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## RESEARCH ARTICLE

# How Iranian people perceived the COVID-19 crisis? Explored findings from a qualitative study: current concerns, ethics and global solidarity

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## Keywords

Societal concerns • Stressful • Pandemic • COVID-19 • Coronavirus • Iran • Ethics

## Summary

**Objectives.** *This nation-wide project aimed to investigate the common perceptions and concerns regarding COVID-19 outbreak in Iran.*

**Methods.** *This qualitative study was conducted in Iran from February to March 2020 via an online open-ended questionnaire. The participants were also selected using convenience and snowball sampling methods. As well, the data collection process continued until data saturation was achieved. Thematic content analysis was utilized to analyze the transcribed texts.*

**Results.** *The statements retrieved also represented the most challenging psychological stress experienced by the participants. Four themes were accordingly recognized based on the content analysis including stressful conditions, health concerns, social and political concerns, and economic concerns. Throughout the study, a major proportion of the participants commented that psychologi-*

*cal disorders such as fear, anxiety, stress, and ennui were their main challenges regarding this pandemic. Furthermore, lack of social responsibility, worries about high-risk and susceptible groups, decreased economic power of the public, financial hardships for low-income groups, shortage of healthcare facilities, and adverse effects of disinfectants were expressed as the main concerns.*

**Conclusions.** *As a whole, it is evident that people have confronted with several challenges and need help together with effective policies and strategies during and after COVID-19 pandemic to reduce their current concerns. The study findings provided a favorable ground to develop and adopt the required policies in Iran and other countries. It was concluded that creating local, national, and global solidarity in such outbreaks is an inevitable necessity.*

## Introduction

On February 20, the first COVID-19 cases were reported in Iran, and then the virus spread rapidly throughout the country, so that over 2.3 million positive cases and approximately 69000 deaths have been reported in this region until April 23, 2021 [1]. Several policies and strategies have been correspondingly adopted to prevent and control the spread of COVID-19 by the government such as social distancing, business closure, restricting domestic and international flights, etc. [2, 3]. Although these measures have had considerable impacts on reducing the incidence rate of COVID-19, a number of problems have arisen [4]. Indeed, job losses and financial concerns have been usually among the first knock-on effects of pandemics [5]. In addition, due to the sharp increase in positive cases, both public servants and medical staff have been subjected to psychological disorders including depression and anxiety [6, 7].

As reported, the negative economic effects of COVID-19 have been significant [8]. For instance, over 6 million people have registered for unemployment insurance in the United States since one month ago [9]. Additionally,

the United Nations (UN) has demonstrated the catastrophic impacts of this pandemic on economies of developing countries [8]. Specifically, based on the related literature, nearly 65% of economic activities have been reduced in manufacturing and service sectors in Iran following COVID-19 outbreak [10]. Fall in oil prices is on other challenge for Iran's economy, which will cause a severe government budget deficit [1]. Behind these economic shocks, a major proportion of population has confronted with the deaths of family and friends as well as physical consequences of this pandemic [11]. On the other hand, social lockdown and self-isolation can lead to the occurrence of high-risk behaviors such as alcohol abuse or even increasing incidents of domestic and family violence [12].

Following COVID-19 pandemic, people have faced many concerns, especially Iranian population with a large number of previous socioeconomic and cultural problems [1, 13]. Therefore, comprehensive identification of these concerns can provide a favorable ground in order to develop and adopt effective policies and strategies, interventions, and guideline documents to fight COVID-19 and to alleviate its adverse effects.

For this purpose, this nation-wide project was conducted to investigate common concerns regarding COVID-19 outbreak in Iran.

## Methods

The present study was part of a larger survey project conducted at Health Policy Research Center (HPRC), Institute of Health, Shiraz University of Medical Sciences (SUMS), Iran, conducted from February to March 2020. The protocol of this project had been previously confirmed by the Institutional Review Board (IRB) of SUMS.

### PARTICIPANTS

The participants were selected using convenience and snowball sampling methods at a national level. To this end, the research team strived to select individuals representing maximum variation in terms of age, gender, employment status, marital status, level of education, and geographic location. As well, the data collection process continued until data saturation was achieved. Although there was no valid evidence, 150 responses with duplicate data were considered to confirm the saturation. Prior to sending the open-ended online questionnaire, a written consent form and an invitation letter including information about research objectives and related ethical principles, were given to the participants via WhatsApp and Telegram as the top social messaging applications used in Iran. Furthermore, additional information was provided by the research team to these individuals if requested.

