

# Social Determinants of Adherence to COVID-19 Preventive Guidelines in Iran: A Qualitative Study

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## Abstract

**Introduction:** Adherence to COVID-19 preventative guidelines may be influenced by a variety of factors at the individual, societal, and institutional levels. The current study sought to investigate the social factors of adherence to those preventive measures from the perspective of health professionals.

**Methods:** In October 2020, we performed qualitative research in Tehran, Iran, using the directed content analysis method. For the preparation of our interview guide and data analysis, we employed the WHO conceptual framework of socioeconomic determinants of health. Semi-structured interviews were conducted with 15 health professionals and policymakers who were chosen using a purposive sampling approach. MAXQDA-18 software was used to analyze the data. The Goba and Lincoln criteria were used to assess the quality of the results.

**Results:** There are 23 subcategories and 9 categories, which include socio-economic and political context (unstable macroeconomic environment, poor management of the pandemic, media and knowledge transfer), cultural and social values (fatalism, cultural norms, value conflicts, social customs), socio-economic positions (livelihood conditions), social capital (social cohesion, low trust), living conditions (housing conditions), occupational conditions (precarious employment), individual characteristics (demographic characteristics, personality traits, COVID-19 knowledge, and attitude), psycho-social factors (normalization of the disease, social pressure, and stigma), and health system leadership (health system problems, not taking evidence-based decisions, non-comprehensive preventive guidelines, non-operational guidelines, inadequate executive committee) were obtained.

**Conclusion:** To limit the new COVID-19 transmission, people must be encouraged to follow COVID-19 prevention instructions. Improving adherence to COVID-19 preventive guidelines necessitates dealing with the complexities of responding to social determinants of those guidelines. Increasing public health literacy and knowledge of COVID-19, informing people about the consequences of social interactions and cultural customs in the spread of COVID-19, strengthening regulatory lockdown laws, improving guarantees for adhering to preventive guidelines, providing easy access to preventive supplies, and strengthening financial support for households with precarious employment are all important.

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### Highlights

#### What do we already know about this topic?

Adherence to COVID-19 preventative guidelines may be influenced by a variety of factors at the individual, societal, and institutional levels.

#### How does your research contribute to the field?

There is insufficient research concerning the factors that influence adherence to COVID-19 prevention guidelines, particularly in Iran. Furthermore, the majority of prior research utilized quantitative techniques to investigate the associated factors with adherence to COVID-19 preventative guidelines. A qualitative technique, on the other hand, may access deep levels of human life experiences, interpretations, and perceptions.

#### What are your research's implications toward theory, practice, or policy?

In order to repeat the fresh waves of the vaccine in the community, prevention and management of this illness necessitate involvement at multiple levels by various technologies and institutions. Also, the government should take steps to strengthen social capital, with the people, for the people, with the people, rather than acting as the sole custodian of health and making decisions for them without sufficient knowledge of the people's health, economic, and social needs. Because it is simpler for individuals to obey and act on government choices when they are participating in them.

### Keywords

COVID-19, adherence, preventive guidelines, social determinants, qualitative study

### Introduction

COVID-19, a contagious disease, has triggered a worldwide health catastrophe with far-reaching economic, social, and psychological ramifications.<sup>1-3</sup> Wearing a face mask, frequent hand washing, physical distancing, and remaining at home are the most essential and least expensive strategies for combating the new coronavirus.<sup>4,5</sup> However, numerous reports of non-compliance with these standards have been received from throughout the world.<sup>6</sup> Adherence to COVID-19 prevention guidelines may be influenced by a variety of factors at the individual, societal, and institutional levels.<sup>7</sup> One of the most significant concerns in this context is how social factors at various levels may influence disparities in following safety measures.

The social determinants of health (SDH) are the conditions under which individuals live, work, and spend their old age. It encompasses the social, economic, and political systems that produce, configure, and sustain social hierarchies, as well as provide a means to identify aspects specifically related to COVID-19 preventive measures.<sup>8</sup> Previous research has found that people's socioeconomic attributes, such as gender, education, family size, and income level, are related to physical distancing and remaining at home during the COVID-19 pandemic period.<sup>9</sup> According to the findings of a Brazilian study, dwelling quality is related to the behavior of keeping a physical distance and remaining at home during a lockdown.<sup>10</sup> Individual factors, such as personality traits, lack of self-efficacy, limited knowledge about the disease, and misconceptions about health, were found in one study among people with high-risk jobs in Iran. In addition, there are structural and economic factors, like financial instability, a

lack of government economic support, and socio-cultural factors, that make it hard for people to get the health care they need.<sup>7</sup>

The extent to which a community follows preventative recommendations is influenced by its political, economic, social, and cultural setting. On the other side, there is insufficient research concerning the factors that influence adherence to COVID-19 prevention guidelines, particularly in Iran. Furthermore, the majority of prior research utilized quantitative techniques to investigate the associated factors with adherence to COVID-19 preventative guidelines. A qualitative technique, on the other hand, may access deep levels of human life experiences, interpretations, and perceptions. The current study used a qualitative approach to investigate the social determinants of adherence to the COVID-19 safety measures. Exploring the relevant aspects of adherence to these guidelines might possibly be very useful in identifying high-risk populations and taking the required actions to improve the rate of adherence.

### Methods

#### Design

This is a qualitative study that employed a method of directed content analysis. The objective of directed content analysis is to validate and broaden the theoretical conceptual framework. Pre-existing theory can aid in the focus of research questions by providing predictions about the variables at issue or the connection between the variables.<sup>11</sup> The World Health Organization's conceptual framework of socioeconomic determinants of health was utilized as a guide to investigate the factors associated with

following the COVID-19 preventative strategies. This study was reported according to the Consolidated Criteria for Reporting Qualitative Research checklist.<sup>12</sup>

### *Setting and Participants*

The research was carried out in Tehran in October 2020. Semi-structured interviews were conducted with 15 health professionals and policymakers, including community physicians, epidemiologists, healthcare executives, health educators, psychologists, and sociologists, who were chosen based on their knowledge and experience in public health, particularly social determinants of health and infectious diseases, as well as their willingness to participate. We purposefully selected the samples from various groups based on expertise, the field of work, and the roles of health professionals and administrators. Depending on the interviewee's preferences, the interviews were conducted face-to-face (5 interviews) or via phone (9 interviews).

### *Sampling and Data Collection*

The respondents were chosen using the purposeful sampling approach, and theoretical sampling was used to calculate the number of people, collect the necessary data, and establish the study path. Nature and diverse aspects of phenomena are better researched and evaluated using this sort of sampling with a range of information.<sup>13</sup> To obtain the greatest possible diversity in the data, samples were drawn from specialists with a variety of COVID-19-related specializations.

