prepared press releases in English to share the psychosocial guidelines with people in other countries. The creation of official simple guidelines was made under the name of the NCT based on KSTSS' guidelines.

On March 26, the KSTSS released news cards for educators, one's psychological wellbeing, parents, and the elderly. On March 26, the NCT created a video clip on the infectious disease

outbreak for children.⁴⁴ On March 28, the KSTSS decided to expand psychosocial support activities nationwide. On the same date, the third webcomic about misinformation and rumors at the time of disasters was created and released with a traditional fairytale style.

The English version of the second webcomic with narrative exposure therapy was released on March 30. The MOHW also declared the 14-day self-quarantine as mandatory for all people from abroad from April 1.⁴⁵ On March 31, the Ministry of Education announced the beginning of online education from April 9 instead of face to face learning.⁴⁶

The KSTSS news cards for persons with physical disability and on how to manage extreme stress during an infectious disease outbreak were released. The English version of the 28 guidelines on psychosocial care in infectious disease management was in progress, along with the English version of the news cards. As of March 31, the KSTSS has published a total of 18 news cards and 3 webcomics.

CONCLUSION

This paper demonstrates the potential power of multidisciplinary teamwork during a crisis of disease epidemic. The accomplishments of such teamwork during the COVID-19 outbreak can be discussed in terms of internal and external networks. First, the epidemic outbreak made it difficult for the team members to work together at a physical space. However, this multidisciplinary team has collaborated at virtual spaces (i.e., SNS, online-chat, e-mail, etc.) in a condition of social distancing. The internal network that the members had built prior to the outbreak made the multidisciplinary teamwork possible at these alternative spaces. Through several activities (e.g., open discussions, feedback, online-meetings, etc.) via virtual spaces, the multidisciplinary team produced useful contents on psychosocial care within a short period of time and promptly released them to the public through mass media. Besides the collective activities of psychosocial support, the overall experience of the multidisciplinary teamwork not only reinforced internal networks of mental health professionals, but also contributed to each member's professional growth.

Second, the multidisciplinary team has also utilized its external networks during the COVID-19 outbreak. The team members had been affiliated with various health organizations such as governments, public and private hospitals, mental health agencies, universities, media, and their communities. Thus, the team could collect comprehensive information regarding people's psychosocial needs and available resources during the outbreak. After appreciating the collected information, the team produced a variety of contents regarding psychosocial care and immediately delivered them to the public using the external networks. In particular, the multidisciplinary teamwork promptly published "The Guidelines on Psychosocial Care for Infectious Disease Management" within 3 weeks. In addition, the external networks (especially, governmental or official organizations) seriously valued the professional advices of this team when they implemented programs and policies on psychosocial support during the COVID-19 outbreak. In a macro perspective, this fact delivers important implications on disaster preparedness in general.

Finally, it is a well-known fact that the COVID-19 outbreak has become a global issue. Many countries are struggling with the epidemic outbreak. The Korean government and society have recognized the importance of psychosocial care as well as infection control and

prevention. Overall, many Koreans could receive practical psychosocial support not only due to the internal network of the multidisciplinary teamwork but also the immediate public-private partnership during the outbreak.

It should be noted that this report does not include all the activities of mental health professionals in Korea. Other professionals and organizations in the field of psychiatry, psychology, social work, and nursing have provided various supportive activities, such as telephone counseling for the public. This report focused on activities of the KSTSS, which was a multidisciplinary professional association for trauma and disaster, and government agencies to promote people's mental health during the COVID-19 outbreak. All members of the multidisciplinary team appraised the value of psychosocial support and prevention in disaster management. In particular, the team found that supportive behaviors, such as caring for and connecting with others, encouraged people to manage their psychosocial issues as well as infection prevention during the outbreak. Although the anecdotal records in this report were grounded in the Korean context, we hope that these could be helpful resources on psychosocial support to other countries that struggle with COVID-19. The English version of the guidelines on psychosocial care in infectious disease management was published on May 13, 2020 and is available to the general public via the KSTSS official website.