### DATA COLLECTION

An online questionnaire including open-ended items was utilized to investigate common concerns among Iranian people regarding COVID-19 pandemic. In this questionnaire, the participants were asked to express and write their concerns and experiences. Based on the provided feedback from initial responses, the format of the items was modified for further clarity. After receiving responses, the transcribed texts were simultaneously organized and saved by the first author (a male PhD Health Policy) in the Microsoft Office software to facilitate the analysis process.

### DATA ANALYSIS

The collected data were analyzed using thematic content analysis. Inductive approach was further considered to grasp latent and obvious content. The approach developed by Braun and Clarke consisting of six steps including: (1) familiarizing with collected data, (2) establishing initial codes, (3) identifying primary themes, (4) evaluating emerged themes, (5) labeling identified themes, and (6) reporting results, was used to analysis the collected data [14].

### RIGOR AND TRUSTWORTHINESS

There are a series of techniques to upgrade rigor and

trustworthiness of qualitative studies. Credibility (i.e., credible interpretation of data), confirmability (that is, truthfulness of findings), transferability (namely, degree of applications of findings in other contexts), dependability (viz. repeatability and soundness of findings), and authenticity (meaning, faithfulness of authors in describing realities) are thus determined as the main criteria of trustworthiness [15]. According to the approach proposed by Guba and Lincoln, several techniques can be utilized to ensure the suggested criteria including member checking by co-authors (confirmability), considering a large sample size (transferability), peer debriefing and data triangulation (credibility), participation of four authors in data analysis process (dependability), and use of citations from various participants (authenticity) [16]. For this reason, the analysis process was performed in parallel with data collection in this study. Four authors were also involved in this process, reading and re-reading the transcribed texts independently. Then, meaning units were recognized as the initial codes. The established codes were subsequently monitored by two authors, and similar codes were reduced to sub-themes. Finally, the potential relationships among the emerged sub-themes were assessed, and the final themes were established. Discussions and consensus strategies were also used to solve any disagreements among authors during the analysis process. The analysis was performed manually, and if required, the MAXQDA 11 software package (VERBI GmbH Berlin, Germany) was employed. To diminish the potential risk of bias in this qualitative study, critical reflectivity was implemented as one of the various methods suggested for this purpose. To ensure this strategy, authors with different backgrounds and scientific experiences were participated in data analysis process.

The standards for reporting qualitative research (SRQR) [17] and the consolidated criteria for reporting qualitative studies (COREQ) [18] were additionally considered to confirm all parts of this qualitative study.

### ETHICAL APPROVAL

The Ethics Review Committee of the SUMS (IR.SUMS.REC.1399.090) approved the study and all individuals gave informed consent form.

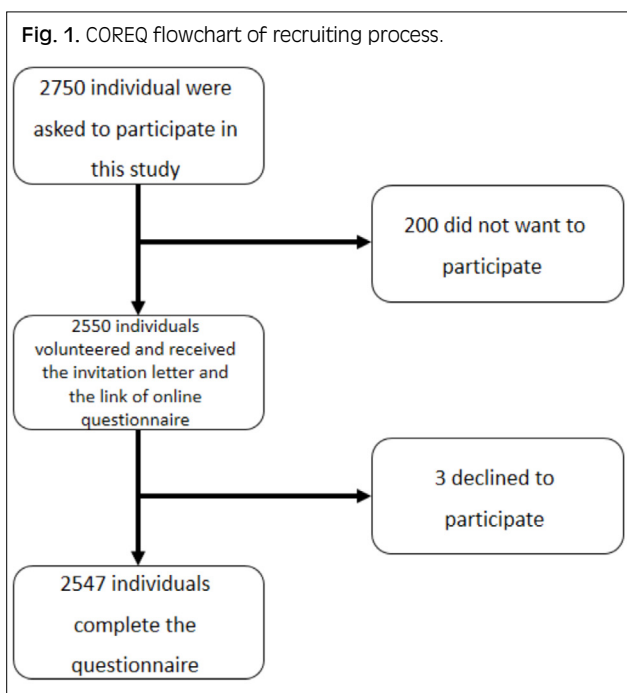
## Results

In total, 2,547 individuals agreed to participate and completed the questionnaire (Tab. I). Figure 1 summarizes the recruiting process. The data analysis in this study showed that all the participants were living with chronic stress and anxiety during COVID-19 pandemic. The responses implied a form of individual and social uncertainty about COVID-19. There was also social anxiety and fear because of this pandemic. Concerns about disease transmission, as well as worries about social and economic affairs, were the most pronounced ones by the participants. Four themes were ultimately

Tab. I. Characteristics of participants.