Data was collected using an interview guide developed in conjunction with experts and the research team, based on the WHO conceptual framework of socioeconomic determinants of health, a complete literature review, and in consultation with experts and the research team (Table 1). Interviews were conducted using open-ended questions, which were then followed by some probes regarding the pre-defined categories based on the CSDH conceptual framework. Two researchers were conversant with qualitative research principles (first and responsible authors performed all interviews). Three pilot interviews were performed to confirm that the interview questions could elicit the required information from the participants, and the questions guide was modified and finalized after coding and analyzing these three interviews. The questions focused on "compliance with the COVID-19 preventative guidelines and its socioeconomic factors" (for more information, see Table 1). There were also exploratory and follow-up questions. The interviews were continued until the data had achieved saturation.

All the questions in the interviews were asked to all the participants, but the sequence of the questions and the length of each interview varied depending on the information and responses supplied by the participants. The interviews lasted an average of 60 minutes (range, 30–80 minutes). After gaining informed consent from the participants, all interviews

were recorded. All participants provided informed and spoken consent for the face-to-face and telephone interviews, as well as the use of quotes in the report. The researchers collected data until they achieved theoretical saturation and no additional findings were obtained.<sup>14</sup> A total of 15 people were interviewed to determine theoretical saturation.

### *Data Analysis*

The data was analyzed using the directed content analysis approach. The recommended procedures of Granheim and Landman<sup>15</sup> were used in data analysis with the assistance of the MAXQDA-2018 software by the second and third authors of this study. The initial stage was for two researchers to immediately begin transcribing the interviews in Word 2017 software following each interview. In the second phase, the text of the interviews was carefully reviewed three times by two researchers to gain a broad comprehension of the transcriptions. In the third phase, all of the interview materials were meticulously reviewed line by line and word by word, and the initial codes were retrieved. In the fourth phase, the researchers subcategorized the codes that had comparable meanings and concepts. In the fifth phase, the codes and subcategories were organized into certain key categories that were more extensive and abstracted in terms of ideas. Finally, the whole data analysis process was shared with all of the authors, and suggested feedback was implemented. Based on the WHO's conceptual model of social determinants of health, the extracted components were classified into three main categories: structural, crosscutting, and intermediate determinants, as well as associated subcategories.

### *Trustworthiness*

The Goba and Lincoln's criteria were employed to improve the quality of this research.<sup>16</sup> A 32-item checklist for reporting qualitative research was also used.<sup>12</sup> Given that the researchers and interviewees were both health professionals, it aided in instilling trust and confidence in the participants.

### *Credibility and Reliability*

The credibility of this research was ensured by devoting significant time to data collection and analysis, ensuring the diversity of participants' demographic characteristics, checking the researcher's overall perception of participant statements at the end of each interview, and ensuring the authors' familiarity and skills in qualitative research. Conformability was used at research team meetings to evaluate the data analysis and coding process. Participants' confirmation was received by presenting the findings to the participants to express their thoughts, which were ultimately approved by all of them. In addition, the researchers attempted to prevent personal biases by recording all perspectives and views and avoiding interfering with the data

**Table 1.** Checklist of interview guide questions.

No	Questions
1	What are the strategies for dealing with the COVID-19 pandemic in Iranian society?
2	How effective are the COVID-19 preventative recommendations in reducing the spread of the new COVID-19?
3	What are the reasons why people fail to follow the COVID-19 prevention guidelines?
4	What are the characteristics of communities that adhere to guidelines the most and those that adhere to guidelines the least? How about the people?
5	What contextual and structural variables impact compliance with the COVID-19 prevention guidelines?
6	How would you rate the government's policies for boosting people's adherence to the COVID-19 prevention guidelines?

gathering and analysis process as much as possible (Reflexivity). To address dependability, findings were forwarded to three notable qualitative researchers who validated the data analysis and findings. Finally, a detailed account of the whole study process was provided, and several direct statements from participants were included.

### Ethical Considerations

At the beginning of each interview, participants were informed about the study's aims and the voluntary nature of their involvement in the research. During the study, ethical concerns about their confidentiality and anonymity were addressed to them, and informed consent was obtained from all participants. All interviews were recorded with permission. All COVID-19 hygiene standards were well performed during face-to-face interviews.

### Results

The research included fourteen health experts and policy-makers. Table 2 shows the demographic characteristics of the research participants. A total of 124 codes, 22 subcategories, 9 categories, and 3 major categories were retrieved from the data analysis procedure (Table 3).

#### I- Structural Determinants

Structural determinants were the first category of social determinants of adherence to COVID-19 preventative recommendations. This area contains three major subcategories: socioeconomic and political backdrop, cultural system and social values, and socioeconomic position.

#### Socio-Economic and Political Context

*Unstable macroeconomic environment:* International sanctions have had a negative impact on Iran's economy, particularly in recent years. These economic concerns revealed themselves during the COVID-19 pandemic in issues such as the difficulty of acquiring COVID-19 diagnostic kits and the inability to continue lockdown, follow COVID-19 preventative protocols, and communicate with other nations.

**Table 2.** Demographic characteristics of the participants.

Variable		N	%
Gender	Female	5	35.7
	Male	9	64.3
Age	<40 years	3	21.4
	41–49 years	6	42.9
	>50 years	5	35.7
Specialty	Psychiatry	1	7.2
	Sociology	1	7.2
	Social medicine	3	21.4
	Social welfare	3	21.4
	Epidemiology	2	14.3
	Health education	2	14.3
	Health policy	2	14.3

External pressures were also a key impediment to learning from other nations' experiences and applying them to the successful implementation of the COVID-19 preventative measures. Furthermore, the lack of required facilities and equipment as a result of economic issues and sanctions, as well as the absence of a complete welfare and social security system, had an influence on this portion.

*"We were unable to conduct thorough diagnostic testing. We encountered issues with them since we didn't have diagnostic test kits, and it was impossible for us to purchase them in these economic and sanctioned situations. In many cases, the insecurity of the economic situation may prevent rules from being properly implemented."* (Interviewee No. 7)

*Poor management of the pandemic:* Poor management and inability of the government and health system to coordinate and use existing potential, poor welfare services, inconsistencies between institutions and bodies implementing protocols, along with not using community capacity in training and encouraging adherence to prevention guidelines, not organizing voluntary activities to support vulnerable groups, poor resource management, lack of inter-sectoral cooperation, and the inability of macro-management to coordinate are major obstacles to implementation and adherence to COVID-19 preventive guidelines.

