



Experience of patients with COVID-19 in hospital isolation in Taiwan

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Abstract

The COVID-19 pandemic has significantly impacted everyone's lives, challenging us in ways that can be frustrating, daunting, and intensely emotive. This qualitative study explored the isolation experiences of patients with COVID-19 in a hospital in northern Taiwan. We collected data from nine patients in June–July 2020, conducting semi-structured, virtual face-to-face, in-depth interviews to gather input on two topics: (1) the psychological effect of hospital isolation on patients, including the psychological burden, stress response, support, disease stigma, and fear of returning to society; and (2) the patients' cognition and behaviors, which included tracking epidemic information, monitoring disease progression, soliciting suggestions about hospital isolation, and gauging comprehension after recovery. The results confirmed that hospital isolation significantly impacts patients physically, psychologically, spiritually, and socially. Thus, the isolated patients faced the dual challenges of fighting, adapting to, and recovering from the disease itself and struggling in isolation to maintain positive beliefs, independently assess their condition, and gain strength from the knowledge of continuing social support.

KEYWORDS

COVID-19, emerging infectious disease, hospital isolation, negative pressure isolation, qualitative research, pandemic

Key Points

- Hospital isolation significantly affects patients physically, psychologically, spiritually, and socially.
- Patients with experience in hospital isolation suggest that stress associated with COVID-19 developments can be reduced by helping patients self-monitor their condition, addressing basic needs, and providing information and diversions.
- Medical staff need to recognize and address patients' isolation-related stress by encouraging patients to think positively and seek support from society, family, and friends.

1 | INTRODUCTION

At the end of 2019, an outbreak of pneumonia with an unknown cause was detected in Wuhan, Hubei, China (Ge et al., 2020). The World Health Organization (WHO) soon announced that the cause

was severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). On 20 January 2020, the WHO declared the coronavirus disease 2019 (COVID-19) a Public Health Emergency of International Concern (PHEIC); on 11 March 2020, it was declared a pandemic (WHO, 2020a). As of 21 July 2021, there were 190 860 733

confirmed cases of COVID-19 and 4 101 414 deaths worldwide (WHO, 2020b). Currently, the virus has a global mortality rate of 2.15% (Johns Hopkins University, 2021). Patients with COVID-19 commonly experience various physical effects such as fever, cough, myalgia, or fatigue; more severe cases can involve anosmia, dyspnea, hypoxia, multi-organ dysfunction, acute respiratory distress syndrome (ARDS), acute respiratory injury, hemoptysis, lymphopenia, septic shock, and pneumonia (N. Chen et al., 2020; Huang et al., 2020).

Patients with COVID-19 generally develop symptoms 2–14 days after contracting the virus. Among the first 72 314 cases in mainland China, most of the patients (87%) were between 30 and 79 years old and experienced only mild symptoms (81%); however, about 5% of the patients were critical, with respiratory failure, septic shock, multiple organ dysfunction or failure, and other serious conditions (Wu & McGoogan, 2020). From the beginning, doctors recognized that patients aged 60 and over and those with compromised immune systems and comorbidities such as cardiovascular disease, diabetes, respiratory system disease, malignant tumor, and cancer were more likely to become ill and have the highest mortality rate (N. Chen et al., 2020; Huang et al., 2020; Wang et al., 2020).

On 21 January 2020, Taiwan treated its first patient with a confirmed case of COVID-19, placing her in the negative pressure isolation ward of a hospital. Since then, the infectious power of the disease has rapidly increased. During this study's data collection phase (June–July 2020), the Taiwan Centers for Disease Control reported 693 confirmed patients with COVID-19, with 574 in hospital quarantine; seven persons had died (Taiwan Centers for Disease Control, 2020). A comprehensive review of the pandemic examining the virus transmission characteristics, infection rates, and current border controls and other epidemic prevention measures showed that the incidence and mortality rates of COVID-19 were relatively low in Taiwan (P.-F. Chen et al., 2020; J. Li et al., 2020; Rothan & Byrareddy, 2020). Of the patients interviewed for this study, 68.3% had only mild symptoms (5.8% were asymptomatic), 23.3% had developed pneumonia, and 8.4% were critically ill (K.-L. Chen et al., 2020).

While there has been significant research into the physical effects of COVID-19, there have been fewer investigations into the psychological impact of the pandemic, and fewer still have explicitly focused on the experiences of quarantined individuals during major infectious disease outbreaks (Jung & Jun, 2020; Panchal et al., 2021). This qualitative study explored the isolation experiences of nine patients with COVID-19 in a hospital in northern Taiwan between June and July 2020.

