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Reseach Paper: Barriers and Facilitators of Adherence to the COVID-19 Prevention Guidelines: A Qualitative Study

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ABSTRACT

Background: Despite the recommendations to follow guidelines for the prevention of COVID-19, different communities do not completely adhere to these guidelines. The aim of this study was to explore the barriers and facilitators of the adherence of the people of Sanandaj to the COVID-19 prevention guidelines.

Materials & Methods: The present study was a qualitative content analysis study conducted in 2020. A purposive sampling method among the residents of Sanandaj, Iran was applied and continued until data saturation was achieved. Twenty semi-structured interviews were conducted with the participants. A verbatim transcription of interviews was analyzed through qualitative conventional content analysis.

Results: Participants included 12 men and 8 women. Data analysis yielded 8 categories and 26 sub-categories regarding the barriers and facilitators of the participants' adherence to the COVID-19 prevention guidelines. The barriers included myths, being under pressure, and letting and facilitators included awareness, fear, commitment, unity against the disease, and warnings.

Conclusion: According to the findings, it is necessary to correct people's beliefs, support them, and continue to make them informed about the disease. Increasing awareness and commitment, strengthening the spirit of unity among people, and increasing the level of warnings can be effective in increasing adherence of people to the COVID-19 prevention guidelines.

Keywords: COVID-19; Prevention and control; Persons; Qualitative research

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Caspian Journal of Health Research

1. Introduction

Up to now, the crisis of Coronavirus Disease 2019 (COVID-19) has spread worldwide [1]. In Iran, the first official announcement of COVID-19-induced death was recognized on February 19, 2020. By May 2021, about 2.5 million people have been infected with the virus, and about 80,000 people have died from the disease [2].

Global public health campaigns have developed guidelines to reduce the spread of the virus, including handwashing, coughing and sneezing inside a bent elbow or coughing and sneezing into a tissue paper and throwing it away, reducing facial contact, wearing a mask, and observing social distance of at least 1-2 m [3-5].

Many efforts have been made by governments around the world to reduce the spread of COVID-19, the main component of which has been quarantine [6]. One of the most effective measures is the self-quarantine of people who may have been exposed to COVID-19 [7]. Although the World Health Organization (WHO) has assumed a high degree of public compliance with the self-quarantine guidelines, studies show that concerns about losing income from long-term absenteeism prevent adherence to home quarantine [8, 9].

"Social distancing" also limits the spread of infection, the spread of disease, and death and reduces the pressure on health care providers [10]. Another preventive measure recommended by the WHO to reduce the spread of disease in the community is regular and thorough hand washing, especially in densely populated areas [11]. Hand disinfection using solutions or gels containing at least 60% alcohol is another recommended measure [12]. The United States Centers for Disease Control and Prevention (CDC) recommends wearing a mask to protect yourself and others [13].

COVID-19 has many physical and psychological consequences [4]. Regarding spreading, it will cause huge economic costs on people's lives and induce major problems in the financial markets [14]. Therefore, adherence to prevention guidelines by the people is essential [15]. To prevent the spread of COVID-19, it is necessary to change the basic social habits of the citizens and the behaviors of the people in the community. In particular, the citizens must participate in prevention measures [16] On the other hand, pressure on health systems disrupts the routine follow-up of other diseases [14, 17]. Studies suggest that empathy, trust in science, and intrinsic characteristics of people can affect adherence to COVID-19 prevention guidelines [18, 19]. Also, despite the fact that prevention guidelines have been developed to reduce the prevalence of COVID-19 and improve general well-being, they are ignored by some people [20]. There are a large number of young people and adults who ignore these instructions [21]. Although the discovery of important medical information about the severity of the disease and virus transmission has increased, people's psychosocial responses are still relatively unknown [22]. In particular, people respond differently to COVID-19 prevention guidelines. For example, Coroiu et al. reported the knowledge, attitude and skills, interpersonal communication (like social networks), ethos, cultural values and norms, and public policy as barriers and facilitators of adherence to social distancing recommendation among a large international sample of adults [18]. Due to the fact that many factors can hinder the adherence of people in the community to prevention guidelines, there is a need for the cooperation and commitment of the general public to follow the guidelines for the prevention of COVID-19 to control the disease. The first step to obtain community cooperation is to clarify barriers and facilitators for individuals to adhere to these guidelines. This needs in-depth exploration and the use of qualitative study methods. Therefore, the present study was conducted to explore the barriers and facilitators of the adherence of the people of Sanandaj to the COVID-19 prevention guidelines.

