A MIXED METHODS STUDY OF LIVING OBSERVATIONS OF COVID-19 PATIENTS AND EVALUATION OF THE DIFFERENT LEVELS OF STRESS IN THE GENERAL POPULATION

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ABSTRACT

Background: The COVID-19 epidemic has become a catastrophe for people. Governments all across the world have been putting plans in place to handle this medical catastrophe, which has a death rate of roughly 5%. It has been discovered that many people with COVID-19 infection show minimal symptoms or are asymptomatic. Considering the possibility of spreading the disease, COVID-19 infected people are maintained in isolation wards. Because of their seclusion, fear of dying, and stigmatisation, COVID-19 infected patients develop emotional anguish. Thus, it is crucial to monitor and manage population mental health during a crisis like a pandemic.

AIM: The aim of this study was to evaluate the lived experience of patients with COVID-19 infection and to evaluate the different levels of stress during pandemic. We also aimed to assess the association of socio-demographic characteristics (gender) with COVID-19 related distress.

MATERIALS AND METHODS: We used a mixed-methods approach to conduct this cross-sectional study. A purposive sampling technique was used to recruit the study participants. Semi-structured, face-to-face/telephone interviews were conducted with patients who recovered from COVID-19 (*n = 20*). The interview lasted for approximately 20 to 60 minutes. The interviews were transcribed verbatim. The transcripts were analyzed using Colaizzi's phenomenological approach.

Then, one online questionnaires were undertaken through WhatsApp Messenger among the 292 participants. A 24-item COVID stress scale (CSS) was used to assess COVID-19 related distress. Chi-square test was used to estimate the association between sociodemographic characteristics anddifferent levels of stress.

Results: The qualitative data collected during the interviews were categorized into 4 major themes and 11 subthemes that exhaustively described the phenomenon. The following themes were emerged: (1) Emotions after learning about the infection (2) Social stigma (3) Rediscovering relationships through experiencing hardship (4) Coping mechanisms.

In this quantitative data, 61.6% of respondents were rated as having mild to moderate stress and 2.39% of respondents were rated as having severe stress due to COVID-19 outbreak. The association of stress levels with demographic variables such as age, gender, marital and employment status was analyzed using the Chi-square test. The variable gender was found to be statistically significant (p<0.05).

CONCLUSION:

The findings of this study described the lived experiences of patients who contracted and recovered from COVID-19. The most common symptoms of COVID-19 were mental strains, which had been interwoven with physical manifestations. Most of the participants relied on spiritual resources and home remedies to cope with the disease. Therefore, healthcare personnel should implement an appropriate plan to provide psychological and spiritual support to patients while alleviating the physical symptoms of the disease. The CSS was shown to be a valid and reliable tool for measuring distress related to the COVID-19 pandemic. Using the scales can improve our understanding of people suffering from COVID-19 and help identify people in need of mental health services.

Keywords: Lived experiences, COVID-19, Colaizzi's approach, CSS (COVID STRESS SCALE).

INTRODUCTION

Coronavirus disease 2019 (COVID-19) or severe acute respiratory syndrome coronavirus (SARS-CoV-2) was discovered in Wuhan, China, in 2019. This virus manifested varying degrees of severity of symptoms, but because of its infectious nature, it quickly became a global pandemic (Roberts et al., 2021). As the number of Coronavirus disease 2019 (COVID-19) diagnoses and deaths continue to increase rapidly throughout the world, the World Health Organization (WHO) declared COVID-19 a global pandemic on 11th March 2020 (Son et al., 2021). As a result of COVID-19's high potential for human-to-human transmission, it soon became a global public health concern (Liu & Liu, 2021a).

Numerous studies have examined the physical symptoms and mental changes of COVID-19 patients as a result of the increase in the number of patients worldwide. In addition to physical symptoms such as fever, dyspnea, coughing, and adverse drug reactions, patients may experience mental symptoms including fear of contracting the novel virus, loneliness, anger upon being treated in isolation, and post-traumatic stress. COVID-19 patients may suffer from fear of death or mental stress due to isolation, even if they are asymptomatic or have mild symptoms. Moreover, some COVID-19 patients may even feel guilty about spreading the infection to others. COVID-19 was described as highly dangerous with a poor prognosis in various media channels in the early stages of the pandemic, such as mobile messengers and YouTube (Son et al., 201X). Public media coverage of COVID-19 intensified public fear and anxiety during those early stages of the pandemic (Son et al., 2021).

Apart from evoking fears due to the rate of transmission of the virus, the imposition of lock-downs has severely affected economies and socio-economic order globally. The humanitarian challenges posed by the pandemic were also manifesting themselves in the form of a mental health crisis. As a result of preliminary analyses, anxiety, depression, and distress appeared to be the most frequently reported reactions by the general population. In addition, researchers have identified uncertainty, fear, confusion, unpredictability, misinformation, and loneliness as contributing factors to the development of disorders such as anxiety, depression, panic disorder, compulsive stockpiling, and post-traumatic stress disorder accompanied by a fear of death (Suhail et al., 2020).

Several aspects of mental health and well-being have been negatively affected by COVID-19. There may be a multidimensional stress response associated with COVID-19, which would be one specific psychological consequence of the pandemic. COVID Stress Syndrome has been termed and measured by the COVID Stress Scale (CSS) (Adamczyk et al., 2011).

