

Investigation of the psychological status of suspected patients during the Coronavirus disease 2019 epidemic

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Abstract

We explored the psychological changes in suspected patients during the coronavirus disease 2019 (COVID-19) epidemic and obtained evidence for early psychological guidance and intervention in this group. A total of 31 inpatients with suspected COVID-19 were identified at our hospital. The depression module of the Patient Health Questionnaire (PHQ-9), the General Anxiety Disorder (GAD)-7 scale, and the Self-Reporting Questionnaire (SRQ-20) mental health self-assessment questionnaire were used to assess depression, anxiety, and overall mental health. Among the patients, 32.3% had symptoms of depression and 19.4% had symptoms of anxiety. Levels of anxiety and fear varied. In comparing the PHQ-9 and 7-item Generalized Anxiety Disorder Scale scores of suspected and confirmed patients, there was no significant difference in the distribution of severity of anxiety or depression in the 2 groups. The PHQ-9 scores indicated mild depression symptoms in 25.8% of suspected patients, moderate symptoms in 0%, and severe symptoms in 6.5%. Overall, 50% of confirmed patients had symptoms, with 30.8% classified as mild, 15.4% classified as moderate, and 3.8% classified as severe. The 7-item Generalized Anxiety Disorder Scale scores in the group of suspected patients showed that 9.7% had mild symptoms, 0% had moderate symptoms, and 9.7% had severe symptoms. In the group of confirmed patients, 38.4% had symptoms (34.6% mild, 0% moderate, and 3.8% severe). Diagnosed patients had more visible symptoms of depression and different total PHQ-9 scores. During the COVID-19 epidemic, suspected and diagnosed patients had different levels of mental health problems. Diagnosed patients had more visible symptoms. The performance of suspected patients was higher, but their mental state was more polarized. It may thus be important to monitor the psychological state of suspected patients as early as possible to enable timely interventions that promote psychological rehabilitation.

Abbreviations: COVID-19 = coronavirus disease 2019, GAD-7 = 7-item Generalized Anxiety Disorder Scale, MERS = Middle East respiratory syndrome MERS, PHQ-9 = Patient Health Questionnaire, SRQ-20 = The Self-Reporting Questionnaire.

Keywords: anxiety, COVID-19, depression, suspected patient

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1. Introduction

In Wuhan, the epidemic of coronavirus disease 2019 (COVID-19) has been progressing since December 2019. It has caused tens of thousands of infections and thousands of deaths. (<http://2019ncov.chinacdc.cn/2019-nCoV/>) On February 7, 2020, the China National Health Council described pneumonia resulting from an infection with a new type of coronavirus as “2019-nCoV.” (<http://www.nhc.gov.cn/yzygj/s7653p/202002/18c1bb43965a4492907957875de02ae7.shtml>) On February 11, 2020, the World Health Organization (WHO) named the virus “coronavirus disease 2019” (COVID-19). (<https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports>)

On January 20, 2020, the China National Health Commission included COVID-19 in the list of Class B infectious diseases stipulated in the People's Republic of China laws on the Prevention and Control of Infectious Diseases and adopted measures used for the prevention and control of Class A infectious diseases. (<http://www.nhc.gov.cn/jkj/s7915/202001/e4e2d5e6f01147e0a8df3f6701d49f33.shtml>). On January 30, 2020, the WHO listed the SARS-CoV-2-induced pneumonia epidemic as a Public Health Emergency of International Concern (PHEIC). As of 24:00 on April 15, 2020, data from the official website of the China National Health Commission showed that there were 82,295 confirmed cases of COVID-19 and 3342

deaths. (<http://www.nhc.gov.cn/xcs/yqfkdt/202004/35d096269e2848cdb4d3cb38e4c6bd1b.shtml>). At present, COVID-19 associated pneumonia is already a pandemic disease in the world. Related cases have been reported in more than 170 countries all over the world, and more than 2 million infections have been confirmed. (<https://www.who.int/>). The official reported mortality rate of COVID-19 is 2%, which is far lower than that of Ebola hemorrhagic fever (50%–90% fatality rate) and Middle East respiratory syndrome (MERS; case fatality of approximately 38%).^[1–7] In recent years, many extremely serious disease outbreaks have been related to these viruses. The COVID-19 epidemic may cause patients considerable fear and anxiety.^[8,9] In addition, the epidemic of atypical pneumonia in China in 2003 may have residual effects on the Chinese population.^[10,11] Excessive fear and anxiety could cause significant psychological stress in diagnosed and suspected patients, resulting in mental health complications and potentially altering treatment effects. Therefore, attending to patients' mental health is an important part of treating disease.

