Awareness, attitude, and perceived anxiety about COVID-19 in the Iranian population: A cross-sectional questionnaire survey

Mahsa Ghasemi1 | Deblina Roy2 | Mina Shabani1 | Nitika Singh2 | Reza Pirzeh1 | Sujita Kumar Kar2

1Department of Psychiatry, School of Medicine, Zanjan University of Medical Sciences, Zanjan, Iran
2Department of Psychiatry, King George’s Medical University, Lucknow, U.P. 226003, India

Correspondence
Sujita Kumar Kar, Department of Psychiatry, King George’s Medical University, Lucknow-226003, U.P., India.
Email: drsujita@gmail.com

Abstract
An emergence of mental health issues among the general population has been reported during the COVID-19 pandemic. This study aimed to estimate COVID-19 awareness, attitude, and perceived anxiety among the Iranian people. This is a cross-sectional web-based survey done on the community population of Iran. The sample population was recruited through purposive sampling. The study questionnaire was circulated through online platforms as a web link. A questionnaire used in previous research has been used after translation in a sample of 375 adults from Iran. The majority of the participants in the study have a favourable attitude towards hand washing, social distancing, self-quarantine/isolation, and governmental policies regarding COVID-19. Similarly, many people feel anxious about partying, traveling, meetings, online shopping, and social contact. Anxiety related to contracting COVID-19 infection is reported in a larger populace. Most (> 80 percent) of the participants agree with the need for mental healthcare during the COVID-19 pandemic. The Iranian population has a favorable attitude towards the prevention of COVID-19. High anxiety and a perceived need for mental healthcare need in the community necessitates amelioration of mental healthcare during this challenging time.

1 | INTRODUCTION

The novel coronavirus disease (COVID-19) was first reported in Iran on February 19th, 2020. Since then, it has become one of the most affected countries. More than 7 million cases (By the last week of March 2022) of COVID-19 have affected the country severely. Iran is one of the largest countries in West Asia and holds a geostrategic position between Asia and Europe. Iran is also home to more than 84 million people, with the most populous city being the capital Tehran. Iran has been severely affected by COVID-19 in various ways due to the imposed international sanctions and difficulty importing...
essential medical supplies during the pre-COVID-19 crisis state (Ahmad et al. 2021; Murphy, Abdi, and Harirchi, 2020). According to a study, Iran’s capacity to raise funds and import medical care is highly stunted by the sanctions applied in March 2020. The COVID-19 pandemic has impacted the mental health of the people gravely (Zandifar and Badrfam Zandifar and Badrfam, 2020).

Diseases are stressful for anyone. As COVID-19 was an illness without any available treatment and high infection rates, it increased the stress among people throughout the nation. A survey from Iran reported that women and adolescents have significantly higher anxiety levels than the general population (Moghani-bashi-Mansourieh, 2020). There has been an increase in the levels of stress and anxiety throughout the world due to this pandemic. A study from India reported an awareness among the people regarding COVID-19, as well as high levels of anxiety and a perceived need for mental health care (Roy, Tripathy, and Kar, 2020). Studies in and across the world reported that an increased demand on healthcare settings and lockdown measures, regionally and nationally, have impacted the lives of one and all. The uncertainty regarding the duration of the pandemic and an absence of treatment with no existing vaccine made this disease deadly, leading to unpredictable consequences. Such circumstances produced a sense of mental agony, which is liable to increase the care burden among the general population.

Anxiety is one of the most common responses to universal threats. Anxiety also plays a preparatory role to alert oneself and to prepare to tackle the stressful situation. But prolonged stress can have harmful effects on the lives of people. Iran has been undergoing various issues, mainly geographical and socio-political instability and economic growth (Murphy, Abdi, and Harirchi, 2020). There is much at stake with densely populated cities and high death rates in Iran; the prevalence of situational crisis is undeniable. This propagates the need for understanding public opinion and the requirement of healthcare in the country.

There are high chances of fear of death, hopelessness, and anxiety regarding the current scenario, and studies have reported their prevalence (Chen, Zhang, and Lu, 2020; Li, Guan, and Wu, 2020; Zandifar and Badrfam 2020). Understanding the awareness, attitude, mental health challenges like anxiety due to the COVID-19 pandemic, and perceived mental healthcare need in the community will enable the government and healthcare system to respond to these needs. Unfortunately, there is a lack of literature and evidence in this area for Iran. It was hypothesised that there would be increased anxiety and mental healthcare need in the community during this COVID-19 pandemic. The whole world is keeping a watch on Iran’s condition, which also puts pressure on the nation to perform well and the already weak healthcare system is put to the test. We conducted a short-term online survey on the awareness, attitude, and perceived self-reported anxiety and need for Iran’s healthcare requirements. Participants from the majority of regions of Iran had participated in the survey.