<b>Total sample (n)</b>	<b>2,547</b>
<b>Age, mean (SD)</b>	36.38 (10.64 )
<b>Male, n (%)</b>	1246 (48.9)
<b>Education level, n (%)</b>	
Under diploma	149 (5.8)
Diploma	311 (12.2)
Associate degree	195 (7.6)
BSc	850 (33.3)
MSc	684 (26.8)
PhD	358 (14.0)
Missing	3 (0.1)
<b>Marital status, n (%)</b>	
Single	799 (31.3)
Married	1,698 (66.6)
Divorced	34 (1.3)
Wife died	16 (0.6)
Missing	4 (0.2)
<b>Employment status, n (%)</b>	
Government employment	760 (29.8)
Non-government employment	365 (14.3)
Self-employment	319 (12.5)
Student	382 (15.0)
Housewife	307 (12.0)
Retired	120 (4.7)
Unemployed (job seeker)	160 (6.3)
Unemployed	15 (0.6)
Day worker	103 (4.0)
Missing	19 (0.7)
<b>Income level, n (%)</b>	
Below the poverty line	592 (23.2)
Poverty line	1,133 (44.4)
Above the poverty line	816 (32.0)
Missing	9 (0.4)

recognized through the content analysis including stressful conditions, health concerns, social and political concerns, and economic concerns. Each theme also



had sub-themes containing a number of assigned codes (Tab. II). In what follows, detailed findings accompanied by quotes from the participants’ responses translated from Persian have been presented.

**STRESSFUL CONDITIONS**

The retrieved statements revealed stressful conditions filled with fear and social anxiety. In this respect, a major part of the participants commented that psychological disorders such as fear, anxiety, stress, and ennui were their main challenges regarding COVID-19 pandemic. Indeed, they believed that a significant degree of worry, fear, and concern especially among certain groups such as disabled people, older adults, healthcare providers, and patients with underlying health conditions had emerged as the virus was rapidly spreading across the country. For example, some participants stated that:

*“I think, these days, a very bad atmosphere has been created. We always feel stressed-out about everything”*[0024].

*“My wife is exceedingly sensitive and disinfects everything and everywhere so much that, I think, she is hurting her respiratory system”*[0146].

Fear of an uncertain future was another sub-theme comprised of several codes such as disruptions in personal programs. Some participants also claimed that this pandemic has interrupted their predefined appointments and plans. Furthermore, uncertainty about the future of their jobs and employment status was expressed by most of the participants. Some individuals, especially students, additionally aired their concerns regarding the future of their academic education. For instance, one of the participants asserted that:

*“As a Master’s student, I am very confused. Virtual training does not really exist. The due time for starting university courses has not been announced yet. So, we have to wait and kill time!”*[0291].

**HEALTH CONCERNS**

Health and hygiene issues were explained by a majority of the participants. Mysterious and unknown virus, lack of healthcare facilities, and adverse effects of disinfectants were thus identified as the main sub-themes in this category. The participants also reiterated that the virus had caused stress since it was unknown. Furthermore, the rapid spread of the virus had been considered as a potential factor inducing such worries. As a whole, uncertainty about routes of virus transmission, unknowing carriers, long incubation period of the disease, and lack of the same symptoms in patients were among other concerns. In this line, some participants added that:

*“The virus is very mysterious. It is not clear how it is transmitted. This has made us feel down”*[0065].

*“For the reason that some patients do not have symptoms, we are obsessed with everyone”*[0401].

A large group of the participants in this project described COVID-19 as a terrible phenomenon. They further noted that they were always afraid of becoming infected due to the rapid transmission of the virus. On the other hand,

Tab. II. Central theme and coding.