Outbreaks and epidemics of COVID-19 may result from its high infectivity, lethality, and unpredictability. However, there are currently no specific drugs for COVID-19. This may cause substantial psychological shock for patients and increase stress in the general population. Stress is part of the adaptation and response to environmental threats and challenges. The result can be adaptation or nonadaptation. Psychological stress is a stressful response to the environment caused by an imbalance between physical requirements and coping abilities when confronted with certain environmental stimuli.^[12] A stress response often manifests in four areas: physiology, emotion, cognition, and behavior. A patient diagnosed with COVID-19 may have more obvious symptoms of anxiety, fear, obsessive-compulsiveness, and suspected illness as a result of the stress response.^[9] Our hospital, a national infectious disease medical center, is a provincial hospital in Hangzhou (Zhejiang Province) that mainly treats COVID-19 patients. The hospital released the “Zhejiang Experience” for the diagnosis and treatment of COVID-19, which has guided diagnosis and treatment in various regions of our country. After receiving the first confirmed case of COVID-19 on January 19, 2020, the Infectious Diseases Department of our hospital immediately opened an isolation ward to treat patients with COVID-19 and identify suspected patients. Some researchers, as well as first-line medical staff in the COVID-19 response, found that a number of suspected patients had obvious psychological stress responses like anxiety, fear, obsessive-compulsiveness, and illness.

To explore the characteristics of psychological factors of suspected patients during the outbreak of COVID-19, and provide a basis for early psychological guidance and intervention in this group. It is also to explore the differences of characteristics of psychological factors between the suspected patients and the diagnosed patients, and whether the manifestation is different, so as to provide a certain basis for therapeutic intervention.

2. Objectives and methods

2.1. Research objectives

From January to February 2020, 31 patients suspected to have COVID-19 were selected at our hospital in Hangzhou. The diagnostic criteria for COVID-19 were based on the “New Coronary Pneumonia Diagnosis and Treatment Plan 6.” ([http://](http://www.nhc.gov.cn/yzygj/s7653p/202002/8334a8326dd94d329df351d7da8aefc2.shtml)

www.nhc.gov.cn/yzygj/s7653p/202002/8334a8326dd94d329df351d7da8aefc2.shtml).

Patients with clinical symptoms such as a fever and cough were treated as suspected cases. Patients in whom nucleic acid tests were negative 3 consecutive times, and patients with multiple patchy or segmental pulmonary lesions on a computed tomography scan but who were not identified as having COVID-19, were treated as suspected patients.

The inclusion criteria were as follows:

- (1) Admission to the hospital from January 28, 2020, to February 9, 2020;
- (2) Aged 18 years or older, of either sex;
- (3) Fluent language skills and comprehension ability; and
- (4) Good compliance, voluntary cooperation, and completion of required items on the measurement scales.

The exclusion criteria were as follows:

- (1) Severe or critical illness requiring life support;
- (2) A clear history of central nervous system disease, such as craniocerebral trauma, cerebrovascular disease, Parkinson disease, Alzheimer disease, or poisoning;
- (3) Communication difficulties and an inability to complete the evaluation of cognitive function scale;
- (4) Apparent mental retardation, family history of mental illness, or personal history of mental illness, primary mental disorders, or dementia;
- (5) Drug and/or alcohol dependence; and
- (6) Combinations of other serious diseases, such as tumors or conditions that may cause psychological changes in patients.

In accordance with human experimental ethics, all patients in this study provided written informed consent and the researchers have promised not to disclose any patient's condition or private information.

2.2. Methods

A self-designed questionnaire was used to collect general information, including patient sex, age, education, and marital status. A self-assessment questionnaire on emotional intensity was used to assess the mental state of the patients. The emotional intensity self-assessment questionnaire contains nine items, with each element scored on a scale of 0 to 10. For example, a score of 0 for “worry” means “none at all,” while a score of 10 means “extreme concern.” Scores were based on patients' self-assessments.