2 | BACKGROUND

During quarantine and hospital isolation, patients often experience feelings of panic, loneliness, anxiety, fear, depression, stress, guilt, helplessness, anger, separation from relatives, loss of freedom, and boredom (Bo et al., 2021; Guo et al., 2020; Panchal et al., 2021). Other social effects can include personal, professional, and educational uncertainty, financial insecurity, housing and healthcare

challenges, social discrimination, disease stigma, and even increased domestic violence (Brugliera et al., 2020; Guo et al., 2020; Z.-Y. Li, et al., 2020; United Nations, 2020). When combined, these effects can lead to or exacerbate mental illness (Jung & Jun, 2020). Brooks et al. (2020) found that negative psychological effects, including post-traumatic stress symptoms, confusion, and anger, were associated with longer quarantine durations, infection fears, frustration, boredom, inadequate supplies, inadequate or conflicting information, financial loss, and stigma. A systematic review also found that healthcare workers spend less time in isolation than patients. Moreover, patients do not understand their medical conditions, which may affect their dissatisfaction with hospital isolation (Abad et al., 2010). Therefore, it is essential to provide patients with disease updates, medical staff support (Peng et al., 2004), basic necessities, electronic products, and access to entertainment to alleviate boredom. These measures also help establish a two-way communication channel, reducing the adverse physical and psychological effects caused by prolonged isolation (Brooks et al., 2020). Hospitals can improve isolation care by preparing the environment, providing patients with clear nursing guidance, and addressing the patients' need after moving into the isolation ward.

Infected patients in isolation can experience physical and mental stress. Feeling isolated and powerless in the face of personal health risks and the pressures created by public health emergencies can lead to stress, anxiety, depression, isolation, avoidance habits, frustration, and physical health risks, among other negative health and social outcomes (Barratt et al., 2011; Pursell et al., 2020). Research conducted in the official isolation facility in New South Wales, Australia, on the interactions of patients with COVID-19 reported that the patients shared both positive and negative lived experiences of infection, loneliness, and disease (Shaban et al., 2020).

Some countries have experienced so many cases and such high infection rates that people with mild cases have been encouraged to isolate at home. Since the initial outbreak of COVID-19 in Taiwan about a year ago, the number of confirmed cases and deaths in the country has remained lower than in many other countries (Taiwan Centers for Disease Control, 2020). Since Taiwan has sufficient medical capacity, after the patients' condition is diagnosed, patients are sent to the hospital for isolation and treatment. This study sought to understand the subjective experiences of patients with COVID-19 isolated and treated in a hospital in Taiwan to discover how their physical, psychological, and social conditions changed during hospital isolation.

3 | METHODS

3.1 | Design

As a qualitative research design, phenomenology is essentially the study of lived experience or the lifeworld—the world as we experience it in the here and now (van Manen, 1997). According to Polkinghorne (1983), it is trying to grasp or comprehend the meaning

of human experience as it is experienced. This study followed Tong et al.'s (2007) consolidated criteria for reporting qualitative research (COREQ) to ensure rigor in the process used to subject the recordings of the interviews to content and inductive analyses to extract the underlying information.

3.2 | Setting and sample

Using purposive sampling, we recruited patients with COVID-19 who had been admitted to a regional hospital in northern Taiwan for isolation and treatment (Ranjbar et al., 2012). The inclusion criteria were as follows: aged 18 or over; diagnosed with COVID-19; gave their informed consent to be interviewed; could speak and read Chinese; and had access in isolation to electronic equipment with a video chat function. The exclusion criteria were patients who were not stably conscious or had a history of mental illness. The participants' average length of hospitalization was at least 7 days.

3.3 | Data collection

We collected the data through semi-structured, virtual face-to-face, in-depth interviews conducted between June and July 2020. The first author arranged the interview times for both parties. We conducted and recorded the interviews using the Google Meet videoconferencing application in a private office. We devised our interview outline after consulting previous research and relevant experts. The main prompts were these: "please talk about your feelings or experiences of COVID-19"; "please talk about your feelings or experiences of hospital isolation"; and "please talk about what affected your feelings or experiences of combating COVID-19." The interviews were transcribed verbatim and coded by the first author to extract information and analyze the data. During and after the interviews, the researchers summarized and clarified the patients' answers if necessary. Each interview lasted about 60 min, depending on when saturation seemed to have occurred. *Saturation* in qualitative research means that further data collection or analysis is deemed redundant or unnecessary because no new codes or themes are being discovered. This can be termed inductive thematic saturation. To determine the saturation point, we followed Saunders et al.'s (2018) findings that saturation should be operationalized according to the research questions. We adopted data repetition and information saturation to determine the study sample size; that is, we terminated data collection when we found no new themes emerged when reviewing the accumulated interview data.

3.4 | Data analysis

We conducted content analysis to examine the interviews, repeatedly reviewing the interview transcripts to clarify the meaning and connotation of each topic and identify the overall concept. We looked for

thematic groups that stretched the data diversity as far as possible and recognized frequent repetition in the themes as empirical evidence that a category was saturated.

We adopted the data analysis procedure proposed by Colaizzi (1978). After we transcribed the interview records, we reviewed them multiple times to identify and clarify meaningful statements about the patients' experiences and feelings. Finally, we extracted, transcribed, coded, and classified them into themes in a semi-open manner to extract their meanings, then interpreted and validated their relevance and described the overall results (Morrow et al., 2015).