Main themes	Sub-themes	Codes
Stressful conditions	Psychological disorders	<ul style="list-style-type: none"> <li>• Fear</li> <li>• Anxiety</li> <li>• Delighted</li> <li>• Disappointed</li> <li>• Stress</li> <li>• Restlessness</li> <li>• Ennui</li> </ul>
	Indefinite future	<ul style="list-style-type: none"> <li>• Disrupt personal programs</li> <li>• Uncertainty about the future of the job</li> <li>• Uncertainty of academic status</li> <li>• Uncertainty about when the situation will return to normal</li> </ul>
	Terrible coronavirus	<ul style="list-style-type: none"> <li>• Fear of getting infected</li> <li>• Fear of being a virus carrier</li> <li>• Fear of recurrence of disease</li> <li>• Fear of the lasting effects of the disease</li> <li>• Fear of death from corona</li> <li>• Unpleasant way of burying the dead</li> <li>• Getting close relatives and family</li> </ul>
Health concerns	Mysterious and unknown virus	<ul style="list-style-type: none"> <li>• Unknowing the virus</li> <li>• Unknowing the origin of virus</li> <li>• Fast spreading of disease</li> <li>• Uncertainty about transmission routes of virus</li> <li>• Unknowing the carriers</li> <li>• Long incubation period of disease</li> <li>• Lack of the same symptoms in patients</li> <li>• Airborne transmission</li> <li>• The ambiguity of the effect of temperature on the virus</li> </ul>
	Lack of health facilities	<ul style="list-style-type: none"> <li>• Shortage of hospital capacity</li> <li>• Shortage of expert staffs</li> <li>• Shortage of preventive appliances</li> <li>• Shortage of treatment equipment</li> <li>• Shortage of medicine</li> <li>• Lack of vaccine</li> <li>• Hoarding of sanitary goods</li> </ul>
	Adverse effects of disinfectants	<ul style="list-style-type: none"> <li>• Adverse effects of alcohol use</li> <li>• Adverse effects of bleach</li> <li>• Adverse effects of excessive hand washing</li> </ul>
	High-risk and susceptible groups	<ul style="list-style-type: none"> <li>• Infection of pregnant women</li> <li>• Infection of children</li> <li>• Infection of elderly people</li> <li>• Infection of health workforces</li> <li>• Infection of bank workforces</li> </ul>
Social and political concerns	Lack of social responsibility	<ul style="list-style-type: none"> <li>• Lack of understanding of the seriousness of this crisis by the people</li> <li>• Non-compliance with quarantine by the people</li> <li>• Gathering people in stores</li> <li>• Lack of cooperation and participation of people in control programs</li> <li>• People travel</li> <li>• Lack of awareness</li> <li>• Lack of attention to warnings</li> </ul>
	Incompetence and negligence of the authorities	<ul style="list-style-type: none"> <li>• Inconsistency between institutions</li> <li>• Lack of accountability of authorities</li> <li>• The dishonesty of the authorities</li> <li>• Poor performance of authorities</li> <li>• Lack of proper crisis management by government</li> <li>• People's distrust of officials</li> <li>• Political considerations</li> <li>• Don't take the crisis seriously</li> <li>• Lack of transparency by the authorities</li> <li>• Lack of presence of officials in the media</li> </ul>
Economic concerns	Financial pressure on the poor	<ul style="list-style-type: none"> <li>• Day-wage workers</li> <li>• Working children</li> <li>• Badgers</li> </ul>
	Expensiveness and inflation	<ul style="list-style-type: none"> <li>• Essential goods become more expensive</li> <li>• Prevention appliances become more expensive</li> <li>• High-cost of health care services</li> </ul>
	Decreased economic power of public	<ul style="list-style-type: none"> <li>• The financial losses of market people</li> <li>• Closure of most jobs</li> <li>• Loss of income</li> </ul>

fear of being a virus carrier was a common concern, which was detected all through the study. Many people were also concerned that they might be carriers of the virus and pass it on to their relatives and other people around them, especially vulnerable groups. As a notable conclusion, some participants pointed out the fear of death from COVID-19 and its unpleasant burials.

*"I am always afraid of getting infected. When I come home, I disinfect all my clothes and belongings. But I am still pessimistic about this virus"* [0563].

Furthermore, concerns regarding high-risk and susceptible groups were another category emerged from the data. Based on this category, fear of making others around like women, children, elderly people, healthcare providers, and bank employees sick, were repeated in almost all responses.

*"My husband is a bank employee. Banks must be open according to the announced protocol in Iran. Given the deaths of several bank employees across the country, I have extreme stress that something bad will happen to him"* [0186].

Regardless of these findings, almost all the participants criticized the policies and strategies adopted by the government and other authorities. In fact, they argued that there was an inconsistency between institutions and actors and even no clear responsibilities.

*"It is very unreasonable that the Ministry of Health and Medical Education says one thing, the Ministry of Industry declares one thing, and at the end of the night, Mr. President criticizes everyone"* [1603].