**Table 3.** Categories and subcategories of social determinants of adherence to Covid-19 preventive guidelines.

Main Categories	Categories	Subcategories
Structural determinants	Socio-economic and political context	Unstable macroeconomic environment Poor management of the pandemic Media and knowledge transfer
	Cultural and social values	Fatalism Cultural norms Value conflicts Social customs
	Socio-economic position	Livelihood conditions
Crosscutting determinants	Social capital	Social cohesion Low trust
Intermediary determinants	Living conditions	Housing conditions
	Occupational conditions	Precarious employment
	Individual characteristics	Demographic characteristics Personality traits
	Psycho-social factors	COVID-19 knowledge and attitude Normalization of the disease Social pressure and stigma
	Health system leadership	Health system problems Not taking evidence-based decisions Non-comprehensive preventive guidelines Non-operational guidelines Inadequate executive guarantee

*“The absence of cooperation between institutions is critical; for example, the governor claims there is no telecommuting, while the headquarters says there is. The system is riddled with inconsistencies. I believe it is connected to the fact that we do not have effective administration in various parts of the health system, and that this lack of management leads to non-adherence to Covid-19 preventative guidelines.” (Interviewee No. 3)*

*“Community involvement was vital and should be improved; people’s participation might be extremely beneficial, even in educational programs and encouraging families and the community to follow the standards.... One of our major issues was a lack of intersectoral collaboration; while the Ministry of Health operates effectively, the welfare groups do not work, and vice versa...” (Interviewee No. 8)*

*Media and knowledge transfer:* Other factors influencing non-adherence to COVID-19 preventive guidelines include contradictory news regarding risk and protective variables in the media and a lack of adequate knowledge about the right application of those guidelines. At the onset of this pandemic, the media, particularly in cyberspace, did not transmit to the public the instructions and preventative guidelines, as well as how to apply them fully and understandably, because they were interested in other elements of disease outbreak prevention in the country. Media awareness from both the media and the general public was unfavorable, and these characteristics complimented one other in terms of noncompliance with COVID-19 prevention measures.

*“I have excellent materials regarding the COVID-19 pandemic that are appropriate for a variety of audiences, but since I lack the necessary media skills, I inadvertently convey them in an ineffective manner. When I go to the media and suggest that everyone should have COVID-19, the public thinks, let go of all these restrictions, eventually everyone will be infected, so let me get infected sooner...” (Interviewee No. 1)*

*“COVID-19 preventative guidelines, at the very least, have not been widely disseminated to the public, such as the extent to which shared bathrooms may transmit the illness and what steps can be taken to prevent transmission in such circumstances...” (Interviewee No. 3)*

## Cultural and Social Values

*Fatalism:* Many people in our culture take a fatalistic perspective on the worldwide COVID-19 pandemic, believing that it is a divine punishment from which there is no escape. This assumption led to individuals refusing to adjust to their new lifestyle and maintaining the circumstances that existed prior to the outbreak of COVID-19, as well as refusing to follow COVID-19 prevention measures.

*“Cultural factors are crucial. Many individuals still believe in fate and destiny, claiming that ‘if God wills it, it will happen...’” (Interviewee No. 7)*

*“Fatalism, I believe, maybe both beneficial and destructive at the same time. Because some individuals believe that if the illness is a part of their destiny, they will undoubtedly get it, and this belief*

*drives them to disregard COVID-19 preventative guidelines...” (Interviewee No. 9)*

*“Some claim that God’s curse has been disclosed and that the curse has nothing to do with the curse. When the curse appears, it is the task of God to remove it. Some people did not change their ways until there were numerous deaths, both their own and those of others ...” (interviewee No. 11)*

**Social customs:** Despite the high incidence of COVID-19, many individuals engaged in social events, such as marriages, gatherings, and religious rituals instead of following preventative recommendations, and all of these practices were in breach of preventive standards. Due to Iranian society’s traditions and customs, it is impossible to follow some of the preventive measures, and in some situations, if people do not participate, they are rejected.

*“Our culture and traditions are more communal in nature. We have customs and ceremonies. Mourning, weddings and parties, and numerous religious rituals, among other things, need travel, and these behaviors result in non-compliance with COVID-19 preventative measures....” (Interviewee No. 11)*

*“Is it conceivable that a relative would die and no one would attend his funeral due to COVID-19? If this occurs, societal ties would practically deteriorate. The deceased’s family wants people to attend the funeral, and individuals are required to do so....” (Interviewee No. 6)*

**Cultural norms:** Cultural norms create a collection of standards of conduct as a norm in every community, determining the degree of adherence to them, as well as the condition of society in terms of disobedience and social aberrations. In general, our country has a poor level of regularity and adherence to the execution of COVID-19 preventative recommendations. This problem has cultural origins since the order is not institutionalized as a cultural category throughout people’s socialization, and people’s conduct is not uniform and there is some conflict about it.

*“For years, there has been an inadequate foundation of social behavior, particularly modern ones in Iran, and this tradition-modernity contradiction, which in fact did not allow for the formation of a single character in Iran during these years, and this personality paradox extent to areas of action, policy, and planning like COVID-19 and so on, and the consequences are undeniable....” (Interviewee No. 4)*

*“We have anomalies in the application of citizenship rights, irregularities in the application of the COVID-19 preventative recommendations, individuals go to restaurants without masks, without distance, and there is no regulation...” (Interviewee No. 9)*

**Value conflicts:** Some disagreements and quandaries, largely the consequence of macro-level decisions, hampered adherence to health recommendations. Of course, many conflicts, such as religious-health, economic-health, or disease-health, develop from inconsistencies in macro-level judgments about how to apply preventative recommendations, leaving people unsure whether or not to follow them.

*“The government was unable to achieve a single model for the execution of preventative recommendations, and even within the structure of government, we can find conflicts; conflicts between health and illness, health and economics, law and health, and spirituality concerns...” (Interviewee No. 10)*

## Socio-Economic Position

**Livelihood conditions:** This subcategory relates to people’s poor living situations as a result of the macroeconomic environment. Their adherence to COVID-19 preventative recommendations was significantly hampered by economic issues and poor living conditions. Lack of employment stability, inadequate income, poverty, and financial restrictions in the supply of health equipment such as masks, gloves, and disinfectants are all indications of people’s low economic resilience, especially in the long run. It causes people to prioritize money concerns over health and, as a result, conduct their economic activities in defiance of preventative measures. For example, owing to job conditions, a person may appear in crowded locations multiple times a day, notwithstanding the sensation of risk. Despite being suspected of having the disease and experiencing symptoms, he may have to go to work to support his family and is unable to follow preventative measures. One of the environmental variables is a lack of access to health care.