REFERENCES

1. Munster VJ, Koopmans M, van Doremalen N, van Riel D, de Wit E. A novel coronavirus emerging in China - Key questions for impact assessment. *N Engl J Med* 2020;382(8):692-4.
[PUBMED](#) | [CROSSREF](#)
2. WHO statistical information system. <https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200121-sitrep-1-2019-ncov.pdf>. Updated 2020. Accessed January 20, 2020.
3. Kim JY, Choe PG, Oh Y, Oh KJ, Kim J, Park SJ, et al. The first case of 2019 novel coronavirus pneumonia imported into Korea from Wuhan, China: implication for infection prevention and control measures. *J Korean Med Sci* 2020;35(5):e61.
[PUBMED](#) | [CROSSREF](#)
4. Korea Centers for Disease Control and Prevention. https://is.cdc.go.kr/upload_comm/syview/doc.html?fn=158605773936400.pdf&rs=/upload_comm/docu/0030/. Updated 2020. Accessed April 5, 2020.
5. Korean Society for Traumatic Stress Studies. *Guidelines on Psychosocial Care for Infectious Disease Management*. Gyeongsan: KSTSS; 2020.
6. Park SC, Park YC. Secondary emotional reactions to the COVID-19 outbreak should be identified and treated in Korea. *J Korean Med Sci* 2020;35(17):e161.
[PUBMED](#) | [CROSSREF](#)
7. Her M. How is COVID-19 affecting South Korea? What is our current strategy? *Disaster Med Public Health Prep* 2020:1-3.
[PUBMED](#) | [CROSSREF](#)
8. Korea Net. <http://www.korea.net/NewsFocus/policies/view?articleId=184543>. Updated 2020. Accessed April 16, 2020.
9. Korea Centers for Disease Control and Prevention. https://is.cdc.go.kr/upload_comm/syview/doc.html?fn=158045035360000.hwp&rs=/upload_comm/docu/0015/. Updated 2020. Accessed January 31, 2020.
10. Korea Centers for Disease Control and Prevention. https://is.cdc.go.kr/upload_comm/syview/doc.html?fn=158036481727800.pdf&rs=/upload_comm/docu/0015/. Updated 2020. Accessed January 30, 2020.
11. National Center for Disaster Trauma (KR). <https://nct.go.kr/>. Updated 2020. Accessed February 1, 2020.
12. Korea Centers for Disease Control and Prevention. https://is.cdc.go.kr/upload_comm/syview/doc.html?fn=15806227776400.pdf&rs=/upload_comm/docu/0030/. Updated 2020. Accessed February 2, 2020.
13. National Center for Disaster Trauma (KR). <https://nct.go.kr/serviceCenter/noticeDetail.do?currentPageNo=1&refnceSeq=226&searchKeyword1=>. Updated 2020. Accessed January 30, 2020.
14. National Center for Disaster Trauma (KR). https://nct.go.kr/distMental/rating/rating02_1.do. Updated 2020. Accessed April 11, 2020.

15. Ministry of Education (KR). <https://www.moe.go.kr/boardCnts/view.do?boardID=294&boardSeq=79662&lev=0&searchType=null&statusYN=W&page=11&s=moe&m=020402&opType=N>. Updated 2020. Accessed February 5, 2020.
16. Korea Centers for Disease Control and Prevention. http://ncov.mohw.go.kr/en/tcmBoardList.do?pageIndex=3&brdId=12&brdGubun=125&board_id=&search_item=1&search_content. Updated 2020. Accessed April 6, 2020.
17. Korean Society of Infectious Diseases; Korean Society of Pediatric Infectious Diseases; Korean Society of Epidemiology; Korean Society for Antimicrobial Therapy; Korean Society for Healthcare-associated Infection Control and Prevention; Korea Centers for Disease Control and Prevention. Report on the epidemiological features of coronavirus disease 2019 (COVID-19) outbreak in the Republic of Korea from January 19 to March 2, 2020. *J Korean Med Sci* 2020;35(10):e112.
[PUBMED](#) | [CROSSREF](#)
18. Korea Joongang Daily. <http://koreajoongangdaily.joins.com/news/article/article.aspx?aid=3075027>. Updated 2020. Accessed March 18, 2020.
19. Korea Centers for Disease Control and Prevention. https://is.cdc.go.kr/upload_comm/syview/doc.html?fn=158218968594000.pdf&rs=/upload_comm/docu/0030/. Updated 2020. Accessed February 20, 2020.
20. Province of Gyeongsangbuk-do. http://gb.go.kr/Main/open_contents/section/wel/page.do?mnu_uid=5863&dept_code=&dept_name=&BD_CODE=corona19briefing&bdName=&cmd=2&Start=90&B_NUM=70828101&B_STEP=70828100&B_LEVEL=0&key=0&word=&p1=0&p2=0&V_NUM=6. Updated 2020. Accessed February 27, 2020.
21. Province of Gyeongsangbuk-do. http://gb.go.kr/Main/open_contents/section/wel/page.do?mnu_uid=5863&dept_code=&dept_name=&BD_CODE=corona19briefing&bdName=&cmd=2&Start=80&B_NUM=70828301&B_STEP=70828300&B_LEVEL=0&key=0&word=&p1=0&p2=0&V_NUM=16. Updated 2020. Accessed February 27, 2020.
22. Korea Centers for Disease Control and Prevention. https://is.cdc.go.kr/upload_comm/syview/doc.html?fn=158278931579700.pdf&rs=/upload_comm/docu/0015/. Updated 2020. Accessed February 27, 2020.
23. Province of Gyeongsangbuk-do. http://gb.go.kr/Main/open_contents/section/wel/page.do?mnu_uid=5863&dept_code=&dept_name=&BD_CODE=corona19briefing&bdName=&cmd=2&Start=60&B_NUM=70905001&B_STEP=70905000&B_LEVEL=0&key=0&word=&p1=0&p2=0&V_NUM=29. Updated 2020. Accessed March 6, 2020.
24. Korea Centers for Disease Control and Prevention. https://is.cdc.go.kr/upload_comm/syview/doc.html?fn=158244556976100.pdf&rs=/upload_comm/docu/0030/. Updated 2020. Accessed February 23, 2020.
25. Dong-a Ilbo. <https://news.v.daum.net/v/20200224030211655>. Updated 2020. Accessed April 11, 2020.
26. Ministry of Education (KR). <https://www.moe.go.kr/boardCnts/view.do?boardID=294&boardSeq=79829&lev=0&searchType=null&statusYN=W&page=9&s=moe&m=020402&opType=N>. Updated 2020. Accessed February 25, 2020.
27. Seoul COVID-19 Psychological Support Team. <http://covid19seoulmind.org/category/prescription/page/3/>. Updated 2020. Accessed April 20, 2020.
28. Chosun Ilbo. https://news.chosun.com/site/data/html_dir/2020/02/25/2020022502103.html. Updated 2020. Accessed February 25, 2020.
29. National Center for Disaster Trauma (KR). <https://nct.go.kr/serviceCenter/formatReferenceDetail.do?currentPageNo=2&refnceSeq=265&searchKeyword1=>. Updated 2020. Accessed March 30, 2020.
30. Korean Society for Traumatic Stress Studies. <http://kstss.kr/?p=367>. Updated 2020. Accessed February 28, 2020.
31. Seoul COVID-19 Psychological Support Team. <http://covid19seoulmind.org/prescription/1417/>. Updated 2020. Accessed February 26, 2020.
32. National Center for Disaster Trauma (KR). <https://nct.go.kr/serviceCenter/noticeDetail.do?currentPageNo=1&refnceSeq=284&searchKeyword1>. Updated 2020. Accessed February 28, 2020.
33. Ministry of the Interior and Safety (KR). https://www.mois.go.kr/frt/bbs/type010/commonSelectBoardArticle.do?bbsId=BBSMSTR_00000000008&nttId=76216. Updated 2020. Accessed March 11, 2020.
34. Yonhap News Agency. <https://www.yna.co.kr/view/AKR20200304178000004>. Updated 2020. Accessed March 5, 2020.
35. Dong-a Ilbo. <https://news.v.daum.net/v/20200306144230937>. Updated 2020. Accessed March 6, 2020.
36. The Korea Times. https://www.koreatimes.co.kr/www/opinion/2020/04/137_287724.html. Updated 2020. Accessed April 16, 2020.

