Depression, Anxiety, and Coping During the COVID-19 Pandemic Among Indian Expats in the Middle East: A Survey Study

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ABSTRACT

Objective: There are multiple studies indicating that the Indian expat population working in the Middle East is at a significantly high risk for developing anxiety, depression, and suicidal thoughts. The coronavirus disease 2019 (COVID-19) pandemic can precipitate or exacerbate psychological distress among the expat population. The objective of this study was to evaluate psychological distress and coping mechanisms among Indian expats working in the Middle East during the COVID-19 pandemic.

Methods: An online survey was conducted with a semistructured questionnaire using a nonprobability snowball sampling technique. In addition to demographic data, a list of COVID-19 pandemic–related questions, the Brief COPE, the 9-item Patient Health Questionnaire (PHQ-9), and the 7-item Generalized Anxiety Disorder Questionnaire (GAD-7) were also utilized.

Results: A total of 94 responses were received. Of the respondents, 52% reported clinically significant anxiety levels, and 41% reported clinically significant depression levels. Both the PHQ-9 and GAD-7 scores were significantly associated with the level of concern with air traffic restriction ($P < .05$).

Conclusions: Our findings show that governments of both Indian and Middle Eastern countries should pay more attention to the mental health of the expat population while combating COVID-19.

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The coronavirus disease 2019 (COVID-19) pandemic emerged in Wuhan, China and spread to most countries across the globe, including those in the Middle East.[1] Many of the affected patients in these countries were expat workers who represent a significant portion of their respective populations. For example, migrant workers constitute 80% of the total population of the United Arab Emirates, and the majority of these workers come from South Asian countries including India.[2]

Epidemics are major disruptors that can significantly impact all aspects of life. When the COVID-19 epidemic began, many countries, including Gulf Cooperation Council (GCC) countries, announced a weeks-long lockdown. Moreover, as a precautionary measure, they temporarily banned entry of tourists and visitors from COVID-19–affected countries. Saudi Arabia even restricted religious travelers coming to visit the Prophet's mosque and for Umrah. Considering the rapid spread of COVID-19 infection in GCC countries and the risk of spread, relatively unaffected countries like India restricted air travel from the Middle East.

Widespread outbreaks of infectious disease, such as COVID-19, are associated with various psychiatric morbidities. A review[3] exploring the mental health aspect of COVID-19 infection found that symptoms of anxiety and depression (16%–28%), self-reported stress (8%), and insomnia are common psychological reactions to the COVID-19 pandemic. Another survey study[4] exploring psychological distress in the Indian population found that sleep difficulties, paranoia about acquiring COVID-19 infection, and distress related to social media were reported in 12.5%, 37.8%, and 36.4% participants, respectively.

Most of the expat workers from India working in the Middle East are low-skilled, low-paid workers with no job security who live in labor camps or overcrowded buildings, separated from their spouses and families for years.[5] Studies[6] indicate that they are at high risk of developing anxiety, depression, and suicidal thoughts. The COVID-19 pandemic can significantly exacerbate this mental health crisis, as the lockdown, absence of jobs, staying in overcrowded buildings, and travel restrictions may act as stressors and precipitate or exacerbate psychological distress. There are no studies, to the best of our knowledge, exploring the impact of the COVID-19 pandemic on the mental health of the expat population. Considering the relevance of all the above factors, this study aimed to evaluate psychological distress and coping among Indian expats working in the Middle East during the COVID-19 pandemic.

Clinical Points

- A significant number of Indian expats suffer from depression and anxiety during the COVID-19 pandemic.
- The severity of anxiety and depression is significantly associated with the level of concern with air traffic restriction.
- Governments of India and those in the Middle East should pay more attention to the mental health of the expat population while combating COVID-19.

METHODS

This study is the first survey of psychological distress and coping among Indian expats living in the Middle East during the COVID-19 pandemic. This was a cross-sectional, observational study. A snowball sampling technique was used to recruit participants. An online self-report questionnaire was designed using Google forms. Ethical committee approval was obtained.