*“Some do not have job security; therefore, even if they contract COVID-19, they conceal their illness in order not to lose their employment.” For example, some people labor on a regular basis and do not receive compensation for their treatment...” (Interviewee No. 3)*

*“We’re talking about disadvantaged people for whom health and COVID-19 preventative recommendations are not a priority. Their top goal is to meet the bare necessities of their lives...” (Interviewee No. 5)*

*“People are concerned about their financial condition and the maintenance of their incomes. Many of these folks rely on their everyday work for a living. If a family is without money for a year, we have no program to help them ...” (Interviewee No. 7)*

*“I’d like to share a different scenario with you: I understand that everyone must take precautions, but I do not have the money to purchase a face mask. Every day, my employment demands me to spend extended periods in busy areas. I don’t have any*

*disinfectants. I mean, I can't follow this procedure... I am a person with a physical handicap who is unable to clean my wheelchair; I am also blind, and I am unsure of the location of water or soap in toilets when I enter. I'm an addict who frequented the park to sleep and use the restrooms. You've now closed the parks. Where can I wash my hands? These are all environmental variables that make it difficult for people to follow preventative measures..." (Interviewee No.1)*

## 2- Crosscutting Determinants

The second group includes factors that span both the structural and intermediate dimensions and are related to both. Only one category, social cohesiveness, was found in this study, with one subcategory, poor trust.

### Social Capital

*Social cohesion:* According to the interviewees' perspectives, if a community has a high level of unity and social cohesion, adherence to COVID-19 preventive guidelines will be higher because people see themselves as homogeneous with the government and society and feel socially responsible towards other people in society, and by adhering to hygienic principles, they play their role towards society. Most participants thought that this was not the case during the COVID-19 pandemic and that individuals were failing to perform their obligations owing to a lack of community and government cohesiveness, as well as a lack of collaboration with health care workers.

*"People sought to follow preventive recommendations to help doctors, nurses, and medical personnel at the beginning of the crisis, but they are now weakened. Although I am able to travel, I prefer not to see my family or go to assist doctors and nurses in their efforts to control the disease since I am a member of this community. I feel obligated to do something, but how many of our people do? a few... How many individuals feel themselves to be responsible for community health? Many individuals have gone north to celebrate the middle of September vacations, and many people participated in Muharram's mourning because they do not consider themselves a member of a society that has a duty to sacrifice their own interests and pleasures. People should be patient till things improve." (Interviewee No. 8)*

*Low trust:* Another factor of adherence to COVID-19 preventative recommendations was social trust, which is one of the aspects of social capital. Some participants stated that trust at the community level is poor, as is trust in the government, and as a result, individuals do not follow preventive instructions. There is some political obstinacy and a lack of faith in the accuracy and efficacy of the proposed preventative recommendations. As a result of

poor levels of social trust, many people disregard COVID-19 prevention advice.

*"When the distance between the people and the government expands, so does social trust, and when trust in the government grows, a large percentage of the government's orders, protocols, instructions, and letters are not taken seriously or, if taken seriously, are implemented personally, relatively, and incompletely." (interviewee No. 10)*

## 3- Intermediary Determinants

The third major category was intermediate determinants, which comprised subcategories such as living environment, employment conditions, the health care system, personal traits, and psychological variables.

### Living Conditions

*Housing conditions:* Adherence to COVID-19 preventative recommendations is almost impossible in the suburbs because of insufficient living amenities. There is no adequate housing in these regions and owing to the tiny size and household crowding, it is impossible to observe the social and physical distance. High-risk behaviors are frequent in these adverse living situations, and it is impossible to implement the safety rules.

*"The proportion of compliance with the protocols is quite low in the suburbs. Because of their location, there are extremely tiny areas and a lot of people living there. Thus, social distance is essentially meaningless among these people..." (Interviewee No. 2)*

*"Housing has the potential to play a major role in the spread and control of this virus. Millions of individuals are homeless and do not have adequate living circumstances. How can they follow preventative guidelines?" (Interviewee No. 5)*

### Occupational Conditions

*Precarious employment:* Lack of employment stability and insufficient income, people's capacity to provide living conditions, and even little concerns such as face masks put a financial and economic strain on individuals, reducing economic resilience. These circumstances have led economic choices to take precedence over health, and as a result, people continue to engage in economic activities despite prescribed preventative measures.

*"Some people do not have work stability, therefore if they contract COVID-19, they try to conceal their illness in order not to lose their employment. A day laborer, for example, does not receive compensation for their treatment... These folks do not follow preventative measures" (Interviewee No. 3)*

*"We come with disadvantaged people whose first focus is not health and prevention. Their top goal is to fulfill their fundamental needs." (Interviewee No. 5)*

## Individual Characteristics

**Demographic characteristics:** Individual demographic factors might potentially contribute to non- or low adherence to preventative guidelines. Interviewees' age, race, and marital status may all have an impact on adherence to preventative practices. For example, the degree of adherence among young people is lower than that of the elderly, despite the fact that the elderly are obliged to attend society solely due to the necessity to purchase things and so on. In addition, married people are more likely than singles to follow preventative measures.

*"Marital status can be connected because married people are typically more worried about health, and they are more concerned that their family members follow preventive practices.." (Interviewee No. 3)*

*"Some people have to go out, and some people do not go out if there are conditions. For example, I saw some old people becoming sick, and when I questioned why they came out, they answered, 'There was no one to care for me, so I had to come out.'" (Interviewee No. 9)*

**Personality traits:** Some personality traits and individual characteristics also contribute to noncompliance with preventative strategies. Hope was one of the elements that caused a person to recognize that life and death were the same for him, and thus he did not care about the preventative recommendations. Another element of these considerations is people's emotional and psychological requirements, and because following the rules does not always fulfill these needs and might even be contradictory, individuals are hesitant to follow them.

*"More adherence is noticed among certain people because their degree of life happiness and life expectancy is higher, and vice versa, and is closely connected to people's adherence or non-adherence..." (Interviewee No.4)*

*"People adapt knowledge and information to two situations: the material context and the psychological condition, i.e., their wants and needs. If things do not go as planned, or if they are under pressure, or if they feel awful, they strive not to accept it, and certain preventive recommendations are of this nature..." (Interviewee No. 6)*

**COVID-19 knowledge and attitude:** The final subgroup of individual factors is knowledge and attitude, which is critical for following preventative guidelines. Proper education aids in the understanding of proper conduct and self-care. In contrast, low illness awareness and risk

perception led to noncompliance with preventative guidelines.