3.5 | Rigor

We verified the reliability of the study by applying the concept of trustworthiness proposed by Lincoln and Guba (1985), which we interpreted as including the following: (1) only patients whose COVID-19 infections were confirmed by different sources were recruited into the study; (2) the research participants could communicate clearly, and they verified the final verbatim transcripts to ensure the credibility of the information; (3) we recruited as many individuals as possible who met the eligibility criteria to ensure the diversity and transferability of the information; (4) we conducted peer reviews to confirm the consistency of the results and consulted qualitative nursing experts to ensure data reliability and dependability; and (5) we were personally involved in collecting the research data (interviewees' data, audio records, interview outline, and analysis files), recording the process objectively and specifically. In addition, these records were preserved for future reference to ensure that the confirmability of each individual's interview record could be tracked (Lincoln & Guba, 1985).

3.6 | Ethical considerations

This study was reviewed and approved by the Research Ethics Committee of Taipei City Hospital (TCHIRB:10905019-E). After receiving both verbal and written information about the study, the participants provided their written informed consent to participate. We did not collect any identifying information; participants were free to leave the study at any time without giving a reason; and all data were password-protected and encrypted. During the interviews, the researchers treated the participants with respect, listened intently, and answered their questions.

4 | RESULTS

The average age of the patients with COVID-19 was 33 years, and the average length of hospitalization was 1 month. Three patients (33%) had a master's degree or higher, and four (44%) patients had a bachelor's degree. Most of the patients were unmarried (77%) and

TABLE 1 Interviewees' basic information (N = 9)

Interviewee	Age	Gender	Marital status	Symptomatic	Length of hospitalization
A	25	Female	Unmarried	No	37 days
B	35	Female	Unmarried	Yes	53 days
C	29	Male	Unmarried	No	24 days
D	27	Male	Unmarried	No	37 days
E	21	Male	Unmarried	No	10 days
F	24	Male	Unmarried	Yes	45 days
G	37	Male	Married	Yes	35 days
H	22	Male	Unmarried	No	19 days
I	79	Female	Married	No	16 days

TABLE 2 Topics and subtopics of the experience of patients with COVID-19 in hospital isolation

Topic	Sub-topic
1. Psychological effect of hospital isolation on patients	(1) Psychological burden during hospital isolation
	(2) Stress response and support during hospital isolation
	(3) COVID-19 disease stigma
	(4) Fear of returning to the society
2. Cognition and behavior of patients during hospital isolation	(1) Tracking epidemic information
	(2) Monitoring disease progression
	(3) Suggestions on hospital isolation
	(4) Comprehensions after recovery

asymptomatic (66%). They had various occupational backgrounds, including service providers, military personnel, domestic and international students, researchers, and retirees. Four (44%) contracted the virus overseas, three (33%) contracted it from warship clusters, and two (23%) contracted it locally. Table 1 shows the study participants' basic information.

Table 2 summarizes the two main themes we identified from our analysis of the interview content: (1) the psychological effects of hospital isolation on patients, and (2) the cognition and behavior of patients during hospital isolation.

4.1 | Theme 1: Psychological effects of hospital isolation on patients

One of the two recurring themes in the isolated patients' interviews was the negative psychological pressures related to the isolation and their worry about returning to society after recovery. The patients described the psychological journey from learning about the epidemic to being infected and finally treated and discharged from the hospital.

They shared their feelings about being hospitalized for a long time in the isolation room, expressing their negative attitudes and beliefs felt about the disease and their "self-response ability." This theme had four subthemes, described in the following sections.

4.1.1 | Psychological burden during hospital isolation

When we asked the patients to describe their feelings during hospital isolation, they talked about the anxiety associated with knowing they could not leave the hospital, their guilt for causing trouble to others, and their feelings of being stranded in the isolation ward for an extended period. They described the psychological burdens in various ways, but many felt pushed to the verge of mental collapse.

You felt that you were trapped in a small space within a large space, and that you were constantly compressed in a small space, especially when the lights were off. Therefore, I felt that I was walking on an endless road and there was only uncertainty ahead of me. (P6).

While I thought I could leave the hospital, I was not discharged and felt very disappointed. I did not sleep very well and cried because of the pressure. I pressured myself too much. If I stayed for another week, I felt that my spirit was pushed to the edge. (P1).

4.1.2 | Stress response and support during hospital isolation

The longer the hospital isolation, the more helpless the patients felt. The patients learned about their recovery status through hospital examinations and felt disappointed when the result remained positive, ruling out discharge from the hospital. However, this psychological burden was alleviated by different stress responses and support measures, such as communication with and care from medical staff, family and external support, recreational activities, spiritual sustenance,

maintaining a constructive attitude about the treatment, self-encouragement and motivation, and the positive belief that they would fully recover from the disease.

I had a mental breakdown.... On the day when the result turned positive, afterwards, the hospital psychologist had a chat with me and said something that cheered me up immediately. He said, "Please think of it this way—that you are enduring the isolation and treatment for me, for us, and for everyone else. You are actually helping others. (P1).

Sometimes I would pray at night. Even though I am not religious, I had to believe in the prayer, as it would give me some positive energy as well as sustenance at night. (P2).

The hospital gave me an extra sandwich...as well as some cards and snacks. On Mother's Day, there were flowers and interactive games. I appreciated these measures and felt comfortable. However, I believed that I could eventually overcome the virus. (P3).

Isolation and confinement are restricted.... In the isolation room, you can contact people and interact happily, such as chatting, nurses providing interactive activities and playing cosplay. This is the way to adjust yourself. (P4).