2 METHODS

This was a cross-sectional study conducted in the community population to identify the awareness and attitude regarding COVID-19, perceived anxiety, and mental healthcare need among Iran’s general population. The tool used in this study was adopted from a study (“Study of knowledge attitude and anxiety and perceived need for health care in Indian population”) done in India (Roy, Tripathy, and Kar, 2020). The tool was translated into the Iranian language by the team of investigators. We used a purposive sampling technique to recruit participants for the survey. During the study period, the COVID-19 cases were increasing rapidly, so face-to-face interview and random allocation of samples was not possible. Hence, we used purposive sampling technique. The link to the survey questionnaire was circulated through personal and social sites (Facebook, LinkedIn, and WhatsApp). On clicking the link, participants were directed to a page that described the study’s purpose and asked for consent to participate in the study. After consenting, the participants were directed to a page that collected their socio-demographic details. This was followed by sets of questions that measured the participants’ awareness (knowledge), attitude, anxiety, and perceived mental healthcare needs qualitatively.
The questionnaire consisted of 43 questions. The first part of the questionnaire (Qn. 1 to 8) were on the socio-demographic details. The second section dealt with awareness about COVID-19. It contained six questions (Qn. 9 to 14). The third section dealt with attitude towards the COVID-19 pandemic. It contained seven questions (Qn. 15 to 21) and used a 5-point Likert scale. The fourth section measured the anxiety related to COVID-19, consisting of 18 questions. It also used a 5-point Likert scale (never (1), occasionally (2), sometimes (3), often (4), and always (5)). The fifth section measured the perceived mental healthcare need. It had four questions, with answers recorded as Yes, No, or Maybe.

We only included people who were above 18 years of age and could understand the Iranian language. Adults were considered as they were capable to provide consent for their participation in the study. The data was collected between April 28th to 30th, 2020. A sample size of 384 was calculated. The patients’ participation was voluntary and the consent was collected online. The data collection team of investigators had ensured the confidentiality of the participants. We had followed the Declaration of Helsinki’s ethical principles for medical research involving human subjects. Data were presented using descriptive statistics (in terms of percentages, proportions, and ratios). This study’s data was compared with a similar study conducted in India by applying Fisher’s Exact test. Test findings are considered significant when the p-value was less than 0.05. Missing data (if any of the questions were unanswered) were not counted during analysis.

3 | RESULT

The mean age of the participants was 36.5 years. About 52 percent of the participants were female, and 47 percent were male. Most had a professional background (39 percent), and only about 9 percent belonged to the healthcare sector. More than 94 percent of these participants had resided in urban areas of Iran (Table 1). The dataset also showed that those who participated in the survey were all Muslim. Figure 1 shows the regions of Iran from where the participants were recruited.

As shown in Table 2, depicting the knowledge about COVID-19 disease among the Iranian population, most people had substantial knowledge about the disease. About 87.4 percent were aware of the mode of spread of the virus, acknowledging that it could spread through touch, sneezing, kissing, and even through food. Though more than 66 percent of the participants accepted that COVID-19 is a contagious disease, only 33 percent were aware of the infection’s major signs and symptoms. Also, more than 55 percent of the participants were unaware of the unavailability of standard treatment.
### TABLE 1  Sociodemographic profile of the respondents

| Sl. | Socio-demographic attributes | Responses received | Results |
|-----|-----------------------------|--------------------|---------|
|     |                             |                    | Mean    | SD      |
| 1   | Age (in years)              | 350                | 35.6    | 10.72   |
| 2   | Gender                      | 375                |         |         |
|     | Male                        | 178                | 47.40%  |         |
|     | Female                      | 196                | 52.10%  |         |
|     | Prefer not to say           | 1                  | 0.00%   |         |
| 3   | Occupation                  | 372                |         |         |
|     | Professional                | 114                | 38.70%  |         |
|     | Business                    | 27                 | 7.20%   |         |
|     | Student                     | 24                 | 6.40%   |         |
|     | Other                       | 122                | 32.70%  |         |
|     | Unemployed                  | 55                 | 14.70%  |         |
|     | Healthcare                  | 30                 | 8.60%   |         |
| 4   | Domicile                    | 375                |         |         |
|     | Urban                       | 355                | 94.60%  |         |
|     | Rural                       | 20                 | 5.30%   |         |
| 5   | Religion                    | 375                |         |         |
|     | Muslim                      | 375                | 100%    |         |

### TABLE 2  Awareness about COVID-19 in Iranian population (n = 375)*

| Sl. | Items                                                                 | 5  | 4  | 3  | 2  | 1  |
|-----|------------------------------------------------------------------------|----|----|----|----|----|
|     | Attitude about COVID-19 and preventative measures                      | Strongly agree | Mostly agree | Somewhat agree | Mostly disagree | Strongly disagree |
| 1   | I can get affected by COVID-19.                                       | 20 | 58 | 224| 47 | 22 |
| 2   | I agree to the government guidelines regarding the COVID-19 pandemic. | 41 | 132| 99 | 64 | 35 |
| 3   | I think washing hands frequently can lower the risk of COVID-19.       | 169| 167| 26 | 5  | 7  |
| 4   | I will be going to quarantine/isolate myself if i have fever and cough.| 165| 158| 34 | 10 | 3  |
| 5   | I think social distancing is essential to stop the virus spread.       | 248| 99 | 18 | 7  | 1  |
| 6   | I think traveling across/within the country is safe during these times.| 18 | 20 | 20 | 65 | 250|
| 7   | Patients with COVID-19 who are declared cured should not be allowed to stay within the community at this time. | 75 | 0  | 85 | 0  | 215|

*All the items were not answered by all the patients, so the number of responses varied for each item.*
Only 9 percent and 7 percent of the participants negated the importance of self-quarantine and isolation, respectively. The majority (95 percent) of the respondents believed that pets could spread the novel coronavirus.