The COVID-19 Stress Scales (CSS) were developed in order to measure the above features and to assess distress related to COVID-19. These scales were specifically designed to be easily adaptable to future pandemics. In the present study, we investigated the factor structure, reliability, internal consistency, as well as convergent and discriminant validity of the CSS (Taylor et al., 2020).

CSS includes five subscales consisting of 36 items: (1) Danger and Contamination Fears (DAN) and (CON), (2) Socioeconomic Consequences Fears (SEC), (3) Xenophobic Fears (XEN), (4) Traumatic Stress Symptoms (TSS), and (5) Compulsive Checking and Reassurance Seeking (CHE). Six items are included in each scale, except for the Danger and Contamination Fears scale, which contains twelve items (although the danger and contamination fears constructs can be assessed separately if necessary). The five scales are strongly correlated, suggesting the existence of a coherent syndrome called "COVID Stress Syndrome", the core of which is the fear of contracting COVID-19. For assessing the presence of COVID Stress Syndrome, the five individual scales can be aggregated (Adamczyk et al., 2021).

MATERIALS AND METHODS

The study was conducted as an explorative mixed methods study in which qualitative data collection and analysis occurs first, followed by quantitative data collection and analysis. This design helps to explore initial questions and develop hypotheses. Then quantitative data helps in testing or confirming the qualitative findings.

QUALITATIVE STUDY

STUDY DESIGN

A descriptive phenomenological design was used to construct themes depicting patient's experiences of living with COVID-19. This methodology was appropriate to explore the following research question: "What level of stress and fear is experienced by COVID-19 patients?"

SETTING

This qualitative study was conducted on participants with confirmed COVID-19 infection.

STUDY DURATION

The study duration is about 6 months i.e., from December 2021 to May 2022.

ETHICAL CONSIDERATIONS

Ethical approval for the conduct of the study was given by Institutional Ethics Committee (IEC). The participants were well known about the aims and objectives of the research work and provided an information sheet explaining the study to the participants and obtained their written consent or verbal consent.

SAMPLING TECHNIQUE

The purposive sampling method was used to invite participants for interviews with a prior history of COVID-19.

PARTICIPANTS SELECTION/RECRUITMENT

The participants in this study were patients with confirmed COVID-19 infection who were isolated either in their homes or in health care centers designated for patients with COVID-19. The number estimated for this study is about 20 participants (men and women) who were in their 18's to 70's age.

INCLUSION CRITERIA:

- ✓ Age between 18 to 70 years
- ✓ Tested positive for COVID-19
- ✓ Providing an informed consent to participate in the study.
  - ✓ Second wave of COVID-19 participantsEXCLUSION CRITERIA:
- ✓ Less than 18 years of age
- ✓ Unwillingness to participate in the study
- ✓ Participants who are not cooperative
- ✓ First wave of COVID-19 participants

SAMPLE SIZE: The number estimated for this study is about 20 participants.

DATA COLLECTION

Data were collected through semi-structured, in-depth interviews with open ended questions. 5 participants were interviewed face to face and 15 participants were interviewed by telephone calls. Interview lasted for approximately 20 to 60 minutes.

All the interviews were simultaneously recorded by audio recorder and transcribed verbatim during first 24 hours. Memos and field notes were used to enrich the interviews and the participants were asked to describe their experience involving with COVID-19 infection.

The key interview questions were as follows:

1. Describe your heartfelt feelings of worrying about the presence of COVID-19symptoms?
2. How much worried you were about your death due to COVID-19?
3. Tell me about the difficulties you have faced to procure medicines?
4. How did social media influenced your mental health?
5. What sources of information did you rely more upon medications?

Data were collected until saturation was reached. The participants also completed a demographic questionnaire (table 1). The only questions asked on the questionnaire were age, gender, marital and employment status, underlying medical condition, route of infection, symptoms of infection and hospitalization period.

TRUSTWORTHINESS:

Trustworthiness of this study is based on Lincoln and Guba's evaluative criteria. Credibility is one of the most important criteria for establishing trustworthiness.

DATA ANALYSIS:

The Colaizzi phenomenological approach was used for data analysis, including seven steps:

1. Read all the patient's descriptions about COVID-19 infection
2. Extract significant statementsFormulate the same meaning statements
3. Categorize the classified meanings into clusters of themes
4. Integrate the findings into an exhaustive description of the phenomenon COVID-19infection
5. Return the descriptions to some patients to assess how they compare with theirexperiences
6. Correct suggested changes in the final description.

One note software is used for the data analysis.

QUANTITATIVE STUDY

1. STUDY DESIGN: The data was collected through a cross-sectional design with surveymethodology.

STUDY SITE: We conducted an online survey through Google forms.

2. STUDY DURATION: The study has been conducted for 6 months i.e., from December 2021to January 2022

3. ETHICAL CONSIDERATIONS: Ethical approval for the conduct of the study was given by Institutional Ethics Committee (IEC). The participants were well known about the aims and objectives of the research work and their participation in this survey was completely voluntary. The informed consent to agree to take part in this survey was obtained.

4. SAMPLING TECHNIQUES: Participants were selected by using snowball sampling technique.

STUDY POPULATION

INCLUSION CRITERIA:

- ✓ Age ≥ 18 years
- ✓ Gender-both male and female
- ✓ Providing an informed consent to participate in the study.

