




# Identifying Psychological Perceptions of People Ignoring the Novel COVID-19 Warnings: A Qualitative Thematic Analysis in Isfahan, Iran

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## Abstract

Psychological factors are important for the prevention of disease. This study aims to identify the psychological perceptions of people who are ignoring the warnings of novel COVID-19 infection. A qualitative content analysis was carried out from May to July 2020. The interviewees were selected purposefully from Isfahan, Iran. The saturation point was achieved in 20 semi-structured interviews. The thematic analysis approach was used to analyze the transcribed documents using MAXQDA software (version 12). The results revealed 2 themes and 6 sub-themes related to the psychological beliefs of individuals with no attention to corona alerts. Themes and sub-themes included Biased cognitive processing (biased beliefs, attention biases, metacognitive beliefs and Depressogenic schemata), low compassion, and empathy for oneself and others (Negative Emotions towards Oneself, low altruism). To ensure a positive attitude towards precautionary measures in society, the thoughts, perceptions, and behaviors of people who ignore coronavirus alerts need to be changed. This is achieved through the use of mass media and virtual networks, by encouraging people to change their negative attitude towards the use of preventive measures, individual and social protection campaigns, and by fostering a sense of responsibility.

**Keywords** Coronavirus · Psychological perceptions · Qualitative study

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## Introduction

COVID-19 emerged in Wuhan, China, in December 2019, leading to a global pandemic with nearly 205 countries reporting the disease. More than 83 million cases of COVID-19 have been reported worldwide from 31 December 2019 to 4 January 2021, including 1,839,660 deaths (Worldometers, 2020). The disease is recognized as a global health threat (Wang et al., 2020) and The World Health Organization has announced that COVID-19 has become an international concern as a public health emergency (Mahase, 2020).

During May to July 2020 Iran has 135,000 confirmed cases and more than 5000 deaths—the highest totals in the Middle East (Worlds Health Organization, 2020). From the onset of the epidemic until May 1, 2020 (the time of the beginning of the study), the number of patients with Covid-19 in Iran was reported to be close to 47,000 including 2000 deaths, according to official statistics (National Committee on COVID-19 Epidemiology & Iranian CDC, 2020). During the study period, over 206 patients were hospitalized in Isfahan due to Covid-19. Iran's government stated that people caught not wearing a face mask in public will be denied access to state services, and that employers who fail to follow government guidelines regarding the safety of their workplaces could have their business closed for a week.

Psychological factors, according to the psychosocial model of health, influence a person's outlook on treatment and disease prevention (Havelka et al., 2009), psychological factors include feelings, human cognitive differences, and eventually behaviors. Different studies have highlighted the function and significance of cognitions and perceptual beliefs in the adoption of disease prevention behaviors (Julinawati et al., 2013; Kim & Kim, 2018).

Many people make choices on the basis of cognitive bias. Cognitive biases are constructs based on misconceptions or distortions that generate systematically distorted perceptions, such as prejudice, due to certain aspects of objective truth. Biases have an effect on everyday life, choices and actions (Stanovich et al., 2004). One of the most influential behaviors in the world today is the preventive behavior of the corona virus. Investigating why certain people are indifferent to protective behavior is an issue that, because of the novelty of the disease, needs in-depth investigations to determine the underlying thoughts of such individuals.

Cognitive bias is a type of attention in the processing of information through which people pay more attention to and ignore some of the surrounding stimuli. In other words, it is a kind of organized superiority in the attention and processing of environmental stimuli. Attention bias, which is a type of cognitive bias, occurs when a person has an abnormal orientation towards a negative stimulus compared to a neutral stimulus. This bias is manifested in the form of hidden and open attention based on a greater awareness of the threat, a difficulty in distracting from the threat, or avoiding the threat of stimulus. (Aue & Okon-Singer, 2015).

Cognitive biases and attention bias, in particular, differ between disorders, because biases are evidence of an abnormal process of a specific stimulus related

to disorder. Two very common disorders in the field of bias are called anxiety and depression. While bias is also seen in healthy people, but in anxious people it is more prominent, intense and persistent (White et al., 2017).