The depression screening scale developed by Spitzer et al.^[13] (Patient Health Questionnaire [PHQ]-9) was used to screen for the severity of depressive symptoms. The scale consists of nine items, which are scored based on the patient's experiences in the previous 2 weeks. Each item is scored on a four-point scale (0–3). A total score of 0 to 4 indicates no depressive symptoms, a total score of 5 to 9 indicates mild depressive symptoms, a score of 10 to 14 indicates moderate depressive symptoms, and a score of 15 or more indicates severe depression.

The Generalized Anxiety Disorder (GAD)-7 instrument developed was used to screen for the severity of anxiety symptoms.^[14] The scale consists of seven items, which are scored based on the patient's experiences in the previous 2 weeks. Each item is scored on a 4-point scale (0–4). A total score of 0 to 4 reflects no anxiety symptoms, a total score of 5 to 9 indicates mild anxiety symptoms, a score of 10 to 14 indicates moderate anxiety symptoms, and a score of 15 or more indicates severe anxiety.

The Self-Reporting Questionnaire (SRQ-20), which was issued by the WHO and designed for developing countries, was used as a simple and rapid screening tool for mental disorders. The sensitivity and specificity the SRQ-20 are 83% and 80%, respectively,^[15] and the internal reliability and validity are excellent.^[16] There are 20 items in the questionnaire; each item is scored as “0” (no symptoms in the past month) or “1” (symptoms present in the past month). The sum of the individual item scores is the SRQ-20 total score. A total score of 8 to 15 points indicates that the subject has emotional pain, while a score of 16 to 20 suggests intense emotional pain.

The survey method consisted of a self-assessment questionnaire. After patients provided informed consent, those who met the inclusion criteria were surveyed through the questionnaire. Generally, subjects read the answers by themselves. If illness or educational limitations made this challenging, the researcher asked and recorded the answers to the items one by one. The questionnaire was reviewed with the subject to check its integrity.

2.3. Statistical analysis

Valid questionnaires were recovered and processed using SPSS 20.0 software for statistical analysis. The data were tested for a normal distribution. Nonparametric tests were used in the analysis. Data were described using median and interquartile range values (Q1, Q3). The c2 test was used for count data, and a Pearson correlation analysis was used to quantify correlations. A P-value <.05 was interpreted as statistically significant.

3. Results

3.1. General demographic characteristics of suspected COVID-19 patients

A total of 31 suspected patients were eligible for inclusion in this study, and 31 questionnaires were distributed. The returned questionnaires were reviewed for completeness. None was excluded. The effective rate of the inquiry was 100%. The suspected patients included 12 males and 19 females; 29 were married, and 2 were unmarried. The average age was 50.03 ± 17.03 years. Overall, 5 patients were 18 to 30 years old, 14 patients were 31 to 60 years old, and 12 patients were 61 years or older. Educational attainment was as follows: 2 patients were illiterate, 5 had completed primary school, 6 had completed junior high school, 4 had completed high school, 10 had completed college, 10 held undergraduate degrees, and 3 held graduate degrees. See Table 1 for details.

3.2. Self-assessed emotional intensity in suspected COVID-19 patients

The results of the analysis of self-assessed emotional intensity showed that the median patient worry score was 4 and the interquartile range was (0, 5), suggesting that some patients experienced worry. The

Table 1
General demographic characteristics of patients in the suspected group.

	Suspected group
Gender	
Male	12
Female	19
Age	50.03 ± 17.03
Educational level	
Illiteracy	2
Primary school	5
Middle school	6
High school	4
College	1
University	10
Postgraduate	3
Marital status	
Married	29
Unmarried	2

median fear score was 1 and the interquartile range was (0, 5), suggesting that some patients experienced fear. The median sadness score was 1 and the interquartile range was (0, 3), suggesting that some patients experienced sadness. For the remaining emotional states, including anger, despair, self-blame, feelings of discrimination, and feelings of being cared for, the median score was 0 and the interquartile range was (0, 1), suggesting that patients were unlikely to experience these emotions (Table 2).

3.3. SRQ-20, PHQ-9 and 7-item Generalized Anxiety Disorder Scale (GAD-7) results for suspected patients

According to the SRQ-20 scoring scale, a score below 7 indicates no stress and a score above 8 indicates pressure. Of the 31 suspected patients in this study, 24 patients (77.4%) had an SRQ-20 score of 7 or less. Seven patients (22.6%) had an SRQ score of 8 or more, indicating that stress was present (Table 3).