EXCLUSION CRITERIA:

- ✓ Age < 18 years
- ✓ Unwillingness to participate in the study
- ✓ Participants who are not cooperative

5. SAMPLE SIZE: 292 participants were recruited to participate in this study.

6. STUDY INSTRUMENTS:

To measure and evaluate the different levels of distress in the general population during apandemic; we used COVID-19 Stress scales.

COVID STRESS SCALES (Taylor et al., 2020)

PURPOSE: To measure the prevalence and severity of different levels of psychological stress during the pandemic.

CONTENT:

The CSS was constructed to better understand and assess COVID-19-related distress and health- related anxiety during times of pandemic. The scale has 36 items which are grouped into six domains, including 1. Danger (DAN), 2. Socio-economic consequences (SEC), 3. Xenophobia (XEN), 4. Contamination (CON), 5. Traumatic stress symptoms (TSS) and 6. Compulsivechecking and reassurance seeking (CHE).

Items were rated on a 5-point scale ranging from 0 (not at all/never) to 4 (extremely/almostalways).

ITEM	SCALE
Not at all/never	Scored 0
Slightly/rarely	Scored 1
Moderately/sometimes	Scored 2
Very/often	Scored 3
Extremely/almost always	Scored 4

The scores for each of the four domains are calculated as the sum of ratings for each item in that domain. Higher scores indicate more intense or more frequent perceptions. The composite CSS

score (i.e., total score) is the sum of all four domain scores and ranges from 0 (i.e., low COVID- 19-related distress) to 96 (i.e., severe COVID-19-related distress).

DATA COLLECTION

The questionnaires were assembled in electronic format with the Google Forms application. It was sent out through social networks (WhatsApp) to contacts, using the snowball technique.

DATA ANALYSIS:

The qualitative data was represented as frequencies and percentages. The association between socio-demographic characteristics and different levels of stress was estimated using Chi-square test. The level of significance was considered at $p<0.05$. Jeffrey's Amazing Statistical Programme (JASP, version 0.16.0) was used for the analysis.

RESULTS

QUALITATIVE DATA

The data analysis resulted in 4 major themes emerging from the transcribed interviews of 20 participants with a diagnosis of COVID-19.

TABLE : THEMES AND SUB-THEMES THAT EMERGED FROM DATA ANALYSIS

THEMES	SUB-THEMES
1.Emotions after learning aboutthe infection	Shock/disbelief Denial Fear of death Feeling lonely Acceptance and hope
2.Social stigma	Negative influence of social and mass media Feeling guilty
3.Rediscovering relationships	Family support during hard times throughexperiencing hardship Support from others
4.Coping mechanisms	Religiosity Home remedies

QUANTITAVE DATA

This study was conducted among 292 participants to measure the prevalence and severity of different forms of stress in general population during pandemic. Of the 292 participants, 262 (89.7%) were between the age (18-25), 22 (7.5%) were between the age (25-40) and 8 (2.7%) were

between the age (40-55). About 174 (59.5%) respondents were female and 118 (40.4%) were male.

267 (91.4%) respondents were unmarried and 25 (8.5%) were married. About 223 (76.3%) were un-employed and 69 (23.6%) were employed. The social demographic characteristics of participants are presented in Table 3.

TABLE : SOCIO-DEMOGRAPHIC CHARACTERISTICS OF THE PARTICIPANTS(n=292)

CHARACTERISTIC	N (%)
Age(years)	262 (89.7%)
18-25	22 (7.5%)
25-40	8 (2.7%)
40-55	
Gender	174 (59.5%)
FemaleMale	118 (40.4%)
Marital status	25 (8.5%)
Married Unmarried	267 (91.4%)
Employed	223 (76.3%)
No Yes	69 (23.6%)

Among the 24 questions, maximum stress was observed in the question asking "I am worried that if someone coughed or sneezed near me, I would catch the virus", in the section of contamination sub scale. About 35 (11.9%) of the participants agreed on having an extreme level of stress regarding the same. Similarly, minimum stress i.e., 208 (71.2%) was reported in the question asking "I had bad dreams about the virus", in the section of traumatic stress sub scale. Response of the study population to the COVID-19 stress scales questionnaire are presented in table 4.

TABLE 5: CATEGORIZATION OF STRESS IN CSS SCALE

INTERPRETATION	N (%)
Absent	105 (35.95)
Mild	150 (51.37)
Moderate	30 (10.27)
Severe	7 (2.39)

The association of stress levels with demographic variables such as age, gender, marital and employment status was analyzed using the Chi-square test. The variable gender was found to be statistically significant ($p<0.05$) (table 6).