2. Materials and Methods

Design

The present study was a qualitative content analysis research that explored the barriers and facilitators of the adherence of people in Sanandaj to the COVID-19 prevention guidelines.

Participants

Participants of both sexes aged over 18 years living in different areas of Sanandaj, west of Iran were selected through the purposive sampling method. The participants were invited from public places through face-to-face invitation. Inclusion criteria included being a resident of Sanandaj and willingness to participate in the study. The exclusion criterion included unwillingness to continue participating in the study. The interviews were conducted simultaneously with the qualitative analysis of the data and continued until data saturation, i.e. it continued to the point that the data was repeated and no new content was extracted from the participants' conversa-

tions. In total, given the diversity among the subjects, 20 participants were interviewed. Participants included 12 men and 8 women.

Data collection

Data were collected from July to November 2020. Data were collected by the main researcher through semi-structured interviews using an interview guide in a place and time that was appropriate for the participants. Before the start of the interviews, the participants were reassured of the confidentiality of information in a trust-based atmosphere by exploring the purpose of the research. The interview started with open-ended questions based on the purpose of the research. Participants were observed during the interview and their non-verbal information, changes in mood, and concerns were recorded during the interview. All interviews were recorded. The interview guide was:

- Please explain how COVID-19 can affect you and your family?

- Please explain the measures you do to prevent COVID-19.

- In which cases you do not completely follow prevention instructions? Please explain.

- Why do not you follow all the prevention instructions? Please explain by an example.

- What does make you follow COVID-19 prevention guidelines more closely?

The interviews were conducted in Sanandaj in a place chosen in coordination with each participant. The interviews took place in a secluded room to respect privacy. The length of each interview varied from 30 to 90 minutes, depending on the participant. All interviews were conducted in one session for each participant. The interviews were conducted and analyzed in Kurdish. The results were translated into English only in the final report. The conversations were recorded in an audio file and then transcribed verbatim on paper.

Data analysis

Qualitative conventional content analysis was used to analyze the data. Each interview transcript was analyzed by the main researcher. Data analysis started from the time of the first interview and in parallel with the interviews (constant comparison) [23]. Accordingly, the notes were read several times to get a general understanding of the text. Then, the text was read line by line to do first-level coding so that the sentences that answered the questions raised in the interview were identified. The main concepts in these sentences yielded a theme. A list of the main and sub-themes was obtained by comparing the themes with each other. In the second level of coding, the main themes and sub-themes were reread, and then the main themes with similar meanings were grouped and categories were formed. Coding and categorization were done by the main researcher. Afterward, the identified themes were compared (Table 1).

Rigor

Lincoln & Guba's (1985) criteria, including credibility, dependability, confirmability, and transferability was used for the rigor of the study [24]. The interviews were read frequently and peer check was used regularly to validate the results. External monitoring was also used to increase its reliability. In this regard, part of the data was given to a researcher not involved in the study as an outside observer to determine if the subject had a similar understanding of the data. Some strategies were used to promote rigor, including transcribing, member check, reviewing the texts, using the participants' words, supervising translators, audio recordings, interview and coding manner, themes and sub-themes, and using direct quotes to support the findings.

Ethical considerations

The present study was approved by the Research Council of the Clinical Care Research Center and approved by the Ethics Committee of Kurdistan University of Medical Sciences with a code of IR.MUK.REC.1399.073. Informed written consent was received from all participants and reassurance was made about the purpose of the study, the confidentiality of their conversations, and the deletion of audio files after transcription. In order to keep the information confidential, the interviews were coded and the information of the participants was kept in a safe separate place. Participants were reassured that they could leave the study if desired.