*"Because following a guideline is a behavior, and for behavior to take shape, we need knowledge and awareness first. I need to know what behavior is acceptable and what is not. Do accomplished individuals have adequate medical expertise to do this? Do you understand the policy? Second, we need to adjust and modify our attitude toward the issue..." (Interviewee No.1)*

*"Anyone who is more educated about COVID-19 may be able to adhere to guidelines and evaluate words and issues more effectively. However, there are other people with a high degree of education whose attitude towards COVID-19 has not altered, and they feel they will not get the disease." (interviewee No. 2)*

*"Perhaps people's awareness is so low that they don't take the threat seriously, and they should modify their behaviors and follow the COVID-19 instructions..." (Interviewee No. 11)*

## Psycho-Social Factors

**Normalization of the disease:** Many people became weary with the protracted process of disease outbreak and the requirement of adhering to COVID-19 standards over time, and their sensitivity and adherence deteriorated. That is, in long-term epidemics, people get behavioral weariness, causing them to disregard preventive measures. One of the causes of this condition was the normalization of the daily number of infected persons and patient's deaths, which led to people psychologically believing that this situation was normal, and this view reduced adherence to COVID-19 standards.

*"As long as the pandemic continues, it becomes natural for people to believe that it exists and that some of them must die every day..." (Interviewee No. 14)*

*"Where the epidemic curve rose, we did not follow preventative guidelines. Many individuals grow fatigued, so put the preventative measures on hold for a while" (interviewee No. 8)*

**Social pressure and stigma:** Social pressures and stigma that individuals feel from their surroundings and the community place on a person when they follow preventative recommendations drive them to refuse to follow the rules. People have ignored adherence to COVID-19 rules due to the stigma of being cowardly, acting like a kid, and so on.

*"Peer group pressures are crucial. They question how a man can wear a mask? What are you hiding behind the mask? Why do you wash your hands? Wearing a mask is considered a kind of stigma in the culture I live in. In the society I live in, washing one's hands on a regular basis is considered a social stigma. 'So I know the guidelines, I have access to them, but the pressures of society prevent me from adhering to them'" (interviewee No. 1)*

*“Some people did not take it seriously at all. Some who wish to take it seriously may be under peer or societal pressure.” (interviewee No. 3)*

## Health System Leadership

**Health system problems:** Our healthcare system has had a significant impact on non- or low-adherence to the COVID-19 standards. Successful experiences and professional expertise from other nations were not incorporated in the development of the standards, and individuals were not adequately educated. The health system lacked the necessary power and authority to implement preventive guidelines, and it was unable to adequately evaluate them or plan for their reduction.

*“A number of factors are related to the ability to manage health-care system problems. When and how should the guidelines be publicly disclosed? Are these suggestions consistent with successful countries’ experiences? How much do we rely on the assistance and experience of other countries? What is the extent to which guidelines are monitored and evaluated? All of the concerns raised are critical to the functioning of a health-care system...” (Interviewee No.1)*

**Not taking evidence-based decisions:** Some elements of the creation of preventative recommendations were not based on the most recent available evidence. Because of these judgments, as well as a lack of review, the adoption of recommendations was only temporary and ineffectual. Furthermore, the absence of identification of barriers and facilitators to adherence to preventative recommendations resulted in guidelines and choices that were not created with the target populations in mind.

*“They do not use the most recent evidence and expert opinion. Everyone is doing their job based on their own opinion. There is no management in this field. Decisions are made in a vacuum; there is no expert opinion. For example, if there are only two days until school reopens, tell people you are opening schools, what the consequences could be expected at the community level..” (Interviewee No. 2)*

**Non-comprehensive preventive guidelines:** Another issue with guidelines was their lack of thoroughness. This indicates that, in the first place, the recommendations’ content was not based on the most recent scientific information and research. The recommendations did not take into account individuals’ social contexts or living situations, and some people did not grasp the substance or execution of the standards at all. In reality, certain standards and practices were incompatible with people’s lives and overlooked variances in people’s social lives. As a result, they were not executed by all people in all situations.

*“How can an older person who is not familiar with the Internet obtain information on COVID-19 preventions? As a result, knowledge creation is critical. That is, relevant material is essential. It is critical to have access to this information. That is, this information must be truly available... Decisions and recommendations were not exhaustive.” (Interviewee No. 1).*

*“First and foremost, none of our recommendations are complete. They do not cover a number of specialized categories, for example, those in home care, such as the aged, disabled, people with mental illnesses, the blind and deaf, and so on.” (Interviewee No. 3)*

**Non-operational guidelines:** Unprofessional recommendations that are not comprehensive are typically ineffective. According to research interviewees, recommendations could not be properly channeled and established in Iranian society, and there was insufficient infrastructure to apply them. In reality, the lack of proof and incompleteness of recommendations make them unpopular with the public, and even if they are approved, adhering to them is time-consuming.

*“...Implementing these decisions in daily life takes time, and advice such as remaining at home, ordering, or doing nothing could not be followed so quickly. We did not consider how practical and practicable they are, they lack flexibility, we did not create the appropriate approach for them, and all of this contributed to nonadherence...” (Interviewee No. 6)*

**Inadequate executive guarantee:** Another factor influencing noncompliance with preventative recommendations was a lack of adequate executive assurance. Protocols were developed and conveyed, but offenders and violators were not punished for their infractions, and penalties were insufficient. The health system’s lack of power in implementing and monitoring the rules resulted in inadequate implementation, thus the guidelines were not taken seriously by the appropriate authorities. In this situation, incentives like free face masks or disinfectants might be made available to the general public.

*“It necessitates mandatory rules and regulations; now, face masks are expensive and widely available; if you do not wear a mask, you cannot leave the house; you are not permitted to transport more than a predetermined number of people in your vehicle; you are not permitted to have a predetermined number of customers in your restaurant, and you must ensure the workshop ventilation system... There must be regulations in place to promote adherence to guidelines, whether through positive or negative reinforcement. We supply you with inexpensive face masks and disinfectants, which can serve as positive reinforcement.” (Interviewee No. 1)*

*“In our country, the monitoring system has many problems; we may have good programs, but they are not implemented well because no one closely monitors them... In addition to the*

*implementation of guidelines, the monitoring dimension must be strengthened; previously, you could not travel to other cities, but now there are no such restrictions at all.” (Interviewee No. 3)*

*“People who do not wear a face mask may risk a fine from the authorities. There must be sufficient enforcement assurances in place to compel individuals to follow this order.” (Interviewee No. 11)*

## Discussion

The current study used a directional content analysis method to identify social factors of adherence to COVID-19 preventative guidelines in Iran. The analysis of interviews with health professionals and policymakers revealed structural determinants of adherence to COVID-19 preventive guidelines, such as socioeconomic and political context, cultural and social values, and socioeconomic positions, crosscutting determinants, such as social cohesion, and intermediary determinants, such as living conditions, working conditions, and penetrance.