In addition to demographic data (ie, age, sex, marital status, staying with family, elderly family member in the home, GCC country), we also added a list of COVID-19 pandemic–related questions (ie, Have you been exposed to COVID-19 patients? Have you been quarantined? How much are you concerned with media reports related to COVID-19? How much are you affected by air travel restrictions?). The 9-item Patient Health Questionnaire (PHQ-9)[7] and the 7-item Generalized Anxiety Disorder Scale (GAD-7)[8] were also incorporated to assess levels of depression and anxiety, respectively. For the PHQ-9, scores of 5–9, 10–14, 15–19, and 20–27 corresponded to mild, moderate, moderately severe, and severe depression symptoms, respectively.[7] Cutoff points of 5, 10, and 15 are interpreted as representing mild, moderate, and severe levels of anxiety on the GAD-7.[8] These self-administered rating scales are based on the *Diagnostic and Statistical Manual of Mental Disorders*, Fourth Edition criteria for major depressive disorder and generalized anxiety disorder.

The Brief COPE[9] was used to measure the coping strategies utilized during the COVID-19 outbreak. The 28-item scale assesses problem-focused coping (active coping, planning, and use of instrumental support) and emotion-focused coping (use of emotional support, acceptance, positive reframing, religion, humor, substance use, self-distraction, self-blame, denial, behavior disengagement, and venting). We asked participants to report how often they used the strategy described in each question during the COVID-19 pandemic, ranging from 1 ("I haven't been doing this at all") to 4 ("I've been doing this a lot") on 4 levels. Higher scores indicated higher levels of coping.

The link to the questionnaire was sent through WhatsApp and other social media platforms to the contacts of the investigators, and participants were encouraged to forward the survey to at least 10 more people. After receiving and clicking the link, participants were automatically directed to information about the study, and after accepting to take part in the survey, they provided demographic details. Then, a set of several questions related to the COVID-19 pandemic appeared sequentially, followed by the Brief COPE, PHQ-9, and GAD-7, which the participants were to answer. The data collection was initiated on April 12, 2020 at 7 PM India standard time.

Data were analyzed using SPSS version 14 (IBM, Armonk, New York). Means, standard deviations, frequencies, and percentages were used to describe the data. Spearman correlation was used to study the association of demographic and COVID-19–related variables with psychiatric morbidity and Brief COPE domains. Pearson correlation was used to study the association of Brief COPE domains and psychiatric morbidity.

Table 1. Demographic Characteristics of the Sample (N = 94)

Characteristic	n (%)
Age, y	
20–30	24 (25.5)
31–40	53 (56.4)
41–50	12 (12.8)
51–60	4 (4.3)
>60	1 (1.1)
Sex	
Female	14 (14.9)
Male	80 (85.1)
Marital status	
Unmarried	11 (11.7)
Married	83 (88.3)
Staying with family	
Yes	49 (52.1)
No	45 (47.9)
Elderly family member in the home[a]	
Yes	9 (18.7)
No	39 (81.3)
Gulf Cooperation Council country[b]	
United Arab Emirates	32 (35.6)
Saudi Arabia	26 (28.9)
Kuwait	4 (4.4)
Oman	5 (5.6)
Qatar	22 (24.4)
Bahrain	1 (1.1)

[a]N = 48.
[b]N = 90.

RESULTS

Study Sample

We received 94 responses between April 12, 2020, and April 19, 2020. Of the participants, 81.9% were aged 20–40 years, 85.1% were male, and 88.3% were married. Also, 52.1% were staying with their families, and 18.7% had an elderly family member in their home. Most of the respondents were working in the United Arab Emirates (35.6%), followed by Saudi Arabia (28.9%) and Qatar (24.4%). Table 1 provides the sociodemographic characteristics of the 94 patients.

COVID-19 Pandemic–Related Details

Of the sample, 6.4% confirmed a history of exposure to COVID-19–positive individuals, and 6.4% reported being quarantined. Also, 17% of the respondents suffered from

Table 2. COVID-19–Related Details[a]

Question	Yes	No
Have you been exposed to a COVID-19–infected patient?	6 (6.4)	88 (93.6)
Have you been quarantined?	6 (6.4)	87 (93.6)
Have you suffered from COVID-19 symptoms in the last month?	16 (17)	78 (83)
Have you received medical care for your symptoms?[b]	8 (53.3)	7 (46.7)
How much are you satisfied with the medical care you received?[c]		
Very good	2 (25)	
Good	4 (50)	
Better	1 (12.5)	
Bad	1 (12.5)	
How much are you concerned with media reports related to COVID-19?		
Less concerned	5 (5.3)	
Concerned	36 (38.7)	
More concerned	30 (32.3)	
Extremely concerned	22 (23.7)	
How much are you affected by the air travel restrictions?		
Less affected	24 (25.8)	
Affected	31 (33.3)	
More affected	17 (18.3)	
Extremely affected	21 (22.6)	

[a]Data are presented as n (%).
[b]N = 15.
[c]N = 8.
Abbreviation: COVID-19 = coronavirus disease 2019.