3. Results

In total, participants included 12 men and 8 women with a Mean±SD age of 34.33±17.01 years. Four participants had a history of COVID-19. From the qualitative data, two main categories (the barriers and facilitators) and eight sub-categories emerged. There were 5 facilitators and 3 barriers to full adherence to COVID-19 prevention guidelines from the participants' point of view:

Table 1. Category development

Subcategories	Preliminary code
Fear (Category)	
Fear of the disease and its consequences	Fear of getting sick (P2) Anxiety about the disease leads to more observance (p4) Observance for the fear of quarantine (p4) Observance for the fear of not seeing family and friends (p4) Observance for the fear of hospitalization (p4) Observance for the fear of the disease (p4) Observance due to the fear of disease symptoms (p4) Fear of the disease (p5) Fear of virus transformation and becoming a stronger virus (p5) Fear of the disease and getting sick (p7) Fear for the common people causes obedience (p6) Fear of the disease causes more observance (p8) Observance for the fear of infection (P10) Observance for the fear of infection (P11) Observance for the fear of infection (P12) Observance due to stress and fear of infection (p15) More adherence due to a history of infection and fear of experiencing symptoms (p16) Observance due to stress (P20)
Fear of losing loved ones	The stress of Losing loved ones (p1) Fear of losing friends and loved ones (p8) Fear of the death of loved ones (p11) The stress of losing friends and acquaintances (p18)
Fear of being a carrier	Fear of being a carrier and transmitting the disease to the family (P2) Fear of illness due to the possibility of transmitting the disease to the whole family (p3) Observance for fear of being a carrier (p4) Observance because of guilt if you are a carrier (p4) Fear of being a carrier (p5) Fear of transmitting the disease to families and people at risk (p7) Observance due to ethical concerns about transmitting the disease to others (P10) Observance for fear of remorse in case of transmission of the disease to others (P12) Adherence to prevent complications of the disease even after recovery (p8)
Fear of death	Fear of death (P2) Observance for the fear of death (p4) Fear of dying from the disease (p17)

The barriers included myths (false religious beliefs, misconceptions, disbelief in illness), being under pressure (economic problems, getting out of the normal routine of life, impatience), and letting go (carelessness, unpreparedness, lack of commitment, opposition, forgetfulness, and difficulty of guidelines).

Participants also stated that the following factors can facilitate people's adherence to COVID-19 prevention guidelines: awareness (awareness of illness statistics and awareness of symptoms), fear (fear of the disease and its consequences, fear of losing loved ones, fear of being a carrier, and fear of death), commitment (commitment to oneself, commitment to family, and commitment to the community), unity against the disease (unity to break the transmission chain and eradicate disease and unity to prevent the spread of disease), and warnings (media, affliction of those around, and conscience) (Table 2). The quotations are from participants (P as Participant and numbers as participant number).

Barriers

Myths (false religious beliefs, misconceptions, and disbelief in illness), being under pressure (economic problems, getting out of the normal routine of life, and impatience), and letting go (carelessness, unpreparedness, lack of commitment, opposition, forgetfulness, and

Table 2. Summary of categories and subcategories

Main categories	Categories	Subcategories
Barriers to adherence to prevention guidelines	Myths	False religious beliefs
		Misconceptions
		Disbelief in the disease
	Being under pressure	Economic problems
		Getting out of the normal routine of life
	Letting go	Impatience
		Carelessness
		Unpreparedness
		Non-commitment
		Opposition
		Forgetfulness
		Difficulty of guidelines
Facilitators of adherence to prevention guidelines	Awareness	Awareness of disease statistics
		Awareness of the disease and its symptoms
	Fear	Fear of the disease and its consequences
		Fear of losing loved ones
		Fear of being a carrier
		Fear of death
	Commitment	Commitment to oneself
		Commitment to family
		Commitment to the community and others
	Unity against the disease	Unity to break the transmission chain and eradicate the disease
		Unity to prevent the spread of the disease
	Warning	Media
		Infection of those around
		Conscience

difficulty of guidelines) were the most important barriers to the participants' full adherence to the prevention guidelines.

Myths

According to the participants' view in the study, one of the important factors that caused people not to adhere to the guidelines for the prevention of COVID-19 was myths.

One manifestation of myths is false religious beliefs: "Whatever will be, will be. You live as long as God has given your life" (P2). Myths involve another important part, which is misconceptions: "They think the virus is designed by different governments to scare people" (P12). "Some people think they don't get the COVID-19

Caspian Journal of Health Research

because they are athletes" (P19). Disbelief in the disease is another reason for myths: "There are some people who ridicule someone when they follow the instructions. They don't believe that there is a disease at all" (P6).