The theories of creation of information processing biases are embedded in a large part of infant mental models of their environment, called schemas. Schemas are built on the basis of past experiences, interactions and communications of individuals and are used both to understand and respond to situations. (Aue & Okon-Singer, 2020).

There are two types of developmental models that explain how the bias of information processing is affected and how it affects the likelihood of psychopathology. While the Moderation model causes bias in the processing of information in all young children, the Acquisition Model explains that bias appears later in the evolutionary process (Lester et al., 2019). Similarly, in each model temperament plays a different role. According to moderation models, information processing bias changes over time depending on individual factors such as the child's mood. Although positive innate bias is seen in children, it decreases with age. On the other hand, according to acquisition models, not only does temperament affect the evolution of information processing bias, but biases can also affect the development of anxiety (Kuckertz & Amir, 2019).

Because each person's capacity for reasoning is limited and is influenced by cognitive biases (Krstić, 2020) and on the other hand, decisions are closely related to the context and cultural, social and socio-economic factors (Battaglio Jr et al., 2019). It is therefore not sufficient to understand the prevention behavior of coronavirus simply by looking at the reactions of the participants in this study. In Iran, in the current context of sanctions, where members of society are under severe socio-economic challenges, preventive behaviors against coronavirus are also affected by these conditions. For example, if people are not aware of social guidelines and warnings, and for reasons such as stigma posed by the possibility of illness, as well as cultural and behavioral aspects, they may be less careful about precautionary behaviors.

Some studies have been conducted on patients with coronavirus epidemic of the severe acute respiratory syndrome (SARS) (Leung et al., 2005; Liu et al., 2012). Researchers found in one study that people with positive and wishful thinking were more likely to avoid going to public places and approaching people who thought they might be contaminated with SARS. Also, people with more emotional psychological responses were more likely to take precautions to prevent SARS, such as using a face mask and social distancing. This study showed the relationship between coping strategies and health care and preventive behaviors to avoid exposure to SARS (Lee et al., 2003). Another research demonstrated the relationship between perception of environmental stressors and problem-based cognitive and coping processes while taking precautions for SARS (Gan et al., 2007).

Much effort has been made to develop surveillance and response systems for early detection of outbreaks of disease, global responses, and limiting source outbreaks (Song et al., 2020). In addition, governments in many virus-infected areas have implemented a number of policies, such as border security controls, city entrances and exits, as well as a number of quarantine schemes, to address and control this health problem. Several public programs to educate people about the disease have been launched, but we still see a significant number of people in the community

ignoring these health alerts. The present research is therefore intended to investigate the psychological experiences of these individuals (including behaviors, unhealthy views, and cognitive biases). To address the question of why some people are neglecting the use of preventive measures and, in this regard, what are the cognitive biases and perceptions of the disease from the perspective of these people?

## Methods

### Design

A qualitative study using a content analysis approach has been designed to investigate People's Psychological Perceptions Ignoring New Coronavirus Alerts. The study was conducted in Isfahan, Iran from May to July 2020.

### Sample and Recruitment

Participants were recruited from Public centers in urban areas in Isfahan (such as shopping malls, urban bus and subway fleets, bakeries, and other public centers) where people do not meet the care and prevention requirements of COVID-19 virus. To this end, the researcher has monitored people who go to public centers and do not follow preventive methods such as wearing masks and gloves or social distances. If they have given reasons not to pay attention to the COVID-19 warnings in the initial and preliminary question (interview guide), they will be interviewed if they so wish (in terms of cognitive bias, dysfunctional belief, etc.).

Depending on the type and characteristics of qualitative research, the number of participants depends on the saturation point of the data. Because in qualitative research, unlike quantitative research which determines the size of the sample using statistical calculations, the repetition of the previous information is a sign of a sufficient sample size. Therefore, using a purposive sampling method, we reached theoretical saturation by interviewing 20 participants according to the entry criteria. Participants were selected with the maximum sampling variety of sampling for age, sex, education. Unmasked people who did not observe social distancing, Also, people who have left home without following health guidelines, such as going to the park or traveling for unnecessary reasons were eligible to enter study.