Figure 2 shows the attitude of participants about the COVID-19 pandemic and the preventive measures. A significant number of participants (81.4 percent) felt that they could be affected by the COVID-19 pandemic. About 72.5 percent of participants agreed to the government guidelines regarding the virus. A total of 96.5 percent of people agreed that washing hands frequently could control the spread of the virus. The majority of participants (95.2 percent) were vigilant to isolate themselves if they would become symptomatic. Simultaneously, 97.3 percent considered social distancing as an essential measure to prevent the spread of the virus. About 84 percent responded that traveling was not safe, and about 42.7 percent of the total participants were reluctant to accept the cured patients back in the community during the pandemic.

Table 3 shows the anxiety of the participants towards the COVID-19 pandemic. About 44.3 percent of the participants responded that they often or always had thought about the COVID-19 pandemic. Also, about 44.8 percent of participants felt paranoid about contracting the virus. The dataset revealed that 73.8 percent and 72 percent of the participants accepted to avoid partying and social contact, respectively. The majority of the participants (80.7 percent) also avoided large meetings and gatherings or ordering food online (76.8 percent). Approximately 11.2 percent of participants reported frequent sleep disturbances (often to always) during this COVID-19 pandemic. Also, about 68 percent felt the need to use sanitisers and gloves, and 64.7 percent accepted that they had worn masks even without any signs of infection. The dataset suggests that a significant percentage of participants (85 percent) felt the need to frequently wash their hands.

As shown in Figure 2, 80.42 percent of the participants considered it necessary to get mental health help if one panics during the pandemic. Also, about 86.32 percent thought that it would be beneficial if mental health professionals would help the people in dealing with the COVID-19 pandemic. A majority of participants (85.8 percent) agreed that those highly affected by the COVID-19 pandemic should obtain mental health help.

As this study adopted the questionnaire used in another study (Roy et al., 2020), we compared the findings (anxiety related to COVID-19) with the results of the above published study (Table 4). Between the Iranian and Indian populations, there are considerable differences in the level of anxiety.

**FIGURE 2** (a) Beliefs on mode of transmission of COVID-19; (b) Beliefs regarding the nature and outcome of illness (COVID-19); (c) Perceived mental healthcare need during COVID-19 pandemic [Colour figure can be viewed at wileyonlinelibrary.com]
| Sl. | Items                                                                 | Never | Occasionally | Sometimes | Often | Always |
|-----|----------------------------------------------------------------------|-------|--------------|-----------|-------|--------|
| 1   | From the last week, how often do you think about the COVID-19 pandemic? | 29    | 92           | 88        | 86    | 80     |
| 2   | From the last one week, how often do you feel paranoid about contracting COVID-19? | 28    | 82           | 100       | 94    | 70     |
| 3   | From the last week, how often you avoid partying?                    | 20    | 36           | 42        | 97    | 179    |
| 4   | From the last week, how often you avoid social contact?             | 18    | 41           | 46        | 144   | 125    |
| 5   | From the last week, how often you avoid large meetings and gatherings? | 13    | 32           | 26        | 85    | 212    |
| 6   | From the last week, how often you avoid ordering food online?       | 60    | 8            | 19        | 21    | 267    |
| 7   | From the last week, how often you have talked to your friends about the COVID-19 pandemic? | 13    | 74           | 97        | 129   | 61     |
| 8   | From the last one week, how often you have had difficulty sleeping by being worried about the COVID-19 pandemic? | 187   | 78           | 67        | 27    | 15     |
| 9   | From the last week, how often do you feel affected by posts on social media about COVID-19 infection? | 62    | 103          | 114       | 75    | 20     |
| 10  | From the last week, how often do you feel affected by the talk of the COVID-19 pandemic on the newspaper and news channels? | 61    | 111          | 105       | 63    | 33     |
| 11  | From the last week, how often do you feel the need to buy and stock all essentials at home? | 20    | 90           | 120       | 95    | 47     |
| 12  | From the last week, how often do you get afraid if anyone in your social circle reports being sick? | 135   | 81           | 92        | 38    | 26     |
| 13  | From the last week, how often do you feel the need to use the sanitiser/gloves? | 14    | 50           | 56        | 93    | 161    |
| 14  | From the last week, how often do feel the need to constantly wash your hands? | 7     | 15           | 34        | 95    | 223    |
| 15  | From the last one week, how often do you feel worried about yourself, and close ones regarding the spread of COVID-19? | 22    | 72           | 90        | 89    | 101    |
| 16  | From the last week, how often do you use a mask without any apparent signs and symptoms of the infection? | 37    | 47           | 48        | 100   | 142    |
| 17  | From the last week, how often has the idea of COVID-19 infection freaked (disturbed) you out leading to inappropriate behaviors with anyone? | 134   | 88           | 81        | 32    | 37     |
| 18  | From the last week, how often has the idea of COVID-19 infection freaked (disturbed) you out due to posts on social media? | 193   | 74           | 64        | 21    | 22     |
## Comparison of anxiety related to COVID-19 in the current study and previous similar study