Being under pressure

One of the main reasons for non-adherence to the instructions is to be under pressure due to economic problems: "Due to economic problems, some people cannot provide masks and disinfectants every day, and since masks are disposable, those who have to get out every day cannot afford daily costs of buying masks. The absence of government support has exacerbated this problem" (P7). Another reason for being under pressure was getting out of the normal routine of life: "God knows how long the disease will last, it may even last forever. So we should return to normal life with a little easier taking on the protocols and health tips so that our soul and mind are not harmed" (P8). From the participants' point of view, one of the reasons for being under pressure was impatience: "The duration of this disease and virus has been very long. Because people have been quarantined for a long time and have not gone out, they no longer follow the protocols as closely as the initial stages of the disease. The use of masks, gloves, and other disinfectants has become exhausting for them" (P14).

Letting go

Letting go is another important factor that leads to non-compliance with COVID-19 prevention guidelines.

One of the main features of letting go is carelessness: "Some people are generally carefree, careless about their own health, their families, and generally careless about anything that includes the disease" (P19). Another manifestation of letting go is unpreparedness: "I think that many families are not prepared to deal with such a crisis and cannot control the problem. Unpreparedness for problems leads to family and individual conflicts and psychological problems that require proper education" (P1). Another reason for letting go is non-commitment: "Because of our moral commitment, we have to follow all the instructions 24 hours a day, but no human being can be committed to a task 24 hours a day for long. For example, I have been in places with other people, but because I have been using the mask for a long time, I took it off and did not use it" (P6). "In my opinion, over time, the disease is becoming more common for people and they are less likely to follow instructions" (P4). Letting go has another important part, i.e. opposition: "Coercion, fear, and persuasion cannot cause continuous behavioral change; it lasts for a short time. People opposed forced laws. We must learn to be free and live together responsibly" (P20). Among the reasons for letting go from the participants' point of view was forgetfulness: "I sometimes forget to wear a mask or observe social distancing" (P9). Another reason for letting go was the difficulty of guidelines/instructions: "I cannot wear a mask for a long time. It is hard and causes shortness of breath" (P14).

Facilitators

Participants stated that the following factors can facilitate people's adherence to COVID-19 prevention guidelines: awareness (awareness of illness statistics and awareness of symptoms), fear (fear of the disease and its consequences, fear of losing loved ones, fear of being a carrier, and fear of death), commitment (commitment to oneself, commitment to family, and commitment to the community), unity against the disease (unity to break the transmission chain and eradicate disease and unity to prevent the spread of disease) and warnings (media, affliction of those around, and conscience).

Awareness

According to the participants, one of the important factors that caused people not to adhere to the guidelines for the prevention of COVID-19 was awareness.

One of the manifestations of awareness was awareness of disease statistics: "I think that if real death statistics due to COVID-19 were told to people, it would make them more observant" (P5). Awareness included another part, i.e. awareness of the disease and its symptoms: "Increasing people's awareness of the disease and its symptoms and side effects whether through the media or friends and acquaintances will make people more observant" (P15).

Fear

According to the participants, another factor that caused people to adhere to the guidelines for the prevention of COVID-19 was fear.

One of the most important reasons for following the instructions is the fear of the disease and its consequences. "Since I once had the disease, I am very afraid of it and its symptoms. I'm fearful of being hospitalized again or being away from my loved ones during quarantine. That's why I follow the instructions more closely" (P16). Another factor that made people adhere to COVID-19 prevention guidelines was the fear of losing loved ones:

"I heard that if older people get the disease, they are more likely to die. So I'm more worried about my loved ones than myself. I am much stressed about it" (P1). Among the reasons for fear from the participants' point of view was the fear of being a carrier, which led to adherence to prevention guidelines: "We need to know that we are not the only ones to get affected, it is possible to transmit the disease to our family and even kill people who have a weak immune system. So the fear of transmitting the disease makes me very observant" (P7). Fear of death was also a facilitating factor in adhering to prevention guidelines: "When people see and hear that people die of the disease, it will make them more observant because of the fear of death" (P2).

Commitment

The commitment was one of the most important factors in facilitating people's adherence to COVID-19 prevention guidelines.

An important feature of commitment was the commitment to oneself: "Adherence or non-adherence to instructions has a definite limit, and that is the commitment to oneself. If we do not adhere to instructions, we are the first one to get affected" (P6). Another feature of commitment that led to the adherence to instructions was the commitment to the family: "I do not want to be the cause of the transmission of the disease to the family in any way. I think that everyone should be committed to this so that the family is safe" (P19). Commitment to community and others was another reason for adhering to prevention guidelines: "Adherence to instructions is a social duty. We must all be committed so that we do not transmit the disease to others" (P20).