Table 3. Levels of Anxiety and Depression

Variable	n (%)
Anxiety according to GAD-7 score[a]	
No anxiety	41 (47.7)
Mild anxiety	25 (29.1)
Moderate anxiety	8 (9.3)
Severe anxiety	12 (13.9)
Depression according to PHQ-9 score[b]	
No depression	46 (59.0)
Mild depression	15 (19.2)
Moderate depression	9 (11.5)
Moderately severe depression	6 (7.7)
Severe depression	2 (2.6)

[a]N = 86.
[b]N = 78.
Abbreviations: GAD-7 = 7-item Generalized Anxiety Disorder Scale, PHQ-9 = 9-item Patient Health Questionnaire.

Table 4. Spearman Correlation of Demographic and COVID-19–Related Variables and PHQ-9 and GAD-7 Scores

Variable	PHQ-9	GAD-7
Age	−0.302*	−0.358*
Sex	0.009	−0.072
Marital status	0.157	0.087
Staying with family	0.241**	0.062
Elderly family member in the home	0.161	0.244
Exposure to COVID-19 patients	−0.068	0.001
History of quarantine	0.009	−0.090
Suffering from symptoms	−0.065	−0.147
Concern with media reports related to COVID-19	0.215	0.314*
Concern with air travel restrictions	0.250**	0.220**

*Correlation is significant at the .01 level (2-tailed).
**Correlation is significant at the .05 level (2-tailed).
Abbreviations: COVID-19 = coronavirus disease 2019, GAD-7 = 7-item Generalized Anxiety Disorder Scale, PHQ-9 = 9-item Patient Health Questionnaire.

symptoms such as fever, cough, tiredness, or shortness of breath during the last month, and 53.3% received medical care. The respondents rated the quality of the medical care they received as very good (25%), good (50%), better (12.5%), and bad (12.5%). Results showed that 38.7% were concerned about the media reports related to the COVID-19 pandemic, and 23.7% were extremely concerned. Also, 33.3% reported being affected by air travel restriction during the pandemic, and 22.6% were extremely affected. The details are summarized in Table 2.

Levels of Anxiety and Depression and Correlations

Clinically significant anxiety levels were reported by 52.3% of respondents: mild anxiety (29.1%), moderate anxiety (9.3%), and severe anxiety (13.9%). Forty-one percent of respondents reported clinically significant depression levels: mild depression (19.2%), moderate depression (11.5%), moderately severe depression (7.7%), and severe depression (2.6%). The details are summarized in Table 3. The PHQ-9 scores were significantly associated with age ($P < .01$), staying with family ($P < .05$), and the level of concern with air traffic restriction ($P < .05$). The GAD-7 scores were significantly associated with age ($P < .01$), level of concern with media reports related to the COVID-19 pandemic ($P < .01$), and level of concern with air traffic restriction ($P < .05$). The Spearman correlations of demographic and COVID-19–related variables and PHQ-9 and GAD-7 scores are shown in Table 4. Moreover, there was a statistically significant association between PHQ-9 and GAD-7 scores ($P < .01$).

Analysis of Brief COPE Domains

The most common coping strategies used by the studied population during the COVID-19 outbreak were acceptance, religion, active coping, positive reframing, emotional support, self-distraction, planning, and instrumental support. The least common coping strategies used were substance use, denial, humor, self-blame, and behavioral

Table 5. Brief COPE Domain Results

Domain	Mean (SD)
Self-distraction	5.18 (1.47)
Active coping	5.66 (1.60)
Denial	3.26 (1.62)
Substance use	2.11 (0.68)
Use of emotional support	5.20 (1.60)
Use of instrumental support	5.12 (1.76)
Behavioral disengagement	3.91 (1.62)
Venting	4.06 (1.61)
Positive reframing	5.44 (1.75)
Planning	5.16 (1.59)
Humor	2.96 (1.49)
Acceptance	6.46 (1.34)
Religion	6.20 (1.81)
Self-blame	2.88 (1.31)

disengagement. The means and standard deviations of the 14 domains of the Brief COPE are provided in Table 5. The Spearman correlation of demographic and COVID-19–related variables and Brief COPE domains showed significant correlation between age and self-blame (0.262, $P<.05$) and denial (0.343, $P<.01$), marital status and denial (0.213, $P<.05$), history of exposure to COVID-19–positive patients and humor (−0.312, $P<.01$) and self-blame (−0.286, $P<.01$), concern with media reports and denial (−0.234, $P<.05$) and positive reframing (−0.252, $P<.05$), and travel restrictions and positive reframing (0.246, $P<.05$), planning (0.222, $P<.05$), and acceptance (0.303, $P<.01$). There was no significant association between Brief COPE domain scores and PHQ-9 and GAD-7 scores.