| Sl. | Items*                                                                 | Current study (n = 375) | Study of Roy et al. (n = 662) | Fisher’s exact test |
|-----|----------------------------------------------------------------------|-------------------------|--------------------------------|---------------------|
| 1   | From the last week, how often do you think about the COVID-19 pandemic? | 166 (44.27%)            | 544 (82.2%)                    | p < 0.0001          |
| 2   | From the last one week, how often you feel paranoid about contracting COVID-19? | 164 (43.73%)            | 250 (37.8%)                    | p = 0.0647          |
| 3   | From the last week, how often you avoid partying?                     | 276 (73.60%)            | 596 (90.1%)                    | p < 0.0001          |
| 4   | From the last week, how often you avoid social contact?               | 269 (71.73%)            | 543 (82.1%)                    | p = 0.0002          |
| 5   | From the last week, how often you avoid large meetings and gatherings? | 297 (79.2%)             | 590 (89.1%)                    | p < 0.0001          |
| 6   | From the last week, how often you avoid ordering food online?         | 288 (76.80%)            | 508 (76.7%)                    | p = 1.0             |
| 7   | From the last week, how often you have talked to your friends about the COVID-19 pandemic? | 190 (50.67%)            | 534 (80.7%)                    | p < 0.0001          |
| 8   | From the last one week, how often have you had difficulty sleeping due to being worried about the COVID-19 pandemic? | 42 (11.20%)             | 83 (12.5%)                     | p = 0.5528          |
| 9   | From the last week, how often you feel affected by posts on social media about COVID-19 infection? | 95 (25.33%)             | 241 (36.4%)                    | p = 0.0002          |
| 10  | From the last week, how often do you feel affected by the talks of the COVID-19 pandemic in the newspaper and on news channels? | 96 (25.60%)             | 305 (46.1%)                    | p < 0.0001          |
| 11  | From the last week, how often do you feel the need to buy and stock all essentials at home? | 142 (37.87%)            | 210 (31.7%)                    | p = 0.0479          |
| 12  | From the last week, how often do you get afraid if anyone in your social circle reports being sick? | 66 (17.60%)             | 273 (41.3%)                    | p < 0.0001          |
| 13  | From the last week, how often do you feel the need to use the sanitiser/gloves? | 254 (67.73%)            | 512 (77.4%)                    | p = 0.0009          |
| 14  | From the last week, how often do you feel the need to constantly wash your hands? | 318 (84.80%)            | 559 (84.5%)                    | p = 0.9288          |
| 15  | From the last one week, how often do you feel worried about yourself, and close ones regarding the spread of COVID-19? | 190 (50.67%)            | 477 (72%)                      | p < 0.0001          |
| 16  | From the last week, how often do you use a mask without any apparent signs and symptoms of the infection? | 242 (64.53%)            | 242 (36.6%)                    | p < 0.0001          |

(Continues)
TABLE 4 (Continued)

| Sl. | Items*                                                                 | Current study (n = 375) | Study of Roy et al. (n = 662) | Fisher’s exact test |
|-----|------------------------------------------------------------------------|-------------------------|-------------------------------|---------------------|
| 17  | From the last week, how often does the idea of COVID-19 infection freak (disturb) you out leading to inappropriate behaviors with anyone? | 69 (18.40%)            | 202 (30.5%)                  | p < 0.0001          |
| 18  | From the last week, how often does the idea of COVID-19 infection freak (disturb) you out due to posts on social media? | 43 (11.47%)            | 296 (44.7%)                  | p < 0.0001          |

*The often and always responses are clubbed together.

4 | DISCUSSION

Our study assessed the awareness, attitude, and perceived anxiety related to the COVID-19 in the Iranian population. A similar survey was conducted in India, which showed that most of the educated and health professionals were aware of the infection, possible preventive measures, and the importance of social distancing. Also, people had a higher perceived need to deal with mental health difficulties (Roy et al., 2020). A study from Bangladesh also reported that around 40 percent of the people had awareness about the COVID-19 pandemic, and the majority of them were willing to follow the social distancing protocols and were actively engaged in social-distancing measures (Ferdousa et al., 2020).

In Iran, by mid-October 2020, a total of 513,219 people were infected with COVID-19 and 29,349 individuals had lost their lives (WHO, 2020). With the pandemic causing such a significant impact on the country, it became a matter of concern about public health and national well-being.

Studies from around the world have reported that the COVID-19 pandemic has brought about a change in people’s lives, and mental stress and strain have affected all nations. A study from Egypt reported that many adults experienced psychological impact, affecting areas like work, financial condition, and home environment. The majority of those affected were younger females, belonging to urban areas who were not well-educated. Studies also suggested that the pandemic increased apprehension and helplessness amongst the population (El-Zoghby et al., 2020). Another study in Mexico showed that there was about a 51 percent increase in anxiety and up to an 86 percent increase in depression during the initial weeks of the spread of the pandemic. The study concluded that fear of infection had fuelled several mental health issues, such as depression, anxiety, and sleep disturbances (Garcia-Priego et al., 2020). An online survey from the Kurdistan region of Iraq showed that the novel coronavirus had a significant impact on people’s live status. Of all the participants, about 50 percent identified that COVID-19 was a threatening disease, and about 22 percent identified the conditions as fatal (Azize et al., 2020).