I was locked up in the hospital and could not escape.... I wanted to cry...because I could not visit my daughter. I asked her to stand somewhere downstairs so that I could wave at her. (P9).

4.1.3 | COVID-19 disease stigma

Patients with COVID-19 who had been living abroad mentioned that differences between Eastern and Western countries regarding wearing masks had introduced serious concerns over discrimination. The patients worried that wearing masks might be misinterpreted as meaning they were sick; they felt that the anti-mask attitudes increased the incidence of discrimination. They also believed that the rapid increase in the number of infections worldwide had done nothing to decrease the stigma of having COVID-19. They feared social isolation, and this stress manifested as depression, anxiety, and guilt. However, the patients still hoped that sharing their experiences could raise public empathy for patients with COVID-19.

The atmosphere in Europe was tense. I felt scared in that atmosphere, especially when I saw incidences of discrimination against the Chinese or people attacking the Chinese. I dared not to wear masks, not because of

the virus, but because of discrimination. It was more likely for us to be labeled. (P6).

I was afraid of taking the ambulance! I was so scared. Because everyone feared me, saying that I had contracted COVID-19. Everyone was afraid that I was infectious. When they came to my ward, they would deliberately tell others to wear masks. (P9).

I felt that even if I was discharged, some people [would have] changed their attitude toward me because of their lack of knowledge and fear of the disease. When they saw me, they would put on masks immediately. (P7).

4.1.4 | Fear of returning to society

When the patients were discharged from the hospital, they were expected to monitor their health status and take protective measures to reduce the risk and concerns of spreading the COVID-19 infection.

The first 7 days after I was discharged was a transition period. A tiny amount of phlegm would make me worry that I turned positive again.... I still wore masks when I went out, so as not to transmit the virus to others. I also took proper protective measures. (P5).

If I could not confirm my health status, of course I would worry about meeting people face-to-face. (P4).

4.2 | Theme 2: Cognition and behavior of patients during hospital isolation

The second recurring theme was the patients' evolving understanding of COVID-19 before they became infected, while they were hospitalized and quarantined, and after discharge. They could understand their physical condition through self-observation, and this informed their understanding of the disease. Because they had been confined to the isolation ward for a long time, they also proposed additional equipment and policies that would better meet the needs of others in isolation. After recovery, one patient said, "I cherish my health even more, and act to change the behavior of disease stigmatization." There were four subthemes.

4.2.1 | Tracking epidemic information

Because COVID-19 is a highly contagious disease, the global media have been providing continuous updates on the epidemic, including the basics of COVID-19 infection control. The patients with COVID-19 in this study mentioned that they actively read the news or

searched for independent information sources to stay updated during the epidemic. Initially, they knew little about the disease's symptoms or transmission mode. However, after they were hospitalized, they understood the progression of their disease more comprehensively as medical staff provided them with correct information.

As I contracted the virus myself and was frequently asked by doctors about my symptoms when I was in the isolation ward, I had a deep understanding of COVID-19. (P2).

I would browse the Internet to find information on COVID-19 to confirm symptoms [and] to find out how people contracted the virus. (P8).

4.2.2 | Monitoring disease progression

After the patients had contracted the virus and were isolated, they gained a better understanding of their symptoms and disease progression by observing their own vital signs, detecting physiological changes, and learning about the follow-up treatments and prescriptions. Effective communication with health staff made this possible.

I showed some symptoms at that time. By observing my body temperature, blood pressure, and blood oxygen, I knew that I was healthy. (P6).

I suspected that it was a symptom of COVID-19 and became worried, so I started looking for information, and learned the effect and instructions of different drugs. I paid special attention to any symptoms and discomfort I experienced. (P7).

4.2.3 | Suggestions on hospital isolation

Hospital policies and ward facilities can affect patients' activities of daily living. The days of hospital isolation motivated this study's patients to propose ideas and insights for improving isolation and recovery time in the isolation ward.

The only issue with living in the ward was the lack of facilities. For example, I could not find places to hang clothes.... Therefore, almost all my activities were limited to the bed. (P8).

It happened that the hospital policy was changing when I was in the ward. Nurses had different perceptions of the rules of taking items into the isolation ward. No clear instructions were provided. Every time we would get a different answer. (P7).

4.2.4 | Comprehensions after recovery

The patients said that contracting COVID-19 and enduring multiple days of hospital isolation had made them more aware of the preciousness of life and given them unique insights. They hoped that they could help with the continuous improvement of the public health system and provide feedback to society by sharing their experiences and feelings.

Because of this unique experience, I feel that I should cherish my life. I exercise more often and maintain good health. By exercising, I can breathe more vigorously, which makes me feel alive. (P7).

I chose to publicize my experience...and accepted multiple media interviews. I would like to share my hospitalization experience and feelings with the public to make some improvements. (P1).

5 | DISCUSSION

This study revealed that hospital isolation during the COVID-19 epidemic affected patients physically, psychologically, socially, and spiritually. The study's patients recollected their rich experiences of the negative emotions they had felt: fear (especially after the diagnosis), concern about transmitting the virus to relatives and friends, social isolation during the isolation, uncertainty about the disease progression during treatment, and disappointment when positive test results meant they could not yet leave the isolation ward. Their fear, boredom, and social withdrawal increased as their stays in the isolation ward extended. They dreaded the stigma of being one of the relatively few (compared to many other countries) people in Taiwan to have contracted the disease.