DISCUSSION

This study evaluated the psychological distress and coping strategies among Indian expats working in the Middle East. We found that 52% of the study population suffers from clinically significant anxiety symptoms and 41% from clinically significant depression. We found no other study evaluating psychological distress among the expat population during the COVID-19 pandemic. However, the rates of anxiety and depression found in our study are significantly higher than those of past studies,[10,11] which found rates of 20.3% for clinically significant anxiety and 25.1% for clinically significant depression among the expat population in the Middle East before COVID-19. Previous studies[10,11] used the Depression Anxiety and Stress Scale to explore depression and anxiety. Moreover, previous research[11] also found that the prevalence of depression was significantly less among Indian expats (13.8%) compared to those from other countries. The high rate of anxiety and depression in our sample indicates that the COVID-19 pandemic and associated changes are significant stressors in the personal and social lives of the Indian expat population.

We also found a significant association between age and psychiatric morbidity. Sim et al[12] explored the prevalence of severe acute respiratory syndrome (SARS)–related psychiatric morbidities in Singapore and found significant association of psychiatric morbidity with younger age. The relationship between psychiatric morbidity and younger age may be related to differences in coping styles among younger individuals. We found a significant association between age and 2 domain scores of the Brief COPE: self-blame and denial.

There was a statistically significant association between subjective concern with media reports related to the COVID-19 pandemic and levels of anxiety. The association of excessive media use and psychological distress has been recognized in the literature, and recent evidence suggests that repeated exposure to news related to traumatic events can lead to activation of fear circuitry in the brain and precipitate posttraumatic stress disorder symptoms.[13] A recent study[14] from China highlighted the negative role of frequent social media exposure during the COVID-19 outbreak in precipitating anxiety and depression.

We found a statistically significant association between subjective concern with air traffic restrictions during the COVID-19 pandemic and level of anxiety and depression. A significant proportion of our sample expressed concerns regarding air travel restriction to varying degrees—22.6% reported that they were extremely affected by the air travel restrictions. The majority of our sample was married but living alone, and air travel restrictions made it impossible for them to visit their home country even in the case of an emergency. The restrictions were mandated by the government to avoid the spread of infection, as most of the early cases of COVID-19 in India were detected among people returning from countries in the Middle East. However, considering the significant psychological impact of travel restrictions, it would be prudent to ease travel restrictions at least for those expats who want to return to India for emergency reasons.

The frequently used coping strategies by respondents in our study were mainly emotion-focused coping strategies such as acceptance and religion. However, a significant proportion also used problem-focused coping (active coping, planning, and use of instrumental support). Previous research[12] has shown that emotion-focused coping strategies such as self-blame are a reflection of an underlying sense of frustration and guilt related to responsibility attribution and interpersonal reactions, which can contribute to psychiatric morbidity. We found significant associations between age, history of exposure to COVID-19, and self-blame coping. Moreover, contrary to previous findings,[12] we found that substance use was one of the least-used coping strategies among the respondents. It could be due to the unavailability of substances in some Middle Eastern countries, and many of the participants were followers of the Islamic religion in which substance use is strictly prohibited. Our study showed no association between various domains of coping and psychiatric morbidities.

CONCLUSIONS

We explored psychological distress and coping among Indian expats working in the Middle East and found that 52.5% of the study population suffer from clinically

significant anxiety symptoms and 41% from clinically significant depression. We found a statistically significant association between subjective concern with media reports related to the COVID-19 pandemic and level of anxiety and a statistically significant association between subjective concern with air traffic restrictions during the COVID-19 pandemic and level of anxiety and depression. Moreover, we found that the frequently used coping strategies by respondents in our study were mainly emotion-focused coping strategies such as acceptance and religion. These findings indicate that governments of both Indian and Middle Eastern countries should pay closer attention to the mental health of the expat population while combating COVID-19.

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