The awareness of the COVID-19 virus, its manifestations, and its effect on general well-being determines the population’s attitude towards the illness. In earlier studies, it has been well-established that lack of awareness and spurious beliefs regarding epidemics could lead to severe outcomes. In Ethiopia, poor knowledge regarding the Ebola virus had led to a negative attitude towards the outbreak (Ilesanmi and Alele, 2016).

In our study, we have included people from all regions of Iran. Most participants had some form of professional livelihood, with only 15 percent of respondents being unemployed. Of all the participants, only about 9 percent were healthcare professionals. The participants had limited awareness regarding the signs and symptoms of the illness. A total of 77 percent of the participants did not acknowledge...
fever as a significant symptom of the disease. However, another Iranian study revealed that the awareness related to COVID-19 is adequate among the general population, though misconceptions are also big among the participants (Kakemam et al., 2020).

On the other hand, respondents had a significant amount of awareness about preventive measures. Since the spread of infection, Iran was among the countries that were severely hit by the ongoing pandemic, and as the prevalence of infection is higher, the community’s awareness was expected to be high (Murphy et al., 2020). It could also be the result of the voluminous media coverage this pandemic has generated, leading to increased awareness among the population (Jungmann and Witthöft, 2020). Also, most of the respondents have belonged to urban regions, further augmenting the availability of such information dissipating resources.

About two-thirds of the respondents acceded to the virus’s contagious nature, intensifying the importance of isolation and self-quarantine among the respondents. This is reflected by the fact that, in this study, about 91 percent and 93 percent of the respondents agreed that self-quarantine and isolating a person with symptoms could prevent the spread of infection, respectively. Contrasting the aforementioned results, only a little more than half of the participants conceded that frequent hand washing could be a way to stop the spread of the disease. This could be a worrisome finding, as around half of the participants did not recognise the importance of hand hygiene. Yet, in the same study, while assessing the attitude about COVID-19, more than three-quarters of the participants accepted that frequent hand washing could lower the risk of COVID-19. Studies from other nations have reported similar attitudes among their populations (Doshi et al., 2020; Elnadi et al., 2020; Saha, 2020), with acceptance of hand hygiene measures as an essential way to curb the spread of infection; for instance, in a similar study conducted in India, about 97 percent of the participants had acknowledged that frequent hand washing could contain the spread of the virus (Roy et al., 2020).

In this study, we found that most respondents have a positive attitude towards preventive measures. They were likely to quarantine/isolate themselves in case they would become symptomatic. Also, almost all the participants have acknowledged the importance of social distancing, and about three-quarters agreed with avoiding traveling across or within the country. As per the responses obtained regarding the inclusion of cured patients back in the community, there was a marked reluctance to accept them back. This finding is similar to studies conducted in India, Bangladesh, countries of Africa, Germany, and Egypt (Elnadi et al., 2020; El-Zoghby et al., 2020; Jungmann and Witthöft, 2020; Roy et al., 2020; Saha, 2020; Talidong and Toquero, 2020). The respondents believed that those people recovered from COVID-19 infection should not be accepted back in the community during the current scenario.

After the emergence of COVID-19 as a global pandemic, a surge in the population’s anxiety level was expected (Rajkumar, 2020), with about half of the respondents expressed that they often have or have always thought about the ongoing pandemic. The anxiety associated with the fear of getting infected could govern the behavior of the population. Other studies have also reported associated fear of contracting the infection amongst their participants (Bekele et al., 2020; Kavakli et al., 2020; Manjunath, 2020).

More than two-thirds of the participants had avoided social contact and partying in the last week. They had kept themselves distant from any form of large meetings and gatherings and avoided ordering food online. Their responses reflected that most people felt the constant need to wash their hands and use sanitisers and gloves frequently. These types of behavior have also been observed globally and reported in various studies (Aqeel et al., 2021; Doshi et al., 2020; El-Zoghby et al., 2020; Ferdousa et al., 2020; Garcia-Priego et al., 2020; Muñoz et al., 2016; Roy et al., 2020; Talidong and Toquero, 2020). Also, certain undesirable behaviors have scaffolded over the aforementioned preventive measures. About one-third of participants accepted the need to buy and hoard necessary items (Arafat et al., 2020). This finding pointed towards the possibility of panic buying (Arafat et al., 2020). People have also been affected by posts on online media platforms, mostly negatively.
A study from Germany reported a strong relationship between cyberchondria and health-related anxiety among the adult German population. They found that people suffer from increased anxiety levels due to COVID-19 and related containment measures, and they also reported emotional dysregulation regarding the spread of the infection. Their study found that health traits such as managing anxiety and emotional regulation could be achieved through the provision and consumption of health information. The positive perception about the health information could reduce the perceived health anxiety among the people (Jungmann and Witthöft, 2020). Therefore, awareness about COVID-19 is a mechanism to buffer the adverse effects of health anxiety. Our study results revealed levels of anxiety in more than 40 percent of the surveyed population, with the majority of those surveyed having good knowledge about the illness.