In addition to shortage of healthcare facilities as a major factor raising concerns regarding this pandemic in Iran, the participants illustrated several other challenges such as inadequate hospital capacity, absence of specialists, unavailability of sanitary and preventive equipment, lack of medications and vaccines, as well as hoarding of sanitary goods throughout the study.

*"The hospital located in my hometown does not have enough capacity at all. So, if we get sick, where do they take care of us?"* [2221].

Ultimately, many participants mentioned the adverse effects of disinfectants. For instance, most participants reported their concerns regarding the negative impacts of alcohol use on their respiratory systems as well as other organs. In addition, many women expressed concerns about the adverse effects of bleach cleaners, which are widely used for disinfection. Since hand washing had been introduced as one of the initial strategies to prevent the virus transmission, a large group of the participants described a kind of concerns regarding their skin conditions.

*"Many of our citizens have lost their lives due to alcohol abuse. We are very concerned about the misuse of disinfectants, especially by children."* [0508].

### SOCIAL AND POLITICAL CONCERNS

In this category, a number of challenges and concerns were expressed throughout the present study. The participants suggested lack of social responsibility as one of the main concerns. No understanding of

the seriousness of this crisis, non-compliance with quarantine, gathering in stores, travels, and inattention to warnings were among the considerable results.

*"Many people do not take the disease seriously, especially at its onset. When you go out, you can see many people there"* [0035].

### ECONOMIC CONCERNS

The participants mentioned the negative impacts of COVID-19 pandemic in the short and long term. In this respect, some participants said that:

*"After this pandemic, quarantine policies have disrupted many of my career plans. Someone like me who has bank debts has to work to make money. If I do not work, I will be in the red."* [0065].

Most of the participants believed that the adopted policies in Iran such as social distancing had significant financial hardships for low-income groups. Accordingly, daily-wage workers, street children, and beggars were introduced as the most susceptible groups following this situation.

*"I know a lot of people who have a daily income, but now they have no take-home pay"* [2106].

The findings from the content analysis indicated an increase in the prices of basic goods across Iran. Many people additionally cited higher inflation rate, fall in oil prices, and devaluation of the national currency as short-term effects of this pandemic, which could cause many other problems. In addition, weak healthcare insurance coverage as one of the main challenges of Iran's healthcare system could confront households with catastrophic expenditures. Therefore, majority of the participants had faced high rate of out-of-pocket pays regarding COVID-19. Besides, information about the rising costs of sanitary and preventive equipment was declared by these individuals several times.

*"The high costs of sanitary and preventative equipment such as masks have made everything very difficult. The price of masks has increased by tenfold"* [0052].

Decreased economic power of the public was another big concern identified in this study. In this regard, the participants had experienced that a large part of Iran's population had lost their incomes, especially self-employed ones. In addition, COVID-19 pandemic had resulted in business closure and job losses, which could be a source of many other concerns.

*"I work in the market. Now that the market is closed, I have no income. I have also lost my financial capital."* [0949].

### Discussion

Four themes and a broad spectrum of sub-themes and codes were identified in the present study. Accordingly, the findings highlighted common concerns of Iranian people regarding COVID-19 outbreak.

The main findings of this study reflected on widespread psychological concerns following COVID-19 pandemic in Iran. Indeed, this situation was considered as an

unprecedented period for all people, especially for children confronting a massive disruption in their daily living [19, 20]. However, being at home might expose all household members to increased risks. Domestic and family violence has been similarly reported as a common high-risk behavior after home quarantine in parts of the world [21]. For instance, such violence has respectively risen by nearly 25-60% in the United Kingdom and Mexico since government policies have merely focused on controlling the disease progression [22, 23]. In this situation, vulnerable groups such as children and older adults might be more affected [24]. Regarding these abuses, countries like France have developed policies to help the victims. As the movement of the citizens has been restricted, France has been advising female victims to seek help at drugstores using code words [25, 26]. Findings had also indicated the fear of an uncertain future as the negative impact of this pandemic. Based on the evidence, this fear could stop the population from fulfilling their duties very well, and it could even retain many people holding onto situations hurting them [27]. Therefore, decision-makers and policy-makers should develop effective and community-based policies and strategies to reduce individual concerns in these stressful conditions following COVID-19.