37. Chosun Ilbo. https://news.chosun.com/site/data/html_dir/2020/03/06/2020030600080.html. Updated 2020. Accessed March 6, 2020.
38. Maeil Business Newspaper. <https://www.mk.co.kr/news/society/view/2020/03/235448/>. Updated 2020. Accessed March 5, 2020.
39. Facebook. <https://www.facebook.com/KSTSS2015/>. Updated 2020. Accessed March 9, 2020.
40. Chosun Ilbo. https://news.chosun.com/site/data/html_dir/2020/03/09/2020030900148.html. Updated 2020. Accessed March 9, 2020.
41. Province of Gyeongsangbuk-do. http://gb.go.kr/Main/open_contents/section/wel/page.do?mnu_uid=5863&dept_code=&dept_name=&BD_CODE=corona19briefing&bdName=&cmd=2&Start=60&B_NUM=70915401&B_STEP=70915400&B_LEVEL=0&key=0&word=&p1=0&p2=0&V_NUM=29. Updated 2020. Accessed March 10, 2020.
42. Ministry of Health and Welfare (KR). http://ncov.mohw.go.kr/tcmBoardView.do?brdId=3&brdGubun=31&dataGubun=&ncvContSeq=1241&contSeq=1241&board_id=311&gubun=BDC. Updated 2020. Accessed April 22, 2020.
43. Ministry of Education (KR). <https://www.moe.go.kr/boardCnts/view.do?boardID=294&boardSeq=80044&lev=0&searchType=null&statusYN=W&page=5&s=moe&m=020402&opType=N>. Updated 2020. Accessed March 17, 2020.
44. National Center for Disaster Trauma (KR). <https://nct.go.kr/serviceCenter/movieDetail.do?currentPageNo=1&refnceSeq=351&searchKeyword1>. Updated 2020. Accessed April 2, 2020.
45. Korea Centers for Disease Control and Prevention. https://is.cdc.go.kr/upload_comm/syview/doc.html?fn=158565093755500.pdf&rs=/upload_comm/docu/0030/. Updated 2020. Accessed April 1, 2020.
46. Ministry of Education (KR). <https://www.moe.go.kr/boardCnts/view.do?boardID=294&boardSeq=80160&lev=0&searchType=null&statusYN=W&page=3&s=moe&m=020402&opType=N>. Updated 2020. Accessed March 31, 2020.