Unity against the disease

Research participants also believed that unity facilitated people's adherence to COVID-19 prevention guidelines.

One of the manifestations of unity was unity to break the transmission chain and eradicate the disease: "I try to make less contact with people. I do all my shopping once to go out less. I think that health is more important than anything and it is better for all of us to follow the instructions until the disease is gone, after that, we will have a normal life again" (p13). Another manifestation of unity was unity to prevent the spread of disease: "This disease can be easily transmitted through the air, so we must all be united and observe the instructions to prevent the spread of the disease in the community" (P9).

Warnings

According to the participants in the study, the warning was another factor that facilitated people's adherence to COVID-19 prevention guidelines.

One of the most effective methods of warning was warning through the media: "The media is constantly warning that hospitals are full of Corona patients and many are in quarantine at home. This makes people more observant" (P16). "Because the media is constantly talking about Corona disease, it has made the disease important in our minds and made us think and care about it (P13). Another manifestation of warning was the infection of those around: "Those who have seen the illness of their friends and acquaintances are much more observant" (P5). Conscientiousness also led to warnings about the consequences of illness and greater adherence to instructions: "The treatment staff is very tired. They are most at risk. We have to pay more attention even it is only because of them" (P14).

4. Discussion

This study was conducted to explore the barriers and facilitators of Sanandaj people's adherence to COVID-19 prevention guidelines.

Myths, being under pressure, and letting go hindered participants' full adherence, and awareness, fear, unity against the disease, and warnings facilitated adherence to COVID-19 prevention guidelines.

One of the barriers to adhere prevention guidelines was myths. When an epidemic occurs, novel and sometimes unscientific ideas about how to prevent and treat it spread [25]. People have an innate need to know the truth; they also need a sense of security. These needs are not met in critical situations. Therefore, incorrect theories can seem appealing [26]. In addition, during an epidemic, most people spend time at home looking for answers to the threats they have read about or the reports they have seen on television. In such a context, false claims, false information, false narratives, and rumors on social networks can achieve high values. False claims can delay the treatment process and promote reckless behavior that leads to death [25, 27, 28]. During the COVID-19 crisis in 2020, myths emerged in many countries from the beginning of the epidemic. This issue became so serious when in early February 15, 2020, the Director-General of the WHO stated that the world is "not just fighting an epidemic, we are fighting an infodemic, one of the com-

ponents of which is the spread of misinformation about the pandemic" [4].

In Iran, a Muslim cleric has reportedly used what is called "the perfume of the Prophet" under the noses of viral patients in a hospital in northern Iran. In South Korea, the River of Grace Community Church sprayed saltwater into people's mouths as a preventive substance [25]. Cow urine was promoted as a treatment for COVID-19 by a member of the Legislature in Assam, India. It was also believed in India that cattle manure could kill the coronavirus [29]. The Indonesian president announced that he would drink the red ginger elixir, lemon, and turmeric three times a day to prevent coronavirus. His interior minister encouraged people to eat bean sprouts and broccoli [30]. In early 2020 in Iran, at least 200 people died and many more were hospitalized after drinking alcohol due to a rumor that alcohol makes people safe from COVID-19. Iranian media also reported that a five-year-old boy went into a coma and lost his sight after receiving contaminated alcohol from his family because it was believed that it would protect him against COVID-19 [25]. Several factors can provide a good environment for false claims in online communication during an epidemic. Anxiety and fear of an epidemic can make people vulnerable. Fear of being affected and harmed by a disease, such as COVID-19 can be exacerbated by religious associations, traditions, movie screenings, and computer games as well as factors, such as personality problems. Educational deficiencies, language barriers, social isolation, and disabilities, alone or together, are vulnerabilities that can be covered by the media to reduce the potential for looting opportunities to exploit vulnerable people against credibility. Health information should be imparted in a calm and clear tone so that it does not exacerbate anxiety and irrational fear but encourages prudent careful behavior. Citizens should be protected from false statements and false facts that have been published [31]. Therefore, materials containing understandable and science-based information should be quickly and continuously prepared for the community in order to make the right preventive and therapeutic decision in the interests of oneself and the community [32, 33]. Accordingly, the correct information should be available to the public in simple language through valid channels and their misconceptions should be removed in an acceptable way based on the culture of that community.