In this study, lack of social responsibility was identified as one of the main social concerns. Although public education was being conducted through the Islamic Republic of Iran Broadcasting (IRIB) and the mass media following COVID-19 pandemic, some groups resisting such recommendations. Experts also believed that having a single voice in the society could increase social responsibility [28, 29]. Another part of concerns was in terms of dealing with vulnerable groups such as pregnant women, children, older people, and healthcare providers. The findings additionally showed that a large proportion of the population was worried about the risk of exposure to COVID-19 in these vulnerable groups. Concerns about the infection affecting pregnant women and children also fueled after the confirmation of the birth of a newborn child in China [30]. Nonetheless, the World Health Organization revealed no evidence that pregnant women are at higher risk of severe COVID-19 in a population [8]. In accordance with the literature, verbal and emotional support could significantly reduce such concerns [31].

Moreover, concerns about incompetence and dishonesty of authorities were one other social and political challenge addressed throughout the study. The occurrence of political and social events in recent years, and especially in the last year, in Iran, could be effective in such situations. On the other hand, the weakness of social capital in this country had a long history [32, 33]. Several studies have correspondingly revealed the importance of social capital in pandemic periods [34]. For instance, generalized and institutional trust in healthcare provision was considered as a potential factor influencing the acceptance of health-protective behaviors in Sweden following the 2009 swine flu pandemic (H1N1) [34]. Therefore, using effective

solutions to promote the credibility of the government and community-based networks might positively affect prevention and control of COVID-19 pandemic in Iran. Short- and long-term adverse effects of this pandemic on Iranian economy were among common concerns underscored by the participants. In fact, pandemics are accompanied by considerable economic disruptions although they are rare [35]. Based on the WHO report [36], pandemics such as avian influenza could lead to significant economic losses e.g. the H1N1 and severe acute respiratory syndrome (SARS) pandemics have had significantly negative impacts on national and global economies [37, 38]. Following these trends, a major proportion of society, especially low-income groups, had been confronted with financial hardships, as mentioned in the study. Furthermore, rising inflation and unemployment rates as other impacts of economic recession following the pandemic could result in severe concerns and anxieties across the country [39]. Therefore, developing and adopting economic policies at macro- and micro-level to control the adverse effects of COVID-19 pandemic fairly and immediately is an inevitable necessity. In addition, sanctions have worsened the situation for Iranians facing the virus [1]. There is thus a need for global solidarity in such epidemics and even acting against unfair sanctions.

The special feature of new COVID-19 is that it is unknown and mysterious [2]. The participants pointed out this feature as the origin of a number of concerns. Indeed, lack of clarity about the source of the virus, as well as its modes of transmission, had created tensions and obsessions for society. In addition, following this pandemic as well as a sharp growth in the number of new positive cases, shortage of sanitary and preventive equipment in Iran, as in most affected areas, have raised concerns in the public. Furthermore, COVID-19 similar to other previous pandemics such as SARS has no definite treatment and its incubation period has left people in a state of ambiguity [40]. More importantly, overuse of alcohol and bleach cleaners as disinfectants has resulted in mild respiratory disorders for Iranian people, so that many people expressed concerns about the side effects of these substances on their health status [41]. Therefore, informing the public about the common ways the virus spreads from person to person, how to prevent it, and how to use disinfectants to prevent or at least moderate these concerns can be among effective strategies in this respect.

## Conclusions

As a whole, four main themes i.e., stressful conditions, health concerns, social and political concerns, and economic concerns were identified as the common concerns about COVID-19 outbreak in Iran. It is evident that people have confronted with several challenges and need help with regard to effective policies and strategies during and after the pandemic to minimize their current concerns. The study findings also provided a favorable

ground to develop and adopt the required policies in Iran and other countries. In this situation, human beings need some kind of solidarity at local, national, and international levels.

## Abbreviations

SARS-CoV-2: Severe Acute Respiratory Syndrome Coronavirus 2; UN: United Nations; IRB: Institution Review Board; SUMS: Shiraz University of Medical Sciences; WHO: World Health Organization; SARS: severe acute respiratory syndrome.

## Ethics approval

The Ethics committee of the Shiraz University of Medical Sciences (SUMS) has confirmed the study protocol (IR.SUMS.REC.1399.090).

## Availability of data and materials

The data collected and analyzed during the study are available from the corresponding author on reasonable request.

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## Conflict of interest statement

The authors declare no conflict of interest.

## Authors' contributions

STH, LZ, and KBL conceptualized and designed the study. STH and LZ collected data. AS and SSH involved in analysis process. SSH contributed to the first draft. STH, LZ, MM, MB revised critically the manuscript and performed a search of the literature. All authors contributed to the final draft. The authors read and approved the final manuscript.

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