The negative emotions they reported were consistent with those found by Brooks et al. (2020). The patients described the psychological burden of contracting an infectious disease and experiencing sleep disorders in the isolation ward, consistent with Altena et al.'s (2020) findings in France. Their subsequent anxiety, fear, frustration, and depression were consistent with the findings of studies in the United States and West Africa (Olufadewa et al., 2020; Troyer et al., 2020).

Furthermore, this study found that the isolated patients' interpersonal interactions were compromised owing to the highly contagious nature of the disease. This echoes a previous finding in Taiwan showing that the outbreak of COVID-19 and the need to protect against the spread of infection significantly disrupted people's social interactions, financial status, work style, family gatherings, and other social behaviors (K.-L. Chen et al., 2020).

Our study also showed that the patients felt discriminated against and stigmatized by society, which triggered physical and psychological distress that manifested after recovery as heightened difficulty rejoining society. Torales et al. (2020) found similar results in

Paraguay, where the effects of infection, isolation, and post-discharge quarantine were among the mental health challenges posed by COVID-19.

Our results confirmed that despite the stressful effects of hospital isolation, the interviewees tried to remain optimistic, actively tracked information about the pandemic, and improved their understanding of the pandemic and the disease itself. This result is consistent with the findings of Hung et al. (2005) in Taiwan.

In addition to independently assessing their physical conditions and monitoring their physical and psychological changes after contracting the virus, this study's patients also began to adapt to their new lifestyles in the isolation ward. They committed themselves to staying positive, self-motivating, living a regular life, and exercising. These findings are in line with studies on Taiwanese and French patients reporting that patients with COVID-19 independently developed new ways to improve their physical and mental health and made positive changes and adaptations to the disease (Altena et al., 2020; K.-L. Chen et al., 2020).

The patients with COVID-19 also mentioned that receiving support from different parties during isolation helped them adapt to life in the isolation ward. They particularly valued the following: (1) medical staff who provided psychological counseling, discussed the disease and apprised the patients of their condition, supplied daily necessities, and allowed the patients to express their feelings or gave them cards to show they cared; (2) relatives and friends who provided care and companionship (through digital communication); and (3) Taiwanese society for supplying epidemic protection equipment. The patients appreciated having been invited to join cosplays to increase their interaction and divert their anxiety. All these findings were consistent with Brooks et al. (2020), who argued that the pressures of isolation should be alleviated by minimizing the duration, providing transparent epidemic information, communicating with patients about their conditions, providing adequate supplies, and introducing meaningful activities during isolation. Similarly, Umucu and Lee (2020) showed that patients with contagious diseases who felt substantial stress engaged in various coping strategies, both negative (e.g., self-destruction, denial, substance abuse, behavioral disengagement, self-blame) and positive (planning, religion, use of emotional support, humor). The researchers emphasized that patients' attention should be diverted from their infection toward positive coping activities. Strong health engagement provides significant benefits to mental health (Nania et al., 2021).

Our findings provided additional clarity on the physical, psychological, and social effects of hospital isolation on patients and confirmed Olufadewa et al.'s (2020) findings. After discharge from the hospital, several of this study's participants acknowledged the well-structured disease-prevention strategies of the Taiwanese government and the efforts of local medical staff. They noted that nurses play a key role in fighting the pandemic, protecting other people's health despite threats to their own and doing their jobs with compassion and equanimity despite the need for cumbersome protective equipment. Our findings underscore the importance of nurses enhancing their nonverbal communication skills, establishing therapeutic

interpersonal relationships, providing appropriate emotional support, and addressing patients' needs. Medical staff should show patients empathy, care for them, and evaluate their physical and psychological states daily to alleviate the stress of hospital isolation (K.-L. Chen et al., 2020). We found that patients were keen to track COVID-19 information and pandemic trends, as in K.-L. Chen et al. (2020), confirming that timely reports on the health crises and updates on government policies positively support health self-efficacy. Access to accurate and reliable information improves patient confidence.

5.1 | Research limitations and suggestions

This study had several limitations. First, we only interviewed patients with COVID-19 from one isolation center in Taipei, Taiwan. The results from other isolation wards in other cities and countries might differ. Additionally, our data came from patients with mild cases of COVID-19 who only required minimal hospitalization. Our results should not be generalized. Also, COVID-19 was not just contagious; it was the cause of one of the deadliest pandemics in human history and remains ongoing. Therefore, the patients' feelings and perceptions might differ from those of patients with other communicable but less pervasive diseases. Future studies should expand data collection by including patients with different diseases and different severities of COVID-19 symptoms, and recruit participants from different hospitals and healthcare institutions in diverse regions worldwide. In addition, the patients' long-term mental health should be monitored.