Theoretical saturation (20th interview) occurred in this research when the research no longer included data that helped to identify a sub-category characteristic and all the expected comparisons were made. In the theoretical saturation method of the first interviews, the first categories were established and subsequent interviews were performed to complete and explain the characteristics of this sub-category. In fact, theoretical saturation was obtained in this study by means of a continuous comparison procedure, in which the maximum difference in data occurred, and no new data that induced changes in the categories created or the characteristics of the existing categories were included in the analysis. Also, in this analysis, in order to achieve theoretical saturation and categorization adequacy (three themes and 6 sub-themes), the approach suggested by Fontanella et al. (2011) was used to draw up

a table for coding and relating components to more general and abstract concepts (themes). In the table, each subcategory was obtained as its rows and the number of participants in the research (1 to 20) was entered in the columns. In each interview in which the attribute related to the subcategory was repeated, the table was marked in the corresponding column and it was specified, for example, in which interview the sentences related to the characteristics of that category were repeated in the interview and a new attribute was not added to the table.

We looked for maximum differences in this process, and with the comparisons made, questions were posed that the repetition of the first characteristics was decreased and that the subsequent characteristics (categories) were more frequently replicated. As long as new interviews do not add new details to the report. In the continuation of this process, the interviews continued due to the unsaturation of other subcategories and other categories emerged in subsequent interviews. In the last step, the total number of new subcategories in each interview was counted or visualized by placing the columns and rows of the table together.

## **Data Collection**

Data were collected through interviews. The interviews were semi-structured (Speziale et al., 2011). Due to its flexibility and scope, this form of interview is ideal for qualitative studies. Semi-structured interviews offer participants the ability to thoroughly describe their understanding of the phenomenon under study.

All respondents completed a written informed consent form and they were ensured about the confidentiality and anonymity of their information. An interview guide was formulated according to a review of the related literature. The researcher first describes the purpose of the research by referring to public urban centers (such as shopping malls, bus and subway fleets, bakeries, and other public centers). Because qualitative research environments are real areas of experience and life, interviews were conducted in and with the agreement of the participants in free time. The initial interviews were profound and unstructured, and the interviews changed over time to semi-structured interviews. The interview guide was prepared based on the research objectives. The main questions of the interview started with a general question like "(How important do you think this disease is? What should be done to prevent this from happening? Or do you believe in, or do you not believe in, such recommendations?). Subsequently, more exploratory questions were asked to address the cognitive biases of the interviewees, and the discussion phase during the interview was directed by the researcher from broader topics to smaller categories. During the interview, the researcher paid attention to the intent of the interview, to build confidence, to provide feedback, and to refrain from commenting on the interviewee. To make the contents clear to the interviewees, questions such as: Please clarify more? You mean, huh? etc., were asked. Every interview lasted between 30–90 min, an average of 40 min. Some of the interviews were tape-recorded (with the informed consent of the participants) and transcribed verbatim.

## Interview Process

An inductive thematic analysis was used to analyze transcribed documents assisted by MAXQDA Plus version 12. In this study, the six-step interview process proposed by Cohen et al. (2013) is used to conduct the interviews as follows:

1. **Set a goal:** The interview aims to identify the psychological attitudes of people who do not pay attention to the alerts of the new coronavirus (COVID-19) in the city of Isfahan.
2. **Design:** At this stage, the structure of the interviews is prepared based on the research goals. It also determines the sampling method. The principal sampling method in this study was available sampling.
3. **Conducting Interview:** The interviewees are selected for the first time at this level. The necessary information shall be collected according to the interview guide after obtaining informed consent and willingness to engage in the interview. Appropriate relationship with interviewees (introducing researchers, stating the intent of the study, obtaining verbal consent to engage in the interview, confidentiality of the name of the interviewee and documented conversations, the reason for selecting the interviewee and obtaining consent to record conversations) must be formed before the interview is performed. This will increase the confidence and interest of the respondent in participating in the study.
4. **Writing:** A voice recorder should be used to monitor interviews and, at the same time, the researcher should take notes and record important and key points. Immediately after the interview, recorded interviews are entered into MAXQDA software without any interference.
5. **Analysis:** The process of analyzing the implicit and explicit nature of the data begins after entering the written text of the interviews in the MAXQDA software. The goal of this process is to create an internal relationship between the data components, to achieve research objectives, and to identify data-related conditions and the environment.
6. **Preparing a report**