Our findings highlighted the relevance of the socioeconomic and political environment, as well as policy concerns, in determining access to health care and implementing COVID-19 mitigation measures. Most participants said that severe punishments, as well as incomprehensible and inconsistent rules, had a serious impact on supplying and fairly distributing hygiene supplies, limiting access to health care in our community to prevent and contain this epidemic. In line with our findings, Salehi-Isfahani et al (2020) underlined the significance of Iran’s weak economy and international sanctions in limited diagnostic kit testing and a significant number of deaths during COVID-19.<sup>17</sup> Although various countries have claimed that sanctions have not been a barrier to access to COVID-19-related medicine or health facilities in various countries, including Iran, the economic impact of these sanctions has been a major barrier for dealing with the pandemic, such as conducting massive testing campaigns, isolating infected cases, having strict lockdown measures, and paying the total cost of the pandemic.

The participants emphasized the importance of governance, authority conflict, and inadequate management, which resulted in weak inter-sectoral collaboration, poor resource management, and ineffective pandemic control in society. As a result, individuals may become perplexed and less motivated to take preventive steps. According to a study, one of the most significant obstacles to dealing with the COVID-19 epidemic in Iran is bureaucracy and administrative impediments to inter-sectoral collaboration.<sup>18</sup>

In the current study, social media and information transmission were also structural determinants of compliance with the COVID-19 preventative recommendations. With the expansion of COVID-19, authorities’ and the media’s performance and activities have become an influential factor in all nations and have been continually reviewed.<sup>19,20</sup>

According to the findings of the SoleimanvandiAzar et al, 2021 research, the authorities and those involved in Iran, by sending conflicting signals and disseminating disparate statistics, create the conditions for neglecting the sickness and failing to follow the procedures.<sup>7</sup> According to Mounesan et al, 2020, while Iran reports statistical data on a daily basis and strives to disclose the data transparently, the accuracy of diagnosis and reporting is not the same in all regions, and there are several reporting systems. As a result, there are occasionally inconsistencies in the given statistical data, and some indicators cannot be computed properly.<sup>18</sup> Similar results were observed in Libya in 2015.<sup>21</sup> The important point is that in times of public crisis, governments must quickly and efficiently communicate crisis information to members of society because failure to do so will inevitably lead citizens to fear, insecurity, and distrust, as well as failure to follow instructions and anxiety drive in current situations.

Fatalism and faith in fate in terms of catching another factor that made people unhappy with their lifestyle and hesitant to adopt health procedures was COVID-19. Nordfjaern et al, 2020; SoleimanvandiAzar et al, 2021, conducted a study. Non-compliance with health guidelines has been determined by fate.<sup>7,22</sup> Jimenez et al,<sup>23</sup> 2020 found similar results; destiny in the context of COVID-19 and the idea of the virus as a death sentence led to a reluctance to execute suggested preventative actions. Destiny and lack of belief in health concerns are very important in Iran’s religious and traditional society, and one of the key difficulties in the sphere of culture is the logical assessment of danger. This fate is founded in religion since Muslims believe that death and life are in God’s hands and that our activity as humans has no impact on the moment of our death, therefore there is no need to monitor health concerns.

Other factors and barriers to adherence to health regimens were social rituals like weddings, visits, and the Ashura religious rites. Infectious illness epidemic research has focused on the impact of culture and social traditions on epidemics such as HIV/AIDS, Ebola, SARS, and, most recently, COVID-19.<sup>24-26</sup> Doosti-Irani et al, 2020, noted in an article that one of the problems of administering and dealing with COVID-19 in Iran is the diversity of rituals in various areas of Iran, such as mourning and weddings. The ubiquity of COVID-19 and its association with the New Year and its social rituals, such as parties and visits, have resulted in the normalization of circumstances, as well as a failure to take the matter seriously and noncompliance with procedures.<sup>27</sup> In general, it is difficult to notice health concerns in Iran, where many social practices have a normative and value component, as well as strong customary backing, and many are obligated to obey them. In other words, there are strong kinship relations in Iran, and it plays a colorful role in the communication and behavior of people in the community, so that most people in the community gather at special parties and ceremonies, and their presence is mandatory, and if someone is absent from those around, those around will notice. This

problem has made it more difficult to detect health problems. Cultural differences must be considered in order to limit the pandemic of infectious illnesses in developing and less developed nations.

The current study found that cultural norms, particularly the frequency and level of commitment to protocol execution, are poor in Iran. This is due to novel results that were not discovered in prior similar research. Regularity has cultural origins and should be institutionalized as a cultural category in people's upbringing so that when the proper time comes—in this case, the popularity of COVID-19—people apply it as an accepted standard without compulsion.

Conflicts and dichotomies of values such as Shariat-health, economics-health, or health-disease were caused by inconsistencies in macro judgments about how to apply procedures, which left individuals confused or non-compliant. The main cause of these dichotomies and contradictory decisions at the country's macro-management and executive levels can be traced back to the country's weak and disorderly economy; due to economic difficulties and the government's inability to provide adequate grants to people and businesses during restrictions and quarantine, the reopening time was faster than scientifically intended. This led people to believe that the situation was normal and that there was no need to adhere to the rules. Canete, 2021, found that many people are unhappy and have mental problems because of job loss and loneliness because of COVID-19, which makes them break COVID-19-related rules.<sup>28</sup> Furthermore, the COVID-19 pandemic does not prevent people from exercising their fraternal instincts, but rather gives them even more reason to do so, resulting in the social paradox of human presence.

Peoples' economic and living situations were another factor that contributed to or exacerbated adherence to or non-adherence to health recommendations. Recent studies have stressed the significance of the economic cost of living in non-compliance with health recommendations, which is consistent with our findings.<sup>29-31</sup> The findings of the study by SoleimanvandiAzar et al, 2021, also revealed that many people were forced to continue their activities due to the society's economic conditions and lack of fixed income, as well as the high cost of living, even in these critical situations where their lives and families were threatened.<sup>7</sup> Yosefi Leni et al, 2020, also demonstrated in an essay that the Iranian government's financial incapacity to safeguard the nation financially during quarantine drove the bulk of individuals who had to work every day to make ends meet to be present in numerous crowded areas and shopping malls. They disregarded health warnings.<sup>32</sup> With the spread of COVID-19 and the economic boom, these demands on families have risen significantly, and the government and other organizations have been called upon to assist. Government aid and facilities, on the other hand, were limited and insufficient to fulfill families' fundamental requirements.