Second, most of the patients with COVID-19 recruited in this study were in their early 20s. The pandemic has had a smaller impact in Taiwan than in most other industrialized countries, and restrictions on international university students and those seeking medical care in Taiwan were eased. Taiwan has effectively prevented the spread of the virus because it has experience from fighting the 2002–2004 SARS epidemic. The number of people in Taiwan diagnosed with COVID-19 during the early stages of the pandemic was relatively small, and most were asymptomatic patients who had traveled home after being infected abroad. The total number of active cases in Taiwan as of 26 July 2021 was 15 582. The majority of the cases (5.26–78.54%) have been asymptomatic people infected elsewhere (Ministry of Health and Welfare, 2021). To reduce the risk of community transmission, we need to hospitalize people with asymptomatic infections in isolation wards; the Health Promotion Administration recommends hospitalization with negative pressure isolation measures. In this study, 66% of the people with asymptomatic infections needed to be hospitalized for isolation under Taiwan's health policies, which differ from those of other countries. We employed purposive sampling with maximum variation in this study, selecting eligible individuals from a regional hospital in northern Taiwan. Future studies should expand the recruitment scope to improve the textual depth and complexity of the data.

Third, we used video and telephone interviews, which can hamper observations of nonverbal behaviors, including body language and facial expressions, and make it more difficult to establish a relationship

with an interviewee. The use of electronic devices might also affect people's willingness to participate in long interviews and shorten interview times. Related factors beyond our control were the interviewees' comfort level, privacy, and familiarity with their interview environment; their comfort level and ability to use videoconferencing applications and telephones for the interviews; and our limited ability to supply alternative online communication equipment. We organized our interviews by following experts qualified in qualitative interviews and analysis, who trained us in interviewing techniques and in using open-ended questions that would encourage the interviewees to share their experiences and feelings during hospital isolation.

5.1.1 | Practical implications

We recommend that family support groups be established to disseminate health education and guidance on infectious diseases and address patients' feelings and needs in the isolation ward. Hospitals should improve the operation and management of isolation wards and infectious diseases to enhance patient care, through such measures as training medical staff to prevent, recognize, and address isolated patients' distress; ensuring that basic needs for daily living are met (patients could not pack a bag before being placed in isolation!); and educating medical staff on "diversion" therapy such as cosplay etc. Finally, it is especially critical to investigate the mental health and stress response of patients with severe COVID-19 or post-traumatic stress disorder caused by a diagnosis of COVID-19 and to follow up with those patients after discharge.

6 | CONCLUSION

This study found that patients diagnosed with COVID-19 and placed in hospital isolation experience numerous negative emotions such as fears about their and others' health, dread of disease stigma, fear of reinfection and infecting relatives and friends, and the psychological burdens of enforced confinement in hospital isolation. However, we also found that the psychological stress could be alleviated by providing information enabling the patients to self-assess and evaluate the disease's progression. Helping the patients self-monitor their physical and psychological changes after infection gave them a sense of control over the disease that helped ease their psychological stress. Also invaluable was the social support provided by medical staff and the patients' families and friends. This study confirmed that patients isolated with COVID-19 infections gained insights from their unique experiences that positively affected their commitment not to take for granted the preciousness of life, with most resolving to eat better, exercise, and educate themselves about their health.

Our one-on-one in-depth interviews allowed the patients with COVID-19 to share their experiences during hospital isolation and after they returned to society. The interview process helped the patients express their emotions and provided an appropriate health consultation channel. They supported Taiwan's epidemic prevention measures and the hospitals' policies to protect patients in isolation

wards, acknowledging the overall quality of the medical care and services while nevertheless calling for more focused support for patients in isolation.

This study's results could serve as a reference to improve the care of patients in isolation with COVID-19. Hospital management should provide appropriate resources and upgrade the mental-health-related capabilities of the medical staff to improve the quality of isolation inpatients' care.

6.1 | Relevance for clinical practice

We collected data from patients with COVID-19, gathering their psychological experiences over time through one-to-one interviews to gain a greater understanding and comprehensive and authentic data on hospital contact isolation. We observed positive emotions coexisting with negative emotions and affirmed others' findings on psychological tolerance and development under strain during epidemic stress. We preliminarily explored the effects of hospital isolation on the psychological health of patients with COVID-19. Practical-based learning should be considered to improve the nursing curriculum related to hospital contact isolation and psychological health to improve patient care during health crises.

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CONFLICT OF INTEREST

The authors declare that they have no conflicts of interests.

AUTHOR CONTRIBUTIONS

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Manuscript writing: Chun-Ting Hsiao, Jia-Jing Sun, Yi-Hsuan Chiang.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethics restrictions.

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REFERENCES

- Abad, C., Fearday, A., & Safdar, N. (2010). Adverse effects of isolation in hospitalised patients: A systematic review. *Journal of Hospital Infection*, 76(2), 97–102.