## Date Analysis (Coding scheme)

In order to analyze the transcribed documents, the current study used conventional content analysis with inductive data-driven process coding and theme creation (Fereday & Muir-Cochrane, 2006). In order to include a list of inductive themes, the interviews were reviewed multiple times. Deductive themes were identified explicitly at the same time. A conventional content analysis was conducted as coding scheme as follows: Two authors (MN, ZH) independently coded data obtained in the first step. They read and re-read the documents transcribed and listened to audio-recorded interviews for data immersion. Primary themes were extracted from the data collected and checked by the team members in the next phase. The team members continued to discuss the problems until they resolved all the controversies. Themes and sub-themes were then established. In the last stage, the team members

checked, adjusted, and encoded statements. Using MAXQDA Analytics Pro 2018, transcribed documents were handled and analyzed (VERBI GmbH Release 18.2.0 Berlin).

### **Trustworthiness Criteria**

We ensured four trustworthiness criteria suggested by Lincoln and Guba (Baxter & Eyles, 1997; Lincoln & Guba, 1986) for assessing the quality of the current qualitative study. These criteria are:

**Credibility** Credibility was ensured by respondent validation (the process whereby the researchers provided some transcribed interviews to the participants and asked them to ensure that there is a good correspondence between their findings and the perspectives of participants). In addition, we used two forms of triangulation, namely Method Triangulation and Theory Triangulation. In the method of triangulation data collection was done by employing interviews, observation and field notes. In Theory Triangulation, we used various psychological theories to examine and interpret results.

**Transferability** Appropriate study samples were purposefully selected to ensure transferability, which is directly dependent on external validation, besides, data collection and analysis were conducted simultaneously. Direct quotes were also used in the text and a rich description of the data was provided in this study. Moreover, operational method was used to quantify the number of new codes per interview over time. It indicates that the majority of codes were identified in the first interviews, followed by a decreasing frequency of codes identified.

from other interviews.

**Dependability** To increase dependability, Member checks (participant or respondent validation) and peer checks were used for sharing the results with participants and other independent researchers to determine the dependability of the data (Lincoln & Guba, 1986). In addition, an auditing procedure was used to increase dependability. In this approach, the authors, along with an external auditor, made complimentary comments, cross-checked, discussed inconsistencies and resolved them in order to reach an agreement.

**Confirmability** In order to establish confirmability (objectivity), the research team did not allow their values for theoretical inclinations to influence the analysis and the results. In addition, we used the Reflexivity method to determine the collective interpretation of the findings (Baxter & Eyles, 1997), each investigator used a separate reflexive journal to document issues related to sensitive subjects or any possible ethical issues that might have affected the data analysis. These were discussed in the weekly meetings. After completion of the data collection, reflection and feedback from all the investigators conducting the interviews were sought in both written and verbal format.

## Ethics Approval and Consent to Participate

The study received the required ethics approval from the Isfahan University of Medical Sciences Research Ethics Committee, Isfahan Iran, with Ethics Code No. IR.MUI.REC.1399.048 Also, participants sign a written informed consent in which they have been assured that their identities and responses will be anonymous and that participants' data will be kept confidential as possible.

## Findings

A total of 20 people participated in this study who ignored the warnings of COVID-19. The mean age of participants was 38.9 years ( $SD=7.5$ ) and 24% were female. Their education level ranged from illiteracy to postgraduate level. The participants included self-employed and businessmen ( $n=9$ ), retired ( $n=3$ ), Housewives ( $n=3$ ) and staff (5) (Table 1).