Another important obstacle was the problems caused by the disease, which put people under pressure. Many people are not able to follow the instructions to prevent the disease due to financial and economic problems. They have to go to work to make ends meet. Some people are not even able to maintain a social distance because they live in densely populated poor neighborhoods [34]. As Hutt points out in his study, as the world grapples with the growing COVID-19 epidemic, the economic impact of the epidemic is growing. In developed countries, there is a risk of recession. Economic growth may have slowed globally, but the COVID-19 epidemic has turned into a much deeper-than-expected crisis. It made the future of the global system increasingly uncertain [35]. The impact of the coronavirus epidemic on the labor market has created a gap between employees and offices and factories. Some do not get to work and some are fired by their employers. The coronavirus epidemic has had a profound effect on the workforce around the world. For instance, some airlines have asked their employees to either go on unpaid leave or enroll in lay-off/redundancy programs [36]. Therefore, during the COVID-19 epidemic, people need the support of governments in order to be able to live their lives and follow the prevention guidelines at the same time.

Another reason for not adhering to COVID-19 prevention guidelines was letting go (unpreparedness). The nature of crises is to create rapid tensions in societies. It seems that crisis management officials did not initially have a proper policy and program for information sharing at the time of crisis. Therefore, a coherent strategy and plan for crisis information management were not envisaged. As Ashrafi-Rizi et al. stated, one of the challenges related to COVID-19 is officials' delay in informing people and as a result, the unpreparedness of the public [37].

One of the reasons for not adhering to prevention instructions was letting go (opposition). Bavel and Bonell addressed this issue and proposed some solutions to prevent people's opposition to prevention guidelines, such as avoiding messages based on fear and coercion, which causes people not to pay attention to the adherence to the instructions [38, 39].

Also, sometimes the delay in providing statistics quickly to the general public is a factor in increasing concern in the community and the production of pseudo and counter information. Consistent with our results, Ashrafi- found that accurate information, statistics, and knowledge about the disease will lead to higher adherence to the instructions [40]. Therefore, proper and timely information facilitates adherence to prevention guidelines.

In the present study, fear was an important factor that facilitated adherence to prevention guidelines. Ren et al. also found that fear may make people more inclined to follow disease prevention guidelines [41]. Maaravi et al. also declared that people with the fear of the COVID-19 pandemic were significantly more likely to adhere to disease prevention guidelines than others [42]. Therefore, informing about the consequences of the failure to follow prevention guidelines can help increase adherence to these instructions.

Another factor that was considered in the present study was adherence to instructions due to commitment to others. In modern health care, it has been specifically shown that emotional empathy improves treatment outcomes. For example, physicians' level of emotional empathy is positively associated with reduced metabolic complications and self-care in diabetics [43, 44]. Commitment to others raises the level of health care, such as washing hands in the hospital to prevent transmission of the disease to others [45, 46]. Jordan found that the best strategy to facilitate adherence to COVID-19 preventive measures was preventive messaging as the commitment to others (e.g. "Do not spread it; it benefits others"). It was more effective than messages in the framework of personal interests (e.g. "Do not get sick; it is in your best interest") [47]. Also, one of the reasons that people keep their physical distance is the commitment to vulnerable people [48]. In general, commitment to others reflects a fundamental motivation that results in a variety of behavioral outcomes aimed at helping and supporting others [49]. Therefore, strengthening commitment to oneself and others in society can be one of the ways to promote adherence to prevention guidelines.

The rapid spread of COVID-19, which is one of the most important features of the virus, as well as the percentage of deaths due to the disease, has faced many countries in the world, especially the developed countries, with a huge health challenge. How long this crisis will last in the world is an unanswered question that requires patience [50]. In our study, participants believed that unity against the disease and control of the transmission chain can eradicate it. A review of the experiences of successful countries shows that regarding prevention and health, controlling the transmission chain is a key strategy for success. It took only 7 days from December 31, 2019, when China grappled with the coronavirus in Wuhan, to January 7, 2020, when Chinese officials interacted with the WHO and spotted a novel coronavirus. After this period, China immediately took preventive measures. The major strategies included quarantine of polluted cities, houses, and areas, isolation, disease detection policy in public places, travel restrictions, mobilization of all public facilities and hospitals, increasing the length of the New Year holidays, traffic control, and strengthening health education. These measures led to a reduction in the prevalence of the disease in China that eventually went close to zero [51]. In South Korea, the situation worsened in February. Therefore, the government enforced quarantine and curfew regulations in North Gyeongsang Province and some cities to control the transmission chain. Closing schools and universities, preventing rallies, using electronic maps to identify patients and their movement manner, allocating extra funds, and increasing the level of warnings were among the effective measures in South Korea [52]. Despite having a vulnerable elderly population, Japan has kept its COVID-19 mortality rate low by controlling the disease transmission chain. Tele-working in large and small companies and offices, delegating authority to local governments in accordance with the instructions of the Ministry of Health, closing schools and universities, providing subsidies to employees to stay at home and take care of their children, banning gatherings, closing public places and finally, increasing COVID-19 diagnostic tests to more than 4,000 cases a day were measures that the country used to reduce the prevalence of the disease [53].