- Altena, E., Baglioni, C., Espie, C. A., Ellis, J., Gavrilloff, D., Holzinger, B., Schlarb, A., Frase, L., Jernelöv, S., & Riemann, D. (2020). Dealing with sleep problems during home confinement due to the COVID-19 outbreak: Practical recommendations from a task force of the European CBT-I Academy. *Journal of Sleep Research*, 29(4), e13052.
- Barratt, R. L., Shaban, R., & Moyle, W. (2011). Patient experience of source isolation: Lessons for clinical practice. *Contemporary Nurse*, 39(2), 180–193.
- Bo, H.-X., Li, W., Yang, Y., Wang, Y., Zhang, Q., Cheung, T., Wu, X., & Xiang, Y.-T. (2021). Posttraumatic stress symptoms and attitude toward crisis mental health services among clinically stable patients with COVID-19 in China. *Psychological Medicine*, 51(6), 1052–1053.
- Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N., & Rubin, G. J. (2020). The psychological impact of quarantine and how to reduce it: Rapid review of the evidence. *The Lancet*, 395(10227), 912–920.
- Brugliera, L., Spina, A., Castellazzi, P., Cimino, P., Tettamanti, A., Houdayer, E., Arcuri, P., Alemanno, F., Mortini, P., & Iannaccone, S. (2020). Rehabilitation of COVID-19 patients. *Journal of Rehabilitation Medicine*, 52(4), jrm00046.
- Chen, K.-L., Hung, W.-C., Lee, M.-B., Chen, I.-M., & Wu, C.-Y. (2020). The impact of the COVID-19 pandemic on the health and coping behaviors of patients with treatment-resistant depression. *The Journal of Nursing*, 67(5), 56–64 (in Chinese).
- Chen, N., Zhou, M., Dong, X., Qu, J., Gong, F., Han, Y., Qiu, Y., Wang, J., Liu, Y., Wei, Y., Xia, J., Yu, T., Zhang, X., & Zhang, L. (2020). Epidemiological and clinical characteristics of 99 cases of 2019 novel coronavirus pneumonia in Wuhan, China: A descriptive study. *The Lancet*, 395(10223), 507–513.
- Chen, P.-F., Shi, H.-C., Lai, S.-K., Chen, C.-M., Chueh, Y.-N., Kuo, H.-W., & Liu, D.-P. (2020). An overview of the COVID-19 pandemic and risk assessment, July, 2020. *Taiwan Epidemiology Bulletin*, 36(15), 86–93.
- Colaizzi, P. (1978). Psychological research as a phenomenologist views it. In R. S. Valle & M. King (Eds.), *Existential phenomenological alternatives for psychology* (pp. 48–71). Oxford University Press.
- Ge, H., Wang, X., Yuan, X., Xiao, G., Wang, C., Deng, T., Yuan, Q., & Xiao, X. (2020). The epidemiology and clinical information about COVID-19. *European Journal of Clinical Microbiology & Infectious Diseases*, 39(6), 1011–1019.
- Guo, Q., Zheng, Y., Shi, J., Wang, J., Li, G., Li, C., Fromson, J. A., Xu, Y., Liu, X., Xu, H., Zhang, T., Lu, Y., Chen, X., Hu, H., Tang, Y., Yang, S., Zhou, H., Wang, X., Chen, H., ... Yang, Z. (2020). Immediate psychological distress in quarantined patients with COVID-19 and its association with peripheral inflammation: A mixed-method study. *Brain, Behavior, and Immunity*, 88, 17–27.
- Huang, C., Wang, Y., Li, X., Ren, L., Zhao, J., Hu, Y., Zhang, L., Fan, G., Xu, J., Gu, X., Cheng, Z., Yu, T., Xia, J., Wei, Y., Wu, W., Xie, X., Yin, W., Li, H., Liu, M., ... Cao, B. (2020). Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. *The Lancet*, 395(10223), 497–506.
- Hung, H.-C., Weng, L.-C., & Fang, C.-Y. (2005). Stresses and adjustment behaviors of surgical nurses caring for SARS patients. *Journal of Evidence-Based Nursing*, 1(1), 45–51 (in Chinese).
- Johns Hopkins University (2021). COVID-19 Dashboard. Retrieved Jul 21, 2021, from <https://gisanddata.maps.arcgis.com/apps/dashboards/bda7594740fd40299423467b48e9ecf6>
- Jung, S. J., & Jun, J. Y. (2020). Mental health and psychological intervention amid COVID-19 outbreak: Perspectives from South Korea. *Yonsei Medical Journal*, 61(4), 271–272.
- Li, J., Gong, X., Wang, Z., Chen, R., Li, T., Zeng, D., & Li, M. (2020). Clinical features of familial clustering in patients infected with 2019 novel coronavirus in Wuhan, China. *Virus Research*, 286, 198043.
- Li, Z.-Y., Ling, Z.-H., Liu, L.-L., Ye, L.-Y., & Hung, H.-C. (2020). Nursing care for the COVID-19-infected patients focused on mental health: Two cases experience in mid-Taiwan. *Journal of Medicine and Health*, 9(1), 153–160 (in Chinese).
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. SAGE Publications.
- Ministry of Health and Welfare (2021). Current pandemic data. Retrieved Jul 26, 2021, from <https://covid19.mohw.gov.tw/ch/cp-4707-52357-205.html> (in Chinese)
- Morrow, R., Rodriguez, A., & King, N. (2015). Colaizzi's descriptive phenomenological method. *The Psychologist*, 28(8), 643–644 https://eprints.hud.ac.uk/id/eprint/26984/1/Morrow_et_al.pdf