A study from the Philippines reported that there was an increased level of COVID-19-related anxiety among the people and especially school teachers. They found that more than 80 percent of Filipino teachers used to look for COVID-19-related news and were affected by it. They showed a positive attitude towards following the government guidelines, and the majority of them (> 80 percent) would avoid going out in public places and would wear masks while talking to someone (> 60 percent). The perceived levels of anxiety were more than 90 percent among them (Talidong and Toquero, 2020). In our study, we also found that people were most willing to adhere to government guidelines and social distancing measures (Talidong and Toquero, 2020). Another study from the Philippines reported that students were likely to stick to social distancing protocols and guidelines put in place by the government and were satisfied by the measures to halt classes, but reported stress and anxiety regarding their condition due to the pandemic (Baloran, 2020).

A study from Mexico reported high levels of anxiety and depression related to COVID-19 (more than 50 percent). They also found that internet addiction was associated with anxiety, and depression, which was seen during the initial phases of the COVID-19 pandemic (Garcia-Priego et al. 2020).

A similar study was conducted in Egypt using a similar methodology. They surveyed more than 500 people and found that more than 40 percent suffered from the pandemic’s severe impact. Their study reported financial stress to be 55 percent. More than 60 percent suffered from stress related to staying at home during the active phase of the pandemic in Egypt (El-Zoghby et al., 2020).

As the COVID-19 pandemic is swiftly affecting every aspect of an individual’s life, often in disastrous ways, people are forced to find ways to deal with this situation and carry on with their lives in this “new normal”. But the price paid to continue living is hefty. People are feeling the need to seek help from professional sources (El-Zoghby et al., 2020; Ghosh et al., 2020; Roy et al., 2020; Talidong and Toquero, 2020).

In our study, more than 80 percent of the respondents thought that it was necessary to get mental health help in case one panics in a pandemic situation. Also, 86 percent of the participants felt the need to get help from mental health professionals in dealing with the current pandemic. Respondents also suggested that those who are highly affected by COVID-19 should obtain mental health help. Several other studies have reported the need for targeted mental health interventions (Elnadi et al., 2020; Garcia-Priego et al. 2020; Kant, 2020; Muñoz et al., 2016; Roy et al., 2020). These findings suggest that people find it difficult to cope with this pandemic and are open to seeking help from mental health professionals. These findings could be taken as an incentive to strengthen the mental health framework.

Comparing levels of anxiety in the Iranian and Indian populations shows significant differences (Table 4). The Indian population experienced more anxiety than the Iranian population. This may be due to several factors – the first reason being the time period of study. In the Indian population, the study was conducted in the last week of March 2020, whereas in Iran it was conducted in the last week of April 2020. It was expected that anxiety and stress would be high during the initial phase of the pandemic, which would gradually settle down as the pandemic progresses. The second reason is that differences in socio-cultural beliefs and availability of infrastructures in both countries may influence the individuals’ coping.
5 | LIMITATIONS

Relatively small sample size and cross-sectional assessment are limitations of this study. The translated questionnaire was not validated. Most of the participants were from an urban background, which limits the generalisability of the study. The baseline, mental health characteristics of the participants were not known, which may add on to the challenges created during the COVID-19 pandemic. A prospective study on a larger sample may give better insight.

6 | CONCLUSION

The impact of COVID-19 in the Middle East, especially Iran, has had devastating consequences. The compromised socio-political conditions of the nation impact the people’s mental state negatively in general circumstances. This pandemic has increased their susceptibility to common mental illness multifold. Our study’s findings indicate increased anxiety, awareness, need for mental health care, and positive attitude regarding preventive measures of COVID-19. There is apparent fear and stress among the population. The findings of our study provide evidence for the necessity of developing mental health infrastructure within the country. There is a dire need to train healthcare professionals regarding the increased burden of stress and targeted strategies to manage it. There is a high likelihood that this pandemic will leave a mark on the community’s mental health. The healthcare professionals will need to be equipped with adequate logistics to cater to this upsurge of the mental health issues in the post-pandemic period. The political and cultural institutions and local resources should be utilised to spread information and support to the vulnerable population. People already suffering from mental illnesses have high chances of complications related to their mental health and, therefore, will require thoughtful consideration. Addressing the needs of Iranian people and enhancing support may be helpful in dealing with the majority of the concerns. The containment measures have already created problems of access to healthcare in most regions of Iran. The utilisation of telepsychiatry and similar approaches can be considered to cater to the need.

STROBE Statement – checklist of items that should be included in reports of observational studies

| Item No | Recommendation | Page |
|---------|----------------|------|
| Title and abstract | (a) Indicate the study’s design with a commonly used term in the title or the abstract | 1, 2 |
| | (b) Provide in the abstract an informative and balanced summary of what was done and what was found | 2 |
| Introduction | Explain the scientific background and rationale for the investigation being reported | 3 |
| Background/rationale | State-specific objectives, including any prespecified hypotheses | 4 |
| Objectives | Present key elements of study design early in the paper | 4 |
| Study design | Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection | 4 |
| Setting | (Continues) | |