TABLE 6: ASSOCIATION OF DEMOGRAPHIC CHARACTERISTICS WITHDIFFERENT LEVELS OF STRESS

VARIABLES	ABSENT N (%)	MILD N (%)	MODERATE N (%)	SEVERE N (%)	*P*- VALUE
Age (years)					
18-25	97 (33.21)	130 (44.52)	28 (9.589)	7 (2.39)	0.587
25-40	7 (2.39)	14 (4.79)	1 (0.34)	0	
40-55	1 (0.34)	6 (2.05)	1 (0.34)	0	
Gender					
Female	69 (23.63)	77 (26.36)	25 (8.56)	3 (1.02)	**0.003**[*]
Male	36 (12.32)	73 (25)	5 (1.71)	4 (1.36)	
Marital status					
Married	8 (2.73)	14 (4.79)	3 (1.02)	0	0.809
Unmarried	97 (33.21)	136 (46.57)	27 (9.24)	7 (2.39)	
Employed					
No	85 (29.1)	107 (36.64)	25 (8.56)	6 (2.05)	0.215
Yes	20 (6.84)	43 (14.72)	5 (1.71)	1 (0.34)	

*Significance

DISCUSSION

This study aims to understand the meanings and essence of the lived experiences of COVID-19 patients and to evaluate the different levels of stress in general population during pandemic. The study used a mixed-method design, including face to face or telephone interviews, participant demographics and COVID-19 stress scales.

KEY FINDINGS

According to the qualitative data, COVID-19 patients suffered more from psychosocial issues. As part of this phenomenological study, patients who recovered from COVID-19 described their experiences beginning from the moment they learned about their infection to the time following recovery. Those who were interviewed in this study reported negative emotions, social exclusion, and stigma, as well as the fear of re-infection. Additional to this, the interviewees shared what they did to cope with their symptoms, boost their immunity, and to lift their spirits (Alkaissi et al., 2022).

In the current study, people were observed to cope with loss/bereavement/life-threatening incidents through shock/disbelief, denial, fear of death, guilt, loneliness, and finally acceptance/hope. In addition, patients who recovered from COVID-19 expressed feelings of depression, overwhelm, and traumatic memories. It is likely that these negative emotions were intensified by misperceptions and a lack of understanding regarding the nature of the disease, the isolation settings, and the fear of infecting family members. These findings could suggest that psychological support and direct communication might be necessary to mitigate the negative effects of these negative emotions on the mental health of patients who have recovered from COVID-19. Specialists in the field of mental health and psychological support should be aware of the fact that patients who have recovered from COVID-19 may be experiencing anxiety, insomnia, shame, rage, resentment, and internalized stigma. As part of its ongoing pandemic preparedness efforts, the World Health Organization has recommended providing psychological support to the general public. Mental health issues and psychological support are not addressed as part of the current COVID-19 treatment protocols. Therefore, it was suggested that hospitals/healthcare facilities where COVID-19 patients are admitted be required to provide mental health/psychological support and that mental health professionals be included in the screening process (Alkaissi et al., 2022).

Moreover, the participants experienced extreme loneliness and helplessness while receiving treatment in isolation (Son et

al., 2021). Also, (Shaban et al., 2020) found that people in quarantine due to COVID-19 felt isolated and restricted and that their social relationships were severed as time had stopped.

In highly contagious diseases like COVID-19, isolation can't be avoided, so it's vital to improve isolation environments and communication channels between patients and their families and friends. Social media, the internet, and other telecommunications could be useful in improving communication between patients and their loved ones. Furthermore, patients' perceptions and experiences may be significantly impacted by the physical features of the isolation settings. The argument has been made that having enough space to walk around and large windows with a view of the surroundings/nature around the isolated place might reduce the negative psychological effects. (Alkaissi et al., 2022).

Some of the study participants said they distracted themselves by watching TV, praying to God, and reading books.

Participants in this study said they found new insights into their faith during the isolation period and stressed the importance of religion. Almost all study participants believed that a stronger faith would protect them from disease-related negative outcomes (Alkaissi et al., 2012). In several studies, religious activities have been shown to contribute to the improvement of the mental and psychological well-being of patients (Jesmi et al., 2021). According to Nadeem et al., 2017, religion can alleviate stress, anxiety, and depression. Chong et al., 2016 reported that religious activities decreased internal conflicts among cancer patients. Furthermore, Lee et al., 2017 reported that religious activities significantly reduced anxiety and depression among patients with seizures.

As a result of contracting COVID-19 accidentally, the participants experienced social stigma, where they were viewed negatively and rejected by others in society. Stigma and stigmatization affect mental health, which may lead victims to make extreme choices, which may call for special attention and interventions from society (Son et al., 2021). There was an association between the severity of stigmatization and the length of time spent in isolation. As a whole, the results of this study may suggest that interventions might be needed to reduce stigmatization and social exclusion of patients who have contracted COVID-19. There is evidence that such activities may help encourage the disclosure of infections as well as protect others from contracting the disease (Alkaissi et al., 2022).

In our study, participants often consumed hot water, boiled turmeric water, ginger water, and turmeric milk, and inhaled steam in order to relieve the symptoms of the disease and boost immunity.

As a result of this study, there is also evidence of distorted information being spread through social media and the news media. Participants had inaccurate perceptions about asymptomatic conditions and isolation based on such distorted information, displaying suspicion of screening test results and frustration over their separation from health care providers. Health care providers have an important role to play during the COVID-19 pandemic and should provide infection control education to patients and survivors based on close observation and counseling, in order to correct any erroneous knowledge or perception. In order to meet this goal, health care providers must be able to maintain good communication skills during a crisis.