We then divided the 31 suspected patients into a nonstress group (n=24) and an under-stress group (n=7), and further analyzed the distribution of PHQ-9 and GAD-7 scores in the 2 groups. The median PHQ-9 score of the nonstress group was 2 and the interquartile range was (0, 4). The median PHQ-9 score of the stress group was 5, and the interquartile range was (3, 7). The results of the nonparametric test showed a statistically significant difference (P=.013) between the 2 groups. The median GAD-7 score in the nonstress group was 2 and the interquartile range was (0, 4). The median score in the under-stress group was 3 and the interquartile range was (2, 6). The difference between the 2 groups in GAD-7 scores was not statistically significant. These results suggest that depression was more pronounced in the under-stress group, and that anxiety was present in both groups (Table 4).

Table 2
Analysis of self-assessment of emotional intensity.

Worry	Fear	Sadness	Anger	Despair	Self-blame	Discriminated	Be cared	Confidence
4 (0,5)	1 (0,5)	1 (0,3)	0 (0,2)	0 (0,1)	0 (0,1)	0 (0,1)	0 (0,1)	0 (0,1)

Data was showed as median (range).

Table 3**Analysis of SRQ of patients in the suspected group.**

	SRQ	
	No pressure	Under pressure
Suspect group	24 (77.4%)	7 (22.6%)

SRQ = self-reporting questionnaire.

Table 4**Analysis of the mental health status of PHQ-9 and GAD-7 according to the presence or absence of stress.**

	PHQ-9	GAD-7
Non-stress (N=24)	2 (0, 4)	2 (0, 4)
Under-stress (N=7)	5 (3, 7)	3 (2, 6)
Mann-Whitney U Value	32	44.5
P	.013*	.052

Data was showed as median (range).

Using non-parametric tests, median (25%, 75%) description.

* P < .05.

3.4. Correlative analysis of influential factors in suspected patients

Depressive symptoms and anxiety symptoms of suspected patients were used as the main variables, and other related factors were analyzed. The results of the Pearson correlation analysis were as follows: PHQ-9 score was related to SRQ-20, GAD-7, and worry scores, but had no obvious correlation with factors such as fear, sadness, anger, despair, self-blame, discrimination, care, and confidence. GAD-7 score was related to PHQ-9, worry, fear, sadness, and despair scores, and had no obvious correlation with SRQ, self-blame, discrimination, care, confidence, or other factors (Table 5).

3.5. Analysis of depression and anxiety in suspected and confirmed patients

This study combined data from confirmed patients in other research groups to compare PHQ-9 scores in suspected and confirmed patients. There was no statistical difference in the degree of anxiety and depression in the 2 groups. The detection rate for depressive symptoms in suspected patients was 32.3%, with 6.5% of patients having severe symptoms. The rate of depressive symptoms in confirmed patients was 50%, with 3.8% experiencing severe symptoms (Table 6). The detection rate for anxiety symptoms in suspected patients was 19.4%, with 9.7% of patients having severe symptoms. The detection rate of anxiety symptoms in confirmed patients was 38.4%, with 3.8% experiencing severe symptoms (Table 7). There was a statistical difference in total PHQ-9 scores for suspected patients and

Table 6**Comparison of suspected and confirmed diagnosis of depression severity.**

Groups	PHQ-9 Grade			
	None	Mild	Moderate	Severe
Suspected group (N = 31)	21 (67.7%)	8 (25.8%)	0 (0)	2 (6.5%)
Confirmed group (N = 26)	13 (50%)	8 (30.8%)	4 (15.4%)	1 (3.8%)
χ^2	7.346			
P	.062			

PHQ-9 = Patient Health Questionnaire-9.

Table 7**Comparison of suspected group and confirmed group in grading of anxiety severity.**

Groups	GAD-7 Grade			
	None	Mild	Moderate	Severe
Suspected group (N = 31)	25 (80.6%)	3 (9.7%)	0 (0%)	3 (9.7%)
Confirmed group (N = 26)	16 (61.5%)	9 (34.6%)	0 (0%)	1 (3.8%)
χ^2	5.739			
P	.057			

GAD-7 = Generalized Anxiety Disorder-7.