According to the findings of the study, one of the most important factors in adhering to COVID-19 health standards was social capital. People felt irresponsible and resolutely

disobeyed the orders due to a lack of social cohesiveness and trust between the people and the administration. One of the findings of the SoleimanvandiAzar et al (2021) study was a lack of social capital in Iran, which contributed to non-compliance with COVID-19 health concerns<sup>7</sup>. The Nielsen and Lindvall's research (2021) in European nations such as Denmark and Sweden, as well as the Lim et al's (2021) study in Singapore, showed that people's faith in governments and health systems has led to attention to orders and the adoption of COVID-19 preventative behaviors.<sup>33,34</sup> In Iran, social capital is not at an adequate level, and government contact with the people is not a two-way street built on collaboration, trust, and harmony. This improper connection is aggravated by a lack of social adjustment. People's trust in the government is very low, and the government's weakness in gaining people's trust and not organizing their participation in solving social problems breeds mistrust and lack of public acceptance of government officials' recommendations and policies, resulting in non-compliance with government health protocols.

According to the results of a study, living conditions such as insufficient and small dwellings make it difficult to follow instructions. Several studies have underlined the relevance of housing and living space in combating COVID-19.<sup>35,36</sup> Benfer et al,<sup>37</sup> 2021, showed that in crowded areas, there is high population density and restricted access to health care, as well as a decline in the capacity to comply with techniques and instructions to prevent disease transmission (such as social distance). The relevance of the living environment and housing is much more evident in Iran, where housing is limited for a major portion of the population and many people typically live together in tiny houses, reducing compliance with health laws.

According to the findings of this study, inadequate access to health care facilities also created a barrier to health concerns. Numerous studies have been conducted to investigate the problem of access to health facilities and its influence on public health,<sup>7,38,39</sup> because access to health services is one of policymakers' primary objectives. And it is an excellent method to promote health justice. According to Nzaji et al,<sup>40</sup> 2020, discontent with the Ministry of Health's activities in delivering services and supplying essential medical equipment and services has been successful in non-compliance with health orders and issues in the Congo. In this context, Emanuel et al<sup>41</sup> (2020) illustrated that governments and policymakers should do all possible to avoid medical resource shortages during the COVID-19 crisis. It should be noted that people regard non-observance of health points as a reaction to a sense of injustice in the allocation of services and supplies, indicating that health officials in Iran have been unable to develop a proper framework for simple and equitable access to sanitary gear for all people.

Another predictor was susceptible employment, particularly a lack of work stability, low income, and the inability to afford basic living circumstances, all of which reduced

adherence to protocols. SoleimanvandiAzar et al (2021) investigated the reasons for non-compliance with health regulations in high-risk occupations in Iran and discovered that employment and the resulting economic problems, particularly the decline in income during the COVID-19 period, were among the most important reasons why people did not follow protocols.<sup>7</sup> Bong et al<sup>42</sup> (2020) also demonstrated that maintaining social distance is nearly impossible in low- and middle-income nations due to a lack of income. It has previously been established that the COVID-19 epidemic has harmed numerous Iranian economies and enterprises. People in need of basic and everyday requirements cannot be expected to be concerned about health concerns and COVID-19 prevention in these difficult economic times and in the absence of government aid. In reality, individuals prioritize economic need over any other issue or hazard, and the failure to satisfy economic demands is more lethal than any sickness, thus following health recommendations will not be a priority for them.

Individual and demographic factors, such as age, gender, and certain other demographic parameters, influenced protocol adherence. The rate of adherence was lower in young males and adults than in older men and women. In a study conducted in five European cities by MacIntyre et al, (2021), young men and women were less likely to follow health recommendations (mask usage), and masking reduced after the age of 50.<sup>43</sup> According to Gouin et al<sup>44</sup> (2021), the elderly over 70, as well as women, were more likely to perceive physical distance. The disparity in age and gender, as well as adherence to health standards, is due to a degree of conservatism and worry about the dangers of COVID-19. In fact, males and young people who believe in immunity are less likely to follow health standards. Young kids are constantly resistant to risk and feel that they will not become ill or injured. This syndrome is also prevalent in middle-aged males, but the elderly and women are always more careful and conservative, and they are obligated to obey instructions and health advice. Misunderstandings about COVID-19, on the one hand, and conflicting and continuously changing information, on the other, led to misconceptions about COVID-19, which led to many participants fighting the condition, according to the study by SoleimanvandiAzar et al, 2021. They knew they were safe, therefore they were less inclined to pay attention to health concerns.<sup>7</sup>

Non-compliance with procedures was also influenced by personality and individual characteristics. Hope was one of the elements that contributed to the individual's failure to follow the procedures. In this sense, the emotional and psychological requirements of the individual who is in conflict with the regulations are equally significant. In the study by SoleimanvandiAzar et al, (2021), personality characteristics such as lethargy, impatience, laziness, and despair were among the individual variables that led to disdain for warnings and disrespect for health concerns.<sup>7</sup> In a study, Özdil et al (2020) discovered that fear, on the one hand,

increases attention to health protocols while, on the other hand, adopting preventative measures against COVID-19 decreases involvement in individual and group activities.<sup>45</sup> As a result, the more a person's personality qualities lean toward hopelessness and despair, the less he will attempt to follow the health directions, and the more hopeful he is about the future, the more he will try to follow the health instructions.

The findings of the study revealed that COVID-19's knowledge and attitude play a critical role in adhering to health guidelines. In contrast to proper education and education, poor awareness and low-risk perception of the disease led to non-compliance with the protocols, and ignorance and lack of attitude and knowledge of the protocols and the necessity to comply with them to avoid the disease led to non-compliance. Lim et al (2020) showed in a study that identifying and comprehending the danger of disease is helpful in observing COVID-19-preventive actions.<sup>34</sup> One of the causes for non-compliance with COVID-19 health concerns, according to the research of SoleimanvandiAzar et al, (2021), was a lack of understanding about the condition and how to watch the health issues connected to it.<sup>7</sup> According to the findings of the research by Taghrir et al (2020), the degree of risk perception among medical students, particularly interns, is low, and their willingness to cooperate is lower as a result.<sup>46</sup> Despite global concern and media attention to the issue of coronary artery disease and related issues, many people still do not have a proper understanding of COVID-19 disease and its consequences, as well as how to observe health issues related to it, and this issue leads to incomplete prevention principles, failure to observe health issues, and as a result, further spread of the disease. In reality, following preventive measures is difficult as long as people's knowledge and attitudes regarding COVID-19 remain unchanged, and they perceive it as a threat to themselves and their health.