(Continues)
| Item No | Recommendation |
|--------|----------------|
| **Participants** | 6 | (a) *Cohort study*—Give the eligibility criteria and the sources and methods of selection of participants. Describe methods of follow-up  
Case-control study—Give the eligibility criteria and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls  
Cross-sectional study—Give the eligibility criteria and the sources and methods of selection of participants  
(b) *Cohort study*—For matched studies, give matching criteria and number of exposed and unexposed  
Case-control study—For matched studies, give matching criteria and the number of controls per case. |
| **Variables** | 7 | Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable |
| **Data sources/ measurement** | 8* | For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group |
| **Bias** | 9 | Describe any efforts to address potential sources of bias |
| **Study size** | 10 | Explain how the study size was arrived at |
| **Quantitative variables** | 11 | Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why |
| **Statistical methods** | 12 | (a) Describe all statistical methods, including those used to control for confounding  
(b) Describe any methods used to examine subgroups and interactions  
(c) Explain how missing data were addressed  
(d) *Cohort study*—If applicable, explain how the loss to follow-up was addressed  
Case-control study—If applicable, explain how matching of cases and controls was addressed  
Cross-sectional study—If applicable, describe analytical methods taking account of sampling strategy  
(e) Describe any sensitivity analyses |
| **Results** | None | Page |
| **Participants** | 13* | (a) Report numbers of individuals at each stage of study—e.g., numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed  
(b) Give reasons for non-participation at each stage  
(c) Consider the use of a flow diagram |
AWARENESS, ATTITUDE, AND PERCEIVED ANXIETY ABOUT COVID-19

| Item No | Recommendation | Page |
|---------|----------------|------|
| Descriptive data | 14* | (a) Give characteristics of study participants (e.g., demographic, clinical, social) and information on exposures and potential confounders. | 5 |
|  |  | (b) Indicate the number of participants with missing data for each variable of interest. | Table 2 |
|  |  | (c) Cohort study—Summarise follow-up time (e.g., average and total amount). | |
| Outcome data | 15* | Cohort study—Report numbers of outcome events or summary measures over time. | 5 |
|  |  | Case-control study—Report numbers in each exposure category, or summary measures of exposure. | |
|  |  | Cross-sectional study—Report numbers of outcome events or summary measures. | |
| Main results | 16 | (a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (e.g., 95 per cent confidence interval). Make clear which confounders were adjusted for and why they were included. | 5, 6 |
|  |  | (b) Report category boundaries when continuous variables were categorised. | |
|  |  | (c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period. | |
| Other analyses | 17 | Report other analyses done—e.g., analyses of subgroups and interactions, and sensitivity analyses. | |
| Discussion |  | Key results | 7-9 |
|  |  | Limitations | 9-10 |
| Interpretation | 20 | Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence. | 10 |
| Generalisability | 21 | Discuss the generalisability (external validity) of the study results. | 10 |
| Other information |  | Funding | 1 |

*Give information separately for cases and controls in case-control studies and, if applicable, for exposed and unexposed groups in cohort and cross-sectional studies.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at http://www.plosmedicine.org/, Annals of Internal Medicine at http://www.annals.org/, and Epidemiology at http://www.epidem.com/). Information on the STROBE Initiative is available at www.strobe-statement.org.

CONFLICT OF INTEREST
None.

AUTHORS CONTRIBUTION
M.G., M.S., and R.P. collected data. D.R. and N.S. wrote the initial draft of the manuscript. S.K.K. carried out the analysis and edited the manuscript.
ETHICAL APPROVAL
The data collection team of investigators ensured the confidentiality of the participants. This study is in accordance with Declaration of Helsinki ethical principles for medical research involving human subjects.

INFORMED CONSENT
All participants provided informed consent online.

DATA AVAILABILITY STATEMENT
Data are available upon author request.

PEER REVIEW
The peer review history for this article is available at https://publons.com/publon/10.1111/issj.12332