Table 8**Comparison of suspected group and confirmed group in total PHQ-9 and GAD-7 scores.**

	PHQ-9	GAD-7
Suspected group (N = 31)	2 (0,5)	1 (0,4)
Confirmed group (N = 26)	4.5 (2,8.25)	2.5 (0,6)
Mann-Whitney U Value	269	313
P	.031*	.139

GAD-7 = Generalized Anxiety Disorder-7, PHQ-9 = Patient Health Questionnaire-9.

Non-parametric test.

* P < .05.

confirmed patients. Depressive symptoms in confirmed patients were more obvious, consistent with the psychological state that lengthy worry and anxiety causes in confirmed patients. There was no statistically significant difference in the total GAD-7 scores between suspected and confirmed patients. Varying degrees of anxiety were present in both groups (Table 8).

4. Discussion

Between 7.8% and 80.0% of individuals will experience traumatic stress disorder and possible long-term mental distress after suffering significant trauma.^[17] Most studies show that their mental health is severely affected, with symptoms including the emergence of psychological symptoms, obsessive-compulsive tendencies, and a sense of horror.^[18,19] A large amount of private

Table 5**Correlation analysis of influential factors in the emotional aspects of patients in the suspected group.**

	PHQ-9	SRQ	GAD-7	Worry	Fear	Sadness	Anger	Despair	Self-blame	Discriminated	Be cared	Confidence
PHQ-9 Score		0.565 [†]	0.796 [†]	0.390 [*]	0.287	0.324	0.350	0.163	0.164	-0.09	-0.170	0.003
GAD-7 Score	0.796 [†]	0.250		0.563 [†]	0.505 [†]	0.633 [†]	0.472 [†]	0.507 [†]	0.302	-0.063	-0.151	-0.18

* P < .05.

† P < .01.

research data shows that the initial response of people during the SARS epidemic was ignorance, followed by confusion, denial, anger, and emotional reactions like fear, annoyance, complaining, and anxiety.^[20] Final confirmation of illness brings feelings of depression, loneliness, helplessness, hopelessness, and sadness. Maunder^[21] and others reported that the dominant emotions in SARS patients were fear, loneliness, boredom, and anger. Research data show that the anxiety and depression symptoms of SARS patients declined over time. Still, some symptoms may be present throughout the entire treatment process, affecting healing and quality of life. Disaster events, and their devastating consequences, are unpredictable and unavoidable. The psychological impact on people may include long-term psychological effects as well as an acute psychological reaction.^[11] Goenjian et al^[22] showed that people who survived the hurricane disaster in Nicaragua in 1998 had severe and long-lasting posttraumatic stress and depressive symptoms that had long-term adverse effects on their health and development. In extreme cases, the psychological burden can even result in suicide. They could even mention the association between psychological distress and negative outcomes such as severe major affective disorders and suicidal behavior. In particular, there is an increasing evidence that psychological distress together with alexithymia may be considered risk factors for negative outcomes such as suicide, even simply increasing the risk of development of depressive symptoms.^[23] During past epidemics, some people have been quarantined as the result of their contact history. However, some were asymptomatic, others in a state of severe panic, and a portion refused to cooperate with quarantine measures. Some patients may consider themselves exceptional, thinking that they are unlikely to be infected, and show excessive bravery without taking protective measures.^[19] The unique sensory processing patterns of individuals with major affective disorders and their relationship with psychiatric symptomatology have been clearly reported. Hyposensitivity or hypersensitivity may be “trait” markers of individuals with major affective disorders and interventions should refer to the individual unique sensory profiles and their behavioral and functional impact in the context of real life.^[24]

Few studies have addressed the mental health of suspected patients compared with the number of studies of confirmed patients. Some front-line medical staff in China have found that many suspected patients experience anxiety, fear, and related emotions. Researchers believe that it is necessary to monitor changes in the state of mind of suspected patients. To this end, the present study analyzed the psychological state of patients with suspected COVID-19 at our hospital. A comparative analysis of patient data showed that 32.3% of suspected patients had symptoms of depression and 19.4% had symptoms of anxiety. Levels of worry and fear varied. A similar study found that among patients with suspected COVID-19, 47.4% had symptoms of anxiety and 30.3% had symptoms of depression.^[25] However, the symptoms of the patients in our study would be expected to be relatively mild. Zhejiang province is a relatively developed area of China in terms of economy, health, and medical care. Our hospital, a provincial hospital in Zhejiang province, is a national infectious disease medical center that mainly treats patients with COVID-19. Our hospital has open and closed wards for suspected and confirmed cases. Disinfection and isolation protocols are stringently enforced. Front-line medical personnel have received strict training in prevention and control to avoid cross-infection

between suspected patients. The hospital is very concerned about caring for patients, meeting patient needs, and guaranteeing service in a wide range of areas.