In this study, COVID-19 patients expressed regret for the hardships their family members endured because of their illness, and they appreciated that their families remained steadfast supporters regardless of such difficulties. As infections like COVID-19 impact all family members, it is crucial to implement family-oriented empowerment programs. The participants also felt a sense of warmth and gratitude toward those who comforted and understood them as they were hurt by those who rejected and avoided them; as a result, they reestablished interpersonal relationships. As a consequence, positive support from others plays an important role in the recovery of COVID-19 patients in order for them to return to their everyday lives (Son et al., 2011).

In the quantitative study, the level of stress was assessed using COVID stress scales. This is the first tool that aims to evaluate the psychological consequences of COVID in relation to five domains: COVID danger and contamination fears, COVID fears about economic consequences, COVID xenophobia, COVID compulsive checking and reassurance-seeking, and COVID traumatic stress symptoms (Abbady et al., 2021). In our study, we included four domains (DAN, CON, TSS, and CHE), as these four domains were relevant to our qualitative analysis.

It should be noted that the scales performed well on different indices of reliability and validity. There was a high degree of inter-correlation among the scales, loading on a single higher-order factor, thereby providing evidence of a COVID-19 Stress Syndrome. This scale can be used as a tool for further understanding the distress associated with COVID-19 and for identifying people in need of mental health services as a result. The CSS can also be used to predict which individuals are most likely to engage in safety behaviors as part of research studies. For example, the CSS could be utilized to identify which individuals are most likely to engage in hygiene behaviors, and social distancing, and to take up a vaccine when one becomes available (Taylor et al., 2020).

Among all the questions used in CSS questionnaire, extreme response was observed in the question asking "I am worried that if someone coughed or sneezed near me, I would catch the virus", in the section of contamination sub scale (CON). Similarly, minimum stress was reported in the question asking "I had bad dreams about the virus", in the section of traumatic stress sub scale (TSS).

In this current study, 61.6% of respondents were rated as having mild to moderate stress and 2.39% of respondents were rated as having severe stress due to COVID-19 outbreak. When moderate and severe stress were combined and compared with mild stress, the prevalence of moderate/high stress was significantly higher among female participants (9.58%) than male participants (3.07%) and this was found to be statistically significant among gender. This was consistent with the findings of Prasad et al., 2017. We can emanate this fact with the ones already reported in the literature as well as amongst the Chinese sample, which reveals women as the group more vulnerable to stress and post-stress symptoms over time (Qiu et al., 2020).

When it comes to link between stress and age, we did not find any associations between these two variables. The stress range among 18-25 years of age was significantly higher than other age groups but the results were not statistically significant.

This study also showed no association between the marital status and stress. Married participants were found to be less stressed when compared to unmarried participants but the results were not statistically significant and there was no association between the employment status and the stress. The stress among unemployed was higher than employed and was found to be statistically not significant.

The expectation is that when this pandemic passes, there will emerge significant mental health needs in the public. As predicted, anxiety, depression, and traumatic responses have been observed during past pandemics (such as the SARS quarantine). In this regard, the development of a pandemic-specific measure such as the CSS can facilitate the identification of individuals at risk of adverse emotional reactions both during and after a pandemic. Public health officials can then use this information as a guide when allocating resources for mental health interventions. Further study of the measure may help predict when people will return to normal functioning post- pandemic (Taylor et al., 2020).

LIMITATIONS OF THE STUDY:

QUALITATIVE STUDY-

It's important to acknowledge the limitations of this study when interpreting its results.

First, participants were selected through purposive sampling. In comparison to probability sampling techniques, this non-probability sampling method is inherently biased. Secondly, we questioned participants about their experiences after the second wave of the epidemic, which may have been influenced by recall bias. Additionally, it seems likely that they were unable to accurately describe the psychological effects of COVID-19 on themselves. Third, the study's results cannot also be generalized, as it used a small sample, which is not representative of all participants in COVID-19.

QUANTITATIVE STUDY-

First, the study was conducted online, which could make the measure inaccessible to some people. However, when there's a need for physical distance, online surveys might be the only option during certain periods of pandemic. Only those who received the study link were eligible to participate, which may have introduced selection bias.

In addition, while self-report scales are necessary due to research limitations imposed by the pandemic, the practice may lead to response bias.

CONCLUSION

In conclusion, the patients with COVID-19 infection experienced different challenges like clinical manifestations and mental strains, which were mild to severe depending on the patient's health. In addition, most patients carried out spiritual practices to cope with the strains. Home remedies were used in conjunction with medical prescriptions in order to alleviate their symptoms. Because psychological symptoms are common, it is recommended to get a psychotherapist to help these patients.

Based on the results of this study, the CSS appears to be a valid and reliable instrument for assessing distress during the COVID-19 pandemic. The CSS incorporates six domains. In addition to research about mental health in the current pandemic, this questionnaire should also be used for research on the mental health effects of future epidemics and pandemics. In identifying stress symptoms during and after the COVID-19 pandemic, we can develop and implement intervention programs that can enhance people's ability to cope with stress during a pandemic and have assertive responses to control measures like social isolation and strict confinement.