The results revealed that the disease's normalization over time, as well as the daily mortality of patients, made individuals weary and decreased adherence to procedures. Reicher & Drury (2021), using the term "pandemic fatigue," demonstrated that recurrence and duration of the disease, as well as tiredness of limitations and continuing adherence to health directives, were important challenges during the COVID-19 pandemic in the UK. They feel that a portion of the disrespect for norms and regulations stems from vulnerabilities and psychological harm.<sup>47</sup> Fatigue was related to reduced perceived severity and lower incidence of COVID-19 in a study by MacIntyre et al (2021), and young men and women were more likely to be weary and ignore health guidelines.<sup>43</sup> In general, people experience behavioral weariness during protracted epidemics, causing them to be behaviorally inconsistent with regard to procedures and health concerns.

Another finding of the study was that social pressures and stigmas, such as the stigma of being cowardly, being a kid, and the things that others around and in the community

impose on a person when following the protocols, drove people to refuse to follow the rules. Hills & Eraso (2021) showed in a study that minimal normative pressure from family and friends to adopt health habits leads to individuals not paying attention to social distance.<sup>48</sup> In Iranian society, not seeing health issues is regarded as brave, while observing them is regarded as a kind of fear, and people who observe health issues are regarded as cowards.

The issues with the health system in crafting protocols, not leveraging successful experiences and information from other nations, and a lack of adequate education for the population made it impossible to follow the protocols. In this context, Doosti-Irani et al (2020) stressed the relevance and value of nations' experiences in probable pandemic control.<sup>27</sup> Baloch et al (2020) underlined the significance of imbalances and deficiencies in the Middle Eastern healthcare system during the prevalence and control of COVID-19.<sup>24</sup> As previously mentioned, in the case of Iran, the problem of sanctions and non-communication with other nations across the world is a big impediment to accessing the experiences of other countries and requesting their assistance in the field of COVID-19.

In Iran, a lack of decision-making expertise, combined with a lack of evaluation, has resulted in COVID-19 measures that lack the necessary effectiveness, and instructions and decisions that are not designed with target groups in mind, all of which have a negative impact on the process of implementation and compliance with instructions. The protocols' content was not founded on scientific data or research, and the social environment and living situations of individuals and social groupings were not taken into account. Protocols are also unacceptably ineffective due to their lack of canalization and institutionalization.

Inadequate enforcement assurances were another factor that contributed to noncompliance with health procedures. That is, the transgressors were not dealt with, and the penalties were insufficient. Consistent with our findings, Sol-eimanvandi Azar et al (2021) found that a lack of robust rules and monitoring was another factor in noncompliance with health concerns in their study<sup>7</sup>. The COVID-19 pandemic in Iran revealed that health protocols provided by health institutions and the government lacked sufficient executive and supervisory backing and were frequently ignored, and irresponsible personnel who failed to notice health concerns were rarely dealt with. For example, the adoption of quarantine and traffic control as a societal law and norm was not functional. One of the oldest and most successful methods of controlling the spread of contagious illnesses is quarantine. Several investigations have demonstrated that collective quarantine is beneficial in reducing COVID-19 transmission.<sup>46,49</sup> In general, the Iranian government, like other nations, has been unable to implement strong regulations requiring individuals to comply with health concerns under strict monitoring. As a result, many people in the community have no need to follow health regulations because they have not been fined.

## **Strengths and Limitations**

This study evaluated the determinants of compliance with health guidelines related to COVID-19 for the first time in Iran (based on a thorough search of papers related to COVID-19) with a qualitative technique and based on the views of relevant experts and professionals. Assist policymakers with COVID-19 planning and implementation, as well as the creation and execution of health protocols. Another feature of this study was the variety in sampling and selection of professionals with varied characteristics.

This study, however, has some drawbacks. One of the major constraints was that interviews were difficult to do owing to the frequency of COVID-19, and some individuals were unwilling to undertake face-to-face interviews, which the researcher addressed with health concerns. Furthermore, the difficulty of conducting the interview made data analysis time-consuming, and in some cases, it was necessary to listen to a text several times and with several people to confirm the accuracy of the text, and in some cases, it was necessary to re-interview several people to confirm the transcript. This was separate from the data validation procedure. Moreover, this study was conducted only among experts and policy makers and not included the view of the Iranian citizens, therefore, interpretation of the findings should be considered in the light of this limitation. Finally, as this study was conducted with a qualitative approach, power calculation was not considered for sample size estimation in this study. In spite of these limitations, this study provided important insights about social determinants of adherence to COVID-19 preventive guidelines that can be used for health programs during Covid-19 pandemic.

## **Conclusion**

The findings revealed the socioeconomic and political context, cultural system and social values, socioeconomic status, social capital, living environment, working conditions, personal characteristics, psycho-social factors, and health system determinants of noncompliance with related health points. As a result, in order to repeat the fresh waves of the vaccine in the community, prevention and management of this illness necessitate involvement at multiple levels by various technologies and institutions. Increasing public health knowledge and literacy to identify the virus and follow health tips to prevent infection, educating people to adapt to new lifestyles, using the potential of cyberspace to educate people, engaging religious leaders, educating people about the consequences of social interactions, strengthening regulatory laws and imposing stricter restrictions, providing people with access to health and prevention equipment, strengthening health justice for all segments of society, especially the poor, and providing financial support to vulnerable groups and enforcing exemptions are crucial in this regard. Besides, tax relief is one of these measures. Also important are the government's efforts to gain the people's support and trust and strengthen social

capital; the government should take steps to strengthen social capital, with the people, for the people, with the people, rather than acting as the sole custodian of health and making decisions for them without sufficient knowledge of the people's health, economic, and social needs. Because it is simpler for individuals to obey and act on government choices when they are participating in them.

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### Author Contributions

All authors participated and approved the study design. ZJSH, YS, MSH and SA contributed to designing the study. SFI, NRG, and AA collected the data and analyzed it by TP, NM, and AB. The final article was written by SFI, SA, and YS. All authors read and approved the final manuscript.

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### Ethics Approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. The study was provided ethical approval by the University of Social Welfare and Rehabilitation Sciences (IR.USWR.REC.1399.107).

### Informed Consent

Written consent was obtained from all participants.

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