Two themes and six sub-themes on psychological perceptions of individuals ignoring the Coronavirus warnings were extracted. Themes were as follows: Biased cognitive processing and compassion and low empathy for oneself and others.

**Table 1** Themes (categories), subcategories, and codes related to the psychological perceptions of individuals ignoring warnings of the new Coronavirus

Themes	Sub-themes	Codes
Biased cognitive processing	Biased beliefs	Perception of safety against corona
		Perception of the previous infection
		Believing in high information
		Environmentally safe conditions
Biased attention	Biased attention	Low level of attention
		Inability to maintain attention while taking care of oneself
		Concerns about obsessive–compulsive disorder
Metacognitive beliefs	Metacognitive beliefs	Worry and fear of depression
		Worry about pervasive anxiety
		Thoughts of self-harm and suicide indirectly
Depressogenic Schemata	Depressogenic Schemata	Sadness and despair
Low compassion for oneself and others	Negative emotions towards oneself	Low self-esteem
		Feeling insignificant and worthless
		Low self-care
	Low altruism	Insignificance in the possibility of transmitting the disease to others
		Irresponsibility towards others



## **Theme 1: Biased Cognitive Processing**

### **Biased Beliefs**

In this field, respondents considered biased beliefs such as immune perception against corona and prior perception of the disease. In this regard one of the interviewees mentioned:

"The mild symptoms I had were the symptoms of Corona. Yeah, it looks like I've got the disease. I don't have to think about taking care of myself and wearing a mask." (Interviewee number 2).

Respondents often discussed views under the theme of biased belief, such as having high knowledge and thinking a protected margin. One interviewee states:

"I have a lot of information about the disease. Wearing a mask doesn't necessarily stop it. I've had a few cases that can raise the risk of the disease even when wearing a mask. I know better when the infection is spread so there's always no need to wear a mask or gloves." (Interviewee number 8).

Yet another interviewee stated that there was no need to follow the alerts about catching coronavirus because of a tendency towards living in a safe environment: "If I drive, I'm going to my own house and I don't get sick. There's no need for hygiene." (Interviewee number 3).

### **Attention Biases**

In this context, issues such as low level of concentration and inability to maintain focus during self-care were among the reasons why interviewees were not expected to follow precautionary and hygienic steps. One of the interviewees said:

"Over the day, I get so deeply involved in my everyday routine that I forget to wear a mask, wash my face, or wear gloves." (Interviewee number 15).

And another interviewee pointed to insufficient attention:

"Often I wear masks and gloves, but I am so distracted that I touch my eyes and mouth again with dirty hands, so I chose not to wear masks and gloves" (Interviewee number 14).

### **Metacognitive Beliefs**

Ignorant interviewees responded to numerous topics in the sub-theme of metacognitive beliefs, one of which was fear and anxiety regarding psychiatric conditions such as obsession, depression and anxiety. In this regard, the interviewee viewed fear and concern about obsession as a justification for not following the precautionary measures and argued that:

"I had a horrible obsessive experience and was busy washing. Now I'm afraid to get obsessed with washing again, so I'm ignoring Corona." (Interviewee number 19).

One interviewee told about the anxiety and fear of depression:

"We get discouraged if we don't forget it. Someone has to be positive and says that Corona doesn't work" (Interviewee number 7).

Or.

"It's not clear whether we're going to get the corona, but if we sit at home, we're certainly going to get discouraged." (Interviewee number 10).

One interviewee also cited fear of generalized anxiety as a reason for failing to comply with health guidelines and noted:

"I get nervous, and both myself and my family get upset if I get involved in these things continuously. (Interviewee number 13).

## **Depressogenic Schemata**

In this Sub-Theme, some codes have been established which suggest that in the eyes of the interviewees, thoughts of self-harm, feelings of despair, and hopelessness prevent precautionary measures for corona.

For example, one interviewee stated:

"We, the poor, have nothing to lose. Death is the best thing for us, so it's better to get the corona and die." (Interviewee number 1).

Or the other interviewee said:

What's happened to my life so far that got worse with Corona, "A person with a low life expectancy doesn't care about Corona." (Interviewee number 6).