ORCID
Sujita Kumar Kar https://orcid.org/0000-0003-1107-3021

REFERENCES
Ahmad, A.R., H.M. Kakashekh, S.K. Kar, et al. 2022. “Comparing COVID-19 Control Model Between Iraq and Iran.” UKH Journal of Social Sciences 5(2):58–65.
Ageel, M., Abbas J. K.H. Shuja, et al. 2021. “The influence of illness perception, anxiety and depression disorders on students mental health during COVID-19 outbreak in Pakistan: A Web-based cross-sectional survey.” International Journal of Human Rights in Healthcare 15(1):17–30.
Arafat, S.M.Y., S.K. Kar, and R., Kabir. 2020. “Possible controlling measures of panic buying during COVID-19.” International Journal of Mental Health and Addiction 1–3.
Arafat, S.M.Y., Kar, S.K. M. Marthoenis, et al. 2020. “Psychological underpinning of panic buying during pandemic (COVID-19).” Psychiatry Research 289:113061.
Azize, P.M., C.H. Sadiq, and L.L. Othman, 2020. “Impact of coronavirus on the life status of Kurdish people living in Kurdistan region of Iraq.” Kurdistan Journal of Applied Research 45–53.
Baloran, E.T., 2020. “Knowledge, Attitudes, Anxiety, and Coping Strategies of Students during COVID-19 Pandemic.” Journal of Loss and Trauma 1–8.
Bekele, D., T. Tolossa, R. Tsegaye, et al. 2021. The knowledge and practice towards COVID-19 pandemic prevention among residents of Ethiopia. An online cross-sectional study. bioRxiv.
Chen, Z.-L., Q. Zhang, Y. Lu, et al. 2020. “Distribution of the COVID-19 epidemic and correlation with population emigration from Wuhan, China.” Chinese Medical Journal 133(9).
Doshi, D., Karunakar P. J.R. Sukhabogi, et al. 2021. “Assessing coronavirus fear in indian population using the fear of COVID-19 Scale.” International Journal of Mental Health and Addiction 1.
Elnadi, H., I.A. Odetokun, O. Bolarinwa, et al. 2020. Knowledge, attitude, and perceptions towards the 2019 Coronavirus Pandemic: A bi-national survey in Africa. medRxiv.
El-Zoghby, S.M., E.M. Soltan, and H.M., SALAMA, 2020. “Impact of the COVID-19 Pandemic on Mental Health and Social Support among Adult Egyptians.” Journal of Community Health 1.
Ferdousa, M.Z., M.S. Islama, M.T. Sikdera, et al. 2020. Knowledge, attitude, and practice regarding COVID-19 outbreak in Bangladesh: An online-based cross-sectional study.
Garcia-Priego, B.A., A. Triana-Romero, S.M. Pinto-Galvez, et al. 2020. “Anxiety, depression, attitudes, and internet addiction during the initial phase of the 2019 coronavirus disease (COVID-19) epidemic: A cross-sectional study in Mexico.” medRxiv.
Ghosh, A., B. Arora, R. Gupta, et al. 2020. “Effects of nationwide lockdown during COVID-19 epidemic on lifestyle and other medical issues of patients with type 2 diabetes in north India.” Diabetes & Metabolic Syndrome: Clinical Research & Reviews.
Ilesanmi, O., and F.O., Alele, 2016. “Knowledge, attitude and perception of Ebola virus disease among secondary school students in Ondo State, Nigeria, October, 2014.” PloS currents 8.
Jungmann, S.M., and M., Witthöft, 2020. “Health anxiety, cyberchondria, and coping in the current COVID-19 pandemic: Which factors are related to coronavirus anxiety?” Journal of Anxiety Disorders 102239.
Kakemam, E., D. Ghoddooisi-Nejad, Z. Chegini, et al. 2020. Knowledge, Attitudes, and Practices Among the General Population During COVID-19 Outbreak in Iran: A National Cross-Sectional Online Survey. Frontiers in Public Health.
Kant, R., 2020. “COVID-19 Pandemic: Looking in the mind of students during lockdown.” Parakala with ISSN 0971—2143 is an UGC CARE Journal 31(23):508–22.
Kavakli, M., M. Ak, F. Uğuz, et al. 2020. “The mediating role of self-compassion in the relationship between perceived COVID-19 threat and death anxiety.” *Turkish J Clinical Psychiatry* 23.

Li, Q., X. Guan, P. Wu, et al. 2020. “Early Transmission Dynamics in Wuhan, China, of Novel Coronavirus–Infected Pneumonia.” *New England Journal of Medicine* 382(13):1199–207.

Manjunath, D.G., 2020. COVID -19 – An Empirical Study on Knowledge, Awareness, and Practices of Adoni Residents.

Moghanibashi-Mansourieh, A., 2020. “Assessing the anxiety level of Iranian general population during COVID-19 outbreak.” *Asian Journal of Psychiatry* 51:102076.

Muñoz, I., Hernández,M.S. M.I. Pedraza, et al. 2016 “Impulsivity among migraine patients: Study in a series of 155 cases.” *Neurologia (Barcelona, Spain)* 31(9):599–605.

Murphy, A., Z. Abdi, I. Harirchi, et al. 2020 “Economic sanctions and Iran’s capacity to respond to COVID-19.” *The Lancet: Public Health* 5(5).

Rajkumar, R.P., 2020. “COVID-19 and mental health: A review of the existing literature.” *Asian Journal of Psychiatry* 52:102066.

Roy, D., S. Tripathy, S.K. Kar, et al. 2020. “Study of knowledge, attitude, anxiety & perceived mental healthcare need in Indian population during COVID-19 pandemic.” *Asian Journal of Psychiatry* 102083.

Saha, M.S.G., 2020. Awareness and Readiness of COVID-19 among Bangladeshi Residents: A Rapid Rise Period Study. *Preprints*.

Talidong, K.J.B., and C.M.D., Toquero, 2020. “Philippine teachers’ practices to deal with anxiety amid COVID-19.” *Journal of Loss and Trauma* 1–7.

WHO, 2020. WHO Coronavirus Disease (COVID-19) Dashboard. World Health Organization. Available from: https://covid19.who.int/table (last accessed: 15 October 2020).

Zandifar, A., and R., Badrfam, 2020. “Iranian mental health during the COVID-19 epidemic.” *Asian Journal of Psychiatry* 51:101990–.

---

**How to cite this article:** Ghasemi M., D. Roy, M. Shabani, N. Singh, R. Pirzeh, S.K. Kar. 2022. Awareness, attitude, and perceived anxiety about COVID-19 among Iranian Population: A cross-sectional questionnaire survey. *International Social Science Journal* 1–15. 
[https://doi.org/10.1111/issj.12332](https://doi.org/10.1111/issj.12332)