REFERENCES

1. Roberts, M. E., Knestrick, J., &Resick, L. (2021). The Lived Experience of COVID-19. *The journalfor nurse practitioners:JNP*, *17*(7), 828–832.https://doi.org/10.1016/j.nurpra.2021.04.013

2. Son, H. M., Choi, W. H., Hwang, Y. H., & Yang, H. R. (2021). The Lived Experiences of COVID-19 Patients in South Korea: A Qualitative Study. *International journal of environmental researchand public health*, *18*(14), 7419. https://doi.org/10.3390/ijerph18147419

3. Liu, W., & Liu, J. (2021). Living with COVID-19: a phenomenological study of hospitalised patients involved in family cluster transmission. *BMJ open*, *11*(2), e046128. https://doi.org/10.1136/bmjopen-2020-046128

4. Suhail, A., Iqbal, N., & Smith, J. (2021). Lived experiences of Indian Youth amid COVID-19 crisis: An interpretative phenomenological analysis. *The International journal of socialpsychiatry*, *67*(5), 559–566. https://doi.org/10.1177/0020764020966021

5. Adamczyk, K., Clark, D. A., &Pradelok, J. (2021). The Polish COVID Stress Scales: Considerations of psychometric functioning, measurement invariance, and validity. *PloSone*, *16*(12), e0260459. https://doi.org/10.1371/journal.pone.0260459

6. Taylor, S., Landry, C. A., Paluszek, M. M., Fergus, T. A., McKay, D., &Asmundson, G. (2020). Development and initial validation of the COVID Stress Scales. *Journal of anxiety disorders*, *72*,102232. https://doi.org/10.1016/j.janxdis.2020.102232

7. Schoonenboom, J., & Johnson, R. B. (2017). How to Construct a Mixed Methods Research Design. *KolnerZeitschrift fur Soziologie und Sozialpsychologie*, *69*(Suppl 2), 107–131. https://doi.org/10.1007/s11577-017-0454-1

8. Milic, M., Dotlic, J., Rachor, G. S., Asmundson, G., Joksimovic, B., Stevanovic, J., Lazic, D., StanojevicRistic, Z., SubaricFilimonovic, J., Radenkovic, N., Cakic, M., &Gazibara, T. (2021). Validity and reliability of the Serbian COVID Stress Scales. *PloS one*, *16*(10), e0259062. https://doi.org/10.1371/journal.pone.0259062

9. Abbady, A. S., El-Gilany, A. H., El-Dabee, F. A., Elsadek, A. M., ElWasify, M., &Elwasify, M. (2021). Psychometric characteristics of the of COVID Stress Scales-Arabic version (CSS-Arabic) in Egyptian and Saudi university students. *Middle East Current Psychiatry, Ain Shams University*, *28*(1), 14. https://doi.org/10.1186/s43045-021-00095-8

10. Alkaissi, A., Zaben, F., Abu-Rajab, M., &Alkony, M. (2022). Lived experiences of Palestinian patients with COVID-19: a multi-center descriptive phenomenological study of recovery journey. *BMC public health*, *22*(1), 470. https://doi.org/10.1186/s12889-022-12868-9

11. Jesmi, A. A., Mohammadzade-Tabrizi, Z., Rad, M., Hosseinzadeh-Younesi, E., &Pourhabib, A. (2021). Lived experiences of patients with COVID-19 infection: a phenomenology study. *Medicinskiglasnik : official publication of the Medical Association of Zenica-Doboj Canton, Bosnia and Herzegovina*, *18*(1), 18–26. https://doi.org/10.17392/1247-21

12. Shaban, R. Z., Nahidi, S., Sotomayor-Castillo, C., Li, C., Gilroy, N., O'Sullivan, M., 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. https://doi.org/10.1016/j.ajic.2020.08.032

13. Nadeem, M., Ali, A., &Buzdar, M. A. (2017). The Association Between Muslim Religiosity and Young Adult College Students' Depression, Anxiety, and Stress. *Journal of religion and health*, *56*(4), 1170–1179. https://doi.org/10.1007/s10943-016-0338-0

14. Ng, G. C., Mohamed, S., Sulaiman, A. H., & Zainal, N. Z. (2017). Anxiety and Depression in Cancer Patients: The Association with Religiosity and Religious Coping. *Journal of religion and health*, *56*(2), 575–590. https://doi.org/10.1007/s10943-016-0267-y

15. Lee, S. A., Ryu, H. U., Choi, E. J., Ko, M. A., Jeon, J. Y., Han, S. H., Lee, G. H., Lee, M. K., & Jo, K. D. (2017). Associations between religiosity and anxiety, depressive symptoms, and well- being in Korean adults living with epilepsy. *Epilepsy &behavior : E&B*, *75*, 246–251. https://doi.org/10.1016/j.yebeh.2017.06.005

16. Prasad, M., Patthi, B. R., Singla, A., Gupta, R., Kumar, J. K., Ali, I., Dhama, K., &Niraj, L. K. (2017). Assessment of Anxiety and Depression among Dental Practitioners-An Exploratory Cross-sectional Study. JOURNAL OF CLINICALAND DIAGNOSTIC RESEARCH.https://doi.org/10.7860/jcdr/2017/26783.10701

17. Qiu, J., Shen, B., Zhao, M., Wang, Z., Xie, B., & Xu, Y. (2020). A nationwide survey of psychological distress among Chinese people in the COVID-19 epidemic: implications and policy recommendations. *General psychiatry*, *33*(2), e100213. https://doi.org/10.1136/gpsych-2020-100213

18. Siqian, W., Yingjie, L., Hangying, S., Tongyao, W., Jie, C., Xingmei, F., & Chao-Pin, H. (2020). Psychological Experiences of Patients with COVID-19: A Phenomenological Study. Journal of Nursing and Practice, 3(1). https://doi.org/10.36959/545/383