## **Theme 2: Low Compassion for Oneself and Others**

### **Negative Emotions Towards Oneself**

In this theme, the interviewees referred to terms such as low self-compassion, a sense of inferiority, and low self-care.

In this regard, the interviewee mentioned:

"To hell! We A going to die! There's a lot of chaos in the world. I'd better not think about this problem because I don't know what's going on with me." (Interviewee number 20).

Interviewers referred to feelings of worthlessness and inattention as reasons for ignoring the warnings from the corona. The interviewee confirmed the following:

"My life is worthless. We're going to die, after all. Man is very small in this universe. An example is a virus that can easily destroy anyone." (Interviewee number 17).

The other interviewee said:

"I have an extra hundred illnesses, this one adds to most of my illnesses. It's not worse than a problem with heart and high blood pressure and other diseases; it's like a cough." (Interviewee number 2).

### **Low Altruism**

Within this subcategory, the interviewees pointed out the insignificance and irresponsibility of the possibility of transmitting the disease to others. For example, the interviewer noted:

"If I get infected and pass it on to others, I don't care. Okay, the others have given me the disease." (Interviewee number 12).

Another interviewee stressed his irresponsibility concerning the health of other people:

"Alright, let others separate themselves from me, I have no responsibility to others, and I shouldn't be careful not to pass this disease on to others." (Interviewee number 19).

### **Discussion**

This study identified and explained the psychological perceptions of people who did not respond to COVID—19 alerts using a qualitative approach. The study found that two general themes could be extracted from interviews with people, including biased cognitive processing and compassion, and a low degree of empathy towards oneself and others.

Four sub-themes were evident in the theme of biased cognitive processing, including biased beliefs, attention bias, and metacognitive beliefs and depressogenic schemata. In this regard, studies have shown that bias in high information and immunity against diseases is considered to be dysfunctional cognitions. (Arni et al., 2020) Therefore, the overestimation of one's success and the over-precision of one's illness knowledge and health outcomes have been influential (Moore & Healy, 2008). Studies have shown that these biased beliefs and attention biases are closely linked to high false self-confidence and self-esteem, which decreases attention to disease self-care mechanisms (Cowan, 2018; d'Uva et al., 2017). Experimental studies have shown, in line with our research, that biased beliefs in some adverse psychological conditions inhibit self-care behaviors (Di Girolamo et al., 2015; Harrison et al., 2017). The results of our study also demonstrated that dysfunctional and biased cognitions such as the perception of safety against corona, belief in high information, and inability to maintain attention during

self-care prevented self-care measures such as wearing a mask or other precautions. A study conducted in Spain also revealed biased beliefs on corona (Garcia-Alamino, 2020).

Another sub-category in this theme called Metacognitive beliefs. Anxiety is, in fact, a mental effort to solve a problem that could have negative consequences. Metacognition is a multifaceted phenomenon that involves values, processes, and techniques for assessing, observing, and managing cognition (Akturk & Sahin, 2011). Metacognitive beliefs refer to the dimension of metacognitive knowledge that forms a person's beliefs regarding cognitive and emotional experiences. Metacognitive beliefs fall within positive and negative domains (Huntley & Fisher, 2016). Negative metacognitive beliefs are linked to cognitive thoughts and experiences being uncontrollable and harmful, whereas positive metacognitive beliefs are optimistic views of problems and risks. The metacognitive attitudes about corona in this study were negative; indicate that people were worried that if they wanted to use corona prevention methods, they would face a greater risk, called obsessive–compulsive disorder, and are continually dealing with obsessive ruminations about the corona. As a result, people prefer to resist corona-related approaches in general under these circumstances. These strategies are responses that people possess to regulate cognitive activity and also require attempts to maintain consciousness. In fact, for this group of people, corona-related problems are perceived as a sign of mental disorder, such as a reminder of past obsessions, depression and loneliness, or increased tension in family relationships; This category of people (people who do not take precautionary measures against corona) seek to inhibit preventive thinking or to act in a way that prevents them from being psychologically upset, such as the practice of underestimating corona or the acceptance of biased beliefs.