This study also shows that there was a significant difference in the total PHQ-9 scores of suspected and confirmed patients. Depressive symptoms were more visible among confirmed patients, consistent with the anxiety and depression experienced by diagnosed patients. There was no statistically significant difference between suspected and confirmed patients in total GAD-7 scores. Anxiety was present in both groups. However, suspected patients with severe anxiety experienced higher levels of anxiety and depression than diagnosed patients. The distribution of mental health status in the group of suspected patients was bimodal, reflecting the uncertain status of these patients. Some may have thought that they could not be infected, and would have had a better mental status as a result. Others may experience significantly greater stress in response to uncertainty. We, as front-line medical staff, also found that some patients were waiting for nucleic acid results after being treated as suspected patients. During the waiting process, excessive nervousness, anxiety, and fear appeared. The main symptoms of these emotions included sleeping without taking off clothes, stiffness, chest tightness, and weak breathing. The symptoms could be relieved through the psychological interventions of medical staff. Therefore, we conclude that more attention should be paid to suspected patients experiencing excessive stress in order to ensure that intervention can occur in time to reduce the incidence of psychological sequelae. Light of the research, suspected COVID-19 patients may suffer from huge psychological pressure, and they may even, in meanwhile, show a series of physical and mental manifestations, which include 4 aspects – cognitive, emotional, physiological, and behavioral. The sense of uncertainty was the biggest psychological characteristic of those suspected patients - whether they have been infected? If they will be recovered? The idea of disaster came in involuntarily, the patient may become paranoid and absolute; patients would be easy to regard other people's normal behavior as that aiming at themselves, they would become suspicious, sensitive, easy to be critical, and even have a sense of shame; it would become hard for them to concentrate but repeatedly recall some details of their past. In some case, patients blamed themselves excessively, where they thought it was their wrongful conduct caused them infected and isolated. The strong sense of uncertainty caused the patients to feel great anxiety and fear, they worried about their life safety, they feared of death, and they over worried about issues of health, family, property, and work; patients feel panic and bewilderment at the sudden isolation and restriction of personal freedom; to the fact that may be infected and isolated, they felt angry, depressive, lonely, and abandoned, they complained. Anxiety and fear made us to pay more attention to our physical feelings, and activated our sympathetic nervous system, aggravate the symptoms of our existed diseases, and even present symptoms as panic, chest tightness, shortness of breath, temperature rise, constipation, frequent urination, and insomnia. Paying too much attention to physical feelings, brought the patients to take body temperature several times a day; they worried about or believed that they are susceptible to infection, and they repeatedly ask for medical test for COVID-19 infection, even if the test results were negative; some refused to take examination or treatment, and were unwilling to cooperate with doctors; some were excessively harsh on family members and medical workers, when some relied upon too much on family members and doctors; patients were easy to

lose temper or have impulsive behavior, such as verbal abusing and attacking against others.

However, this study also has limitations. The sample size was small, and the data had a certain degree of dispersion. Cross-sectional study design and self-assessment method evaluation are also inadequacies of this study. We will continue to follow the patients included in this study, and we will report on long-term changes in patient psychological condition and the incidence of posttraumatic stress disorder.

In this study, we continue to track and carry out psychotherapy for patients with persistent symptoms. During the COVID-19 epidemic, suspected and diagnosed patients had different levels of mental health problems. Diagnosed patients had more visible symptoms. The performance of suspected patients was higher, but their mental state was more polarized. It may thus be important to monitor the psychological state of suspected patients as early as possible to enable timely interventions that promote psychological rehabilitation. Based on this intervention experience, we recommend the use of integrated psychological intervention models such as supportive therapy, cognitive behavioral therapy, and mindfulness therapy for patients with suspected Patients.

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