19. Karimi, Z., Fereidouni, Z., Behnammoghadam, M., Alimohammadi, N., Mousavizadeh, A., Salehi, T., Mirzaee, M. S., &Mirzaee, S. (2020). The Lived Experience of Nurses Caring for Patients withCOVID-19 in Iran: A Phenomenological Study. *Risk management and healthcare policy*, *13*, 1271–1278. https://doi.org/10.2147/RMHP.S258785

20. Sun, N., Wei, L., Wang, H., Wang, X., Gao, M., Hu, X., & Shi, S. (2021). Qualitative study of the psychological experience of COVID-19 patients during hospitalization. *Journal of affective disorders*, *278*, 15–22. https://doi.org/10.1016/j.jad.2020.08.040

21. Dr. Sheela Upendra. (2021). A Phenomenological Study of the Lived Experience of Nursing Educators on Online Teaching. *Annals of the Romanian Society for Cell Biology*, 7106–7109. Retrieved from https://www.annalsofrscb.ro/index.php/journal/article/view/2227

22. Walton, H., Navaratnam, A. V., Ormond, M., Gandhi, V., & Mann, C. (2020). Emergency medicine response to the COVID-19 pandemic in England: a phenomenological study. *Emergencymedicine journal : EMJ*, *37*(12), 768–772. https://doi.org/10.1136/emermed-2020-210220

23. Moradi, Y., Mollazadeh, F., Karimi, P., Hosseingholipour, K., &Baghaei, R. (2020). Psychological disturbances of survivors throughout COVID-19 crisis: a qualitative study. *BMC psychiatry*, *20*(1), 594. https://doi.org/10.1186/s12888-020-03009-w

24. Bartoli, D., Trotta, F., Simeone, S., Pucciarelli, G., Orsi, G. B., Acampora, O., Muzio, M. D.,Cappitella, C., & Rocco, M. (2021). The lived experiences of family members of Covid-19 patients admitted to intensive care unit: A phenomenological study. *Heart &lung : the journal of criticalcare*, *50*(6), 926–932. https://doi.org/10.1016/j.hrtlng.2021.08.002

25. Falvo, I., Zufferey, M. C., Albanese, E., &Fadda, M. (2021). Lived experiences of older adults during the first COVID-19 lockdown: A qualitative study. *PloS one*, *16*(6), e0252101.https://doi.org/10.1371/journal.pone.0252101

26. Missel, M., Bernild, C., Christensen, S. W., Dagyaran, I., & Berg, S. K. (2021). It's Not Just a Virus! Lived Experiences of People

Diagnosed With COVID-19 Infection in Denmark. *Qualitative health research*, *31*(5), 822–834. https://doi.org/10.1177/1049732321990360

27. Norouzadeh, R., Abbasinia, M., Tayebi, Z., Sharifipour, E., Koohpaei, A., Aghaie, B., &Asgarpour, H. (2021). Experiences of Patients With COVID-19 Admitted to the Intensive Care Units: A Qualitative Study. *Journal of patient experience*, *8*, 23743735211007359. https://doi.org/10.1177/23743735211007359

28. Aungsuroch, Y., Juanamasta, I. G., &Gunawan, J. (2020). Experiences of Patients With Coronavirus in the COVID-19 Pandemic Era in Indonesia. Asian Journal for Public Opinion Research, 8(3), 377–392. https://doi.org/10.15206/ajpor.2020.8.3.377

29. Kentish-Barnes, N., Cohen-Solal, Z., Morin, L., Souppart, V., Pochard, F., &Azoulay, E. (2021). Lived Experiences of Family Members of Patients With Severe COVID-19 Who Died in Intensive Care Units in France. *JAMA network open*, *4*(6), e2113355. https://doi.org/10.1001/jamanetworkopen.2021.13355

30. Silwal, S., Khadgi, D., Mahato, A. K., Basnet, S., Thapa, S., &Niraula, A. (2021). Lived Experiences of COVID-19 Survivors in Nepal: A Phenomenological Analysis. *Journal of Collegeof Medical Sciences-Nepal*, *17*(4), 298–307. https://doi.org/10.3126/jcmsn.v17i4.41887

31. Pakpour, A. H., Griffiths, M. D., & Lin, C. Y. (2021). Assessing Psychological Response to the COVID-19: The Fear of COVID-19 Scale and the COVID Stress Scales. *International journal ofmental health and addiction*, *19*(6), 2407–2410. https://doi.org/10.1007/s11469-020-00334-9

32. Delgado-Gallegos, J. L., Montemayor-Garza, R. de J., Padilla-Rivas, G. R., Franco-Villareal, H., & Islas, J. F. (2020). Prevalence of Stress in Healthcare Professionals during the COVID-19

33. Pandemic in Northeast Mexico: A Remote, Fast Survey Evaluation, Using an Adapted COVID-19 Stress Scales. *International Journal of Environmental Research and Public Health*, *17*(20), 7624.https://doi.org/10.3390/ijerph17207624

34. Khosravani, V., Asmundson, G., Taylor, S., SharifiBastan, F., &SamimiArdestani, S. M. (2021). The Persian COVID stress scales (Persian-CSS) and COVID-19-related stress reactions in patients with obsessive-compulsive and anxiety disorders. *Journal of obsessive-compulsive and related disorders*, *28*, 100615. https://doi.org/10.1016/j.jocrd.2020.100615