Indeed, it is possible that people who have experienced obsessive–compulsive ruminants previously and are bothered by their symptoms are now reluctant to face it again and worried that if preventive behaviors are followed, the symptoms of obsessive–compulsive disorder will return. In fact, they choose between bad and worse, preferring corona disease rather than recurring obsessive ruminants. In other words, they prefer corona disease, which is less likely to cause their death, but by obsessive–compulsive symptoms of corona disease, turmoil and suffering will definitely return.

Anxiety is, in fact, an emotional state that usually involves assessing something as dangerous, and we mean anxiety here as anxiety-related metacognitive beliefs that include strategies to control cognition after the state of emotional anxiety has been created.

The effect of a number of strategies that anxious people use to control their thoughts and feelings in the situations are being assessed, according to Wells (Wells & Carter, 2009), can lead to negative beliefs about themselves and the social world, as well as behavioral changes. Whether or not people who avoid masking are anxious is an issue that needs to be examined more closely. Negative metacognitive beliefs about corona, however, can generally lead to avoiding the use of methods of disease prevention, which is a type of behavior different from the norm in society.

Additional research in the fields of psychosis (Bright et al., 2018), cardiovascular (Anderson et al., 2019), and viral infectious diseases (Strodl et al., 2015)

have examined the role of metacognition and psychological emotions in disease prevention, in line with the present study.

The next theme in this study was psychological disorders. In fact, depressogenic schemata are the key and essential components that place individuals at risk for mental health problems, such as the propensity to self-harm and the tendency to die indirectly. Therefore, it is no different for individuals to take care of such an infectious disease as corona. Evidence indicates that depression and the desire to die in some other conditions like infectious diseases (Rane et al., 2018) and non-communicable diseases (Hwang et al., 2014) contribute to poor self-care.

The second psychological theme that emerged from the study interviews was low compassion and empathy towards oneself and others, which included two subcategories of negative emotions towards oneself and low altruism. Low sense of compassion and self-love, in reality, leads to the formation of negative emotions of self-loathing in the person, which affects self-care behavior (Krawitz, 2012). This group of people also neglects others and a low sense of responsibility leads to poor hygiene when faced with the possibility of spreading the virus to others. Many studies on viral infections showed that people who love and sympathize with themselves are more likely to encounter undetectable viral loads over time and to adopt self-care strategies. (Kremer et al., 2013). Other research on healthy behaviors (Sirois, 2015) and chronic diseases (Sirois & Rowse, 2016) have highlighted the importance of self-love in self-care behaviors.

## Conclusion

Overall, the study revealed that the respondents did not take precautions for Coronavirus based on impaired cognition processing and low responsibility for their health and community. It is crucial to understand perceptions and beliefs about public health and disease preventive behaviors, particularly infectious diseases such as coronavirus, which affect all aspects of community life. Importantly, even small changes in health behavior can lead to substantial improvements in public health and cost savings in health care. Paying attention to cognitive perceptions and biases plays an effective role in this regard. In other words, it is particularly important to understand the intellectual underpinnings of people with contrasting behaviors with universal prevention of communicable diseases such as coronavirus, and interventions seem promising to bring about change in contrary behaviors.

Training on the impacts of biased attitudes on decision-making is one of the approaches to making society more sensitive. Focused education on the physical, psychological, and socio-economic effects of coronavirus should be provided in order to change biased attitudes and beliefs. Changing people's negative attitudes about the use of preventive measures, promoting individual and social protection awareness programs, and strengthening people's sense of responsibility for their health and society are all efficient strategies.

## Limitations

In this study, we have encountered some limitations. One of the drawbacks of this study is the unusual circumstances created at the community level by Corona, and it was especially difficult for researchers to schedule and communicate with the interviewee. Among other limitations, we have faced difficulties in accessing interviewees, lack of face-to-face interview conditions, and concerns about the researcher being contaminated by interviewees due to non-compliance with health standards.

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**Declarations**

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