- Nania, T., Dellafiore, F., Caruso, R., & Barelo, S. (2021). Risk and protective factors for psychological distress among Italian university students during the COVID-19 pandemic: The beneficial role of health engagement. *International Journal of Social Psychiatry*, 67(1), 102–103.
- Olufadewa, I. L., Adesina, M. A., Oladokun, B., Baru, A., Oladele, R. I., Iyanda, T. O., Ajibade, O. J., & Abudu, F. (2020). “I was scared I might die alone”: A qualitative study on the physiological and psychological experience of COVID-19 survivors and the quality of care received at health facilities. *International Journal of Travel Medicine and Global Health*, 8(2), 51–57.
- Panchal, N., Kamal, R., Cox, C., & Garfield, R. (2021, February 10). The implications of COVID-19 for mental health and substance use. Kaiser Family Foundation report. <https://www.kff.org/coronavirus-COVID-19/issue-brief/the-implications-of-COVID-19-for-mental-health-and-substance-use/>
- Peng, Y.-C., Tsai, J. C.-H., & Lin, E. C.-I. (2004). Patients' psychological impact and service satisfaction for SARS quarantine in emergency department. *Journal of Emergency Medicine, Taiwan*, 6(3), 331–342 (in Chinese).
- Polkinghorne, D. (1983). *Methodology for the human sciences: Systems of inquiry*. State University of New York Press.
- Purssell, E., Gould, D., & Chudleigh, J. (2020). Impact of isolation on hospitalised patients who are infectious: Systematic review with meta-analysis. *BMJ Open*, 10(2), e030371.
- Ranjbar, H., Haghdoust, A. A., Salsali, M., Khoshdel, A., Soleimani, M., & Bahrami, N. (2012). Sampling in qualitative research: A guide for beginning. *Annals of Military and Health Sciences Research*, 10(3), 238–250.
- Rothan, H. A., & Byrareddy, S. N. (2020). The epidemiology and pathogenesis of coronavirus disease (COVID-19) outbreak. *Journal of Autoimmunity*, 109, 102433.
- Saunders, B., Sim, J., Kingstone, T., Baker, S., Waterfield, J., Bartlam, B., Burroughs, H., & Jinks, C. (2018). Saturation in qualitative research: Exploring its conceptualization and operationalization. *Quality & Quantity*, 52(4), 1893–1907.
- Shaban, R. Z., Nahidi, S., Sotomayor-Castillo, C., Li, C., Gilroy, N., O'Sullivan, M. V. N., Sorrell, T. C., White, E., Hackett, K., & Bag, S. (2020). SARS-CoV-2 infection and COVID-19: The lived experience and perceptions of patients in isolation and care in an Australian healthcare setting. *American Journal of Infection Control*, 48(12), 1445–1450.
- Taiwan Centers for Disease Control (2020). Diseases & conditions: COVID-19 dashboard. Retrieved Dec 5, 2020, from <https://sites.google.com/cdc.gov.tw/2019ncov/global> (in Chinese).
- Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated criteria for reporting qualitative research (COREQ): A 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*, 19(6), 349–357.
- Torales, J., O'Higgins, M., Castaldelli-Maia, J. M., & Ventriglio, A. (2020). The outbreak of COVID-19 coronavirus and its impact on global mental health. *International Journal of Social Psychiatry*, 66(4), 317–320.
- Troyer, E. A., Kohn, J. N., & Hong, S. (2020). Are we facing a crashing wave of neuropsychiatric sequelae of COVID-19? Neuropsychiatric symptoms and potential immunologic mechanisms. *Brain, Behavior, and Immunity*, 87, 34–39.
- Umucu, E., & Lee, B. (2020). Examining the impact of COVID-19 on stress and coping strategies in individuals with disabilities and chronic conditions. *Rehabilitation Psychology*, 65(3), 193–198.
- United Nations. (2020, April 20). *UN chief calls for domestic violence “ceasefire” amid “horrifying global surge”*. UN News. <https://news.un.org/en/story/2020/04/1061052>.

- van Manen, M. (1997). *Researching lived experience: Human science for an action sensitive pedagogy* (2nd ed.). Althouse Press.
- Wang, D., Hu, B., Hu, C., Zhu, F., Liu, X., Zhang, J., Wang, B., Xiang, H., Cheng, Z., Xiong, Y., Zhao, Y., Li, Y., Wang, X., & Peng, Z. (2020). Clinical characteristics of 138 hospitalized patients with 2019 novel coronavirus-infected pneumonia in Wuhan, China. *JAMA*, 323(11), 1061–1069.
- World Health Organization. (2020a). *COVID-19 timeline* [Archived webpage]. April 27, 2020. <https://www.who.int/news-room/detail/27-04-2020-who-timeline-covid-19/>.
- World Health Organization (2020b). WHO coronavirus disease (COVID-19) dashboard. World Health Organization. Retrieved Jul 21, 2021, from <https://covid19.who.int/>.
- Wu, Z., & McGoogan, J. M. (2020). Characteristics of and important lessons from the coronavirus disease 2019 (COVID-19) outbreak in China: Summary of a report of 72,314 cases from the Chinese Center for Disease Control and Prevention. *JAMA*, 323(13), 1239–1242.

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