35. Mahamid, F. A., Veronese, G., Bdier, D., & Pancake, R. (2021). Psychometric properties of the COVID stress scales (CSS) within Arabic language in a Palestinian context. *Current psychology (New Brunswick, N.J.)*, 1–10. Advance online publication. https://doi.org/10.1007/s12144-021- 01794-5

36. Kumar, V. V., Chatterjee, B., &Tankha, G. (2021). The Development and Validation of a Measureto Assess COVID-19 Stress among College Students for Sustainable Education. Sustainability, 13(17), 9828. https://doi.org/10.3390/su1317982

37. Carlander, A., Lekander, M., Asmundson, G., Taylor, S., OlofssonBagge, R., &LindqvistBagge, A. S. (2022). COVID-19 related distress in the Swedish population: Validation of the Swedish version of the COVID Stress Scales (CSS). *PloS one*, *17*(2), e0263888. https://doi.org/10.1371/journal.pone.0263888

38. Noe-Grijalva, M., Polo-Ambrocio, A., Gómez-Bedia, K., &Caycho-Rodríguez, T. (2022). Spanish Translation and Validation of the COVID Stress Scales in Peru. *Frontiers in psychology*, *13*, 840302. https://doi.org/10.3389/fpsyg.2022.840302

39. Backmann, T., Maribo, T., Zwisler, A. D., Davidsen, J. R., &Rottmann, N. (2021). A Mixed Methods Study of Functioning and Rehabilitation Needs Following COVID-19. *Frontiers in Rehabilitation Sciences*, *2*. https://doi.org/10.3389/fresc.2021.710410

40. Morris, M. E., Kuehn, K. S., Brown, J., Nurius, P. S., Zhang, H., Sefidgar, Y. S., Xu, X., Riskin, E. A., Dey, A. K., Consolvo, S., &Mankoff, J. C. (2021). College from home during COVID-19: A mixed-methods study of heterogeneous experiences. PLOS ONE, 16(6), e0251580. https://doi.org/10.1371/journal.pone.0251580

41. van der Goot, W. E., Duvivier, R. J., van Yperen, N. W., de Carvalho-Filho, M. A., Noot, K. E., Ikink, R., Gans, R. O. B., Kloeze, E., Tulleken, J. E., Lammers, A. J. J., Jaarsma, A. D. C., &Bierman, W. F. W. (2021). Psychological distress among frontline workers during the COVID-19 pandemic: A mixed-methods study. PLOS ONE, 16(8), e0255510. https://doi.org/10.1371/journal.pone.0255510

42. Costa, M. L., Souza, R. T., Pacagnella, R. C., Bento, S. F., Ribeiro-do-Valle, C. C., Luz, A. G., Lajos, G. J., Nobrega, G. M., Griggio, T. B., Charles, C. M., Tedesco, R. P., Fernandes, K. G., Martins-Costa, S., Peret, F., Feitosa, F. E., Mattar, R., Cunha Filho, E. V., Vetorazzi, J., Haddad,S. M., Andreucci, C. B., … REBRACO Study Group (2021). Facing the COVID-19 pandemic inside maternities in Brazil: A mixed-method study within the REBRACO initiative. *PloS one*, *16*(7), e0254977. https://doi.org/10.1371/journal.pone.0254977

43. Almendingen, K., Morseth, M. S., Gjølstad, E., Brevik, A., &Tørris, C. (2021). Student's experiences with online teaching following COVID-19 lockdown: A mixed methods explorative study. *PloS one*, *16*(8), e0250378. https://doi.org/10.1371/journal.pone.0250378

44. Verberk, J., Anthierens, S. A., Tonkin-Crine, S., Goossens, H., Kinsman, J., de Hoog, M., Bielicki,

45. J. A., Bruijning-Verhagen, P., & Gobat, N. H. (2021). Experiences and needs of persons living with a household member infected with SARS-CoV-2: A mixed method study. *PloS one*, *16*(3), e0249391. https://doi.org/10.1371/journal.pone.0249391

46. Rad, F. A., Otaki, F., Baqain, Z., Zary, N., & Al-Halabi, M. (2021). Rapid transition to distance learning due to COVID-19: Perceptions of postgraduate dental learners and instructors. *PloSone*, *16*(2), e0246584. https://doi.org/10.1371/journal.pone.0246584

47. Bell, S., Clarke, R. M., Ismail, S. A., Ojo-Aromokudu, O., Naqvi, H., Coghill, Y., Donovan, H., Letley, L., Paterson, P., &Mounier-Jack, S. (2022). COVID-19 vaccination beliefs, attitudes, and behaviours among health and social care workers in the UK: A mixed-methods study. *PloSone*, *17*(1), e0260949. https://doi.org/10.1371/journal.pone.0260949

48. Helou, R. I., Waltmans-den Breejen, C. M., Severin, J. A., Hulscher, M., &Verbon, A. (2022). Use of a smartphone app to inform healthcare workers of hospital policy during a pandemic such as COVID-19: A mixed methods observational study. *PloS one*, *17*(1), e0262105. https://doi.org/10.1371/journal.pone.0262105