The policies of successful countries in managing the COVID-19 epidemic have focused on strict prevention of the transmission chain, reducing the spread of the virus by reducing contact, and increasing the physical distance between suspect and healthy individuals. Although self-reported screening is conducted through the infrastructure of the health network system in Iran, tracking contacts and controlling the transmission chain is still neglected in the field of crisis management. After identifying patients, their contact with other people is not checked for quarantine purposes. Also, there are no comprehensive and integrated guidelines for reducing or stopping social contacts and restricting the movement of the population within a city. However, given the similarity between Iranian culture and other Asian countries, strengthening the spirit of unity can be a facilitator of disease prevention.

Another factor that makes people adhere to the COVID-19 prevention guidelines is the warnings given to the people through the media. As suggested by Cinelli and Limaye, today, the role of various mass media channels in life, both at the individual and social levels, cannot be underestimated. Social media can convey a sense of unity by reaching a large audience. It may also provide the basis for misinformation and discrimination. People

can use the flexibility and pervasiveness of social media technologies to increase their adherence to the guidelines proposed by the WHO to combat the prevalence of COVID-19. Social media can play a positive role during the COVID-19 pandemic by promoting effective strategies [54, 55]. In today's world, where many messages are conveyed through social media, social media and networks should try to further promote the follow-up of COVID-19 guidelines [56]. Therefore, providing accurate, science-based warnings can help.

The majority of study participants reported poor adherence to social distancing measures set by the government and health authorities. Risky practices among study participants included going to crowded places without using a face mask, leaving their house for non-essential purposes, not keeping a two-meters distance between oneself and others, and physical greetings. This study was conducted in the early days of the pandemic and a similar survey is recommended to investigate any changes in the practice of social distancing [57].

The study identified key modifiable barriers and facilitators of adherence to social distancing: strongest facilitators included wanting to protect the self, feeling a responsibility to protect the community, and being able to work/study remotely; strongest barriers included having friends or family who needed help with running errands, socializing in order to avoid feeling lonely, and seeing many people in the streets. Future interventions to improve adherence to social distancing measures should couple individual-level strategies targeting key barriers to social distancing identified herein, with effective institutional measures and public health interventions [18].

5. Conclusion

Given the barriers and facilitators explored, it is expected that with the right policies adopted by the authorities, the beliefs of people will be corrected, they will be supported economically by the government to reduce the pressures induced by the disease, people's ability to adhere to guidelines will be increased, and media coverage of the disease will be continued. Increased awareness, commitment, and the spirit of unity among the people and warnings can also be effective in making people more adherent to the COVID-19 prevention guidelines. Therefore, the authorities should remove the barriers and strengthen the facilitators in various areas.

Limitations and Suggestions

Given that the generalization of qualitative studies is limited due to the limited number of individuals who can be examined, it is suggested that a larger community be examined by providing a tool on barriers and facilitators of adherence to the COVID-19 prevention guidelines.

Ethical Considerations

Compliance with ethical guidelines

This study was approved by the Research Council of the Clinical Care Research Center and the Ethics Committee of Kurdistan University of Medical Sciences (Code: IR.MUK.REC.1399.073).

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Authors contributions

Conceptualization, methodology, software, validation, formal analysis, investigation, resources, data curation, writing – original draft preparation, writing – review & editing: All authors; Supervision: Arash Pooladi, Sina Valiee; Project administration, Funding acquisition: Shoaib Dehghani.

Conflict of interest

The Authors declares that there is no conflict of interest.

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