Exposure to COVID-19 Outbreak: A Qualitative Study on Adult People's Experiences

Seyed-Mousa Mahdizadeh[1,2], Monavar Afzalaghaee[3,4], Mehrsadat Mahdizadeh[4,5]

[1] *Department of Medical-Surgical Nursing, School of Nursing and Midwifery, Mashhad University of Medical Sciences, Mashhad, Iran*

[2] *Nursing and Midwifery Care Research Center, Mashhad University of Medical Sciences, Mashhad, Iran*

[3] *Department of Epidemiology, School of Health, Mashhad University of Medical Sciences, Mashhad, Iran*

[4] *Social Determinants of Health Research Center, Mashhad University of Medical Sciences, Mashhad, Iran*

[5] *Department of Health Education and Health Promotion, School of Health, Mashhad University of Medical Sciences, Mashhad, Iran*

Received: 06 Mar. 2022; Accepted: 21 Nov. 2022

Abstract- One of the global crises that people are dealing with today is the COVID-19 pandemic. The outbreak of this disease as a social phenomenon has affected all aspects of life. This study aimed to identify adult people's experiences during the COVID-19 outbreak. This qualitative research was performed with a conventional qualitative content analysis approach in Mashhad, Iran, from April to November 2020. twenty-five participants were selected through a purposeful sampling method with maximum diversity until data saturation was reached. Data were collected using semi-structured face-to-face interviews with open-end questions and analyzed with MAXQDA10 software. Two main categories were extracted (1) difficulties in multiple domains (psychological and informational problems, social challenges, spiritual and religious challenges, and economic problems), (2) adaptation to the epidemic (purposive self-care, ignoring the disease and health instructions, faith in God and optimism). The participants faced extensive challenges, which were made worse by the confusion and ambiguity about the information, quarantine, and social isolation. To continue living, the participants tried to adapt to situations. These results provide a guiding framework for policymaking and intervention.

Acta Med Iran 2023;61(1):43-51.

Keywords: Outbreak; Crises of the epidemic; Adult; Coronavirus; Coronavirus disease 2019 (COVID-19); Qualitative study; Iran

Introduction

Since the outbreak of COVID-19 in Wuhan, China, other countries in the world have also experienced the outbreak. Afterward, the World Health Organization declared that the coronavirus disease 2019 outbreak was an issue of international concern (1). The COVID-19 pandemic as a social phenomenon has had a wide range of effects and has killed hundreds of thousands of people worldwide (2,3). It destroys all life structures, such as the country's socio-economic structure (4), and has worrying consequences for individual and collective health (5).

Evidence suggests that exposure to health-related outbreaks has brought challenges to humans, including the emergence and epidemic of HIV/ AIDS, SARS, and H1N1, which have led to socio-economic consequences, fear, and anxiety for communities (2,5,6). The findings show the experience of people during the Ebola outbreak has ranged from positive to negative experiences, including reactivity and negative thoughts, risk of infection, risk of death, divine retribution, the grief of losing income, and on the other hand, spiritual excellence and purposefulness (7,8).

Since the pneumonia outbreak of COVID-19 in Wuhan, China, other Rapid spread, high infectivity, and uncertainties about transmission, treatment, and mortality from COVID-19 have turned it into a crisis, an unknown status, and a threat to human life and health (9,10). Islam

Corresponding Author: M. Mahdizadeh
Department of Health Education and Health Promotion, School of Health, Mashhad University of Medical Sciences, Mashhad, Iran
Tel: +98 5131892206, E-mail address: mahdizadehtm@mums.ac.ir

et al., estimated in an online survey that general fear and anxiety caused by the COVID-19 pandemic were 67.6 and 37.3, respectively (11). Tee *et al.*, reported that 16.3% of people in the Philippines have experienced moderate to severe psychological effects, 16.9% moderate to severe depressive symptoms, 28.8% moderate to severe anxiety, and 13.4% moderate to severe stress during the COVID-19 outbreak (12). In the study by Qian *et al.*, the prevalence of moderate to severe general anxiety was reported to be 32.7% among the people of Wuhan and 20.4% among the people of Shanghai (13). In an online survey in China, depression was increased during quarantine at home for COVID-19 infection prevention; However, with an understanding of outbreak control, depression is greatly reduced. Research results indicate that reducing depression and anxiety is related to the rapid and decisive measures taken by the government to control the epidemic (14). In a systematic review, symptoms of anxiety, depression, post-traumatic stress, and psychological distress were reported in the COVID-19 epidemic in the general public in China, the United States, Spain, Italy, Nepal, Iran, Turkey, and Denmark (15).

To control the COVID-19 epidemic, the governments have taken unprecedented actions at the community level. These measures include abolishing public gatherings, imposing traffic restrictions and social interaction restrictions, staying at home, and other measures to prevent the spread of the disease and threaten the social and mental health of communities (16).

Identifying different behavioural and psychosocial reactions of people can help control the disease and prevent its consequences (13). Previous studies have shown that people's behaviour and psychological responses during disease outbreaks vary in different cultures, regions, and outbreak stages (16-18). Qualitative results helped to highlight the wider dimensions of this disease (19).

Paying attention to the consequences of the COVID-19 outbreak not only contributes to a deeper understanding and identification of social, cultural, and economic factors affecting the health of people and society but also can provide rich findings for managing similar crises, effective policymaking, and implementing interventions. This study aims to identify the experience of adults during the COVID-19 outbreak.

Materials and Methods

Study design

This qualitative study was conducted with a conventional inductive content analysis approach from April to November 2020 in Mashhad, Iran. Mashhad is one of the largest cities in north-eastern Iran, having a population with different socio-economic statuses. Content analysis is a method for valid inference from data in their context, which aims to provide facts, new insights, and practical guidance for action (20).

Considering that the phenomenon of the COVID-19 outbreak was new in society and its different aspects are not clear yet, the qualitative method was selected for understanding the adults' experiences.

Participants and sampling

Participants were selected through purposive sampling. Inclusion criteria were the desire of the participant to express the experiences and perspectives, the age of more than 18, facing the COVID-19 outbreak at least a month ago, the ability to speak Persian, and having no physical, cognitive, or mental disorders, which could cause difficulties for experience transfer and interviews.

Selecting the participants was continued until no new data were extracted and the data were saturated. In qualitative studies, the sample size is not clear enough at first. Data collection and sampling stop once saturation occurs (21). According to the literature on interview studies, about 12-20 participants are appropriate (22).

Data collection

In this study, the data were collected via 25 semi-structured face-to-face interviews. After reaching data saturation (after 22 interviews), 3 interviews were conducted to clarify uncertainty and obtain additional information. The interviews lasted for 30 to 70 min. They were conducted using the interview guide. The main questions in the interview guide included "Please tell us about your experiences with the Covid-19 epidemic?", "How do you feel?" An example of other questions is shown in Table 1. For more information and clarification, the exploration questions such as "Could you, please explain more?", "What do you mean?" and "Would you please give an example?" were used.

Data analysis

For the data analysis, the Inductive content analysis method was used. Inductive content analysis is performed during the stages of the preparation phase, organizing phase, and reporting of the results. Figure 1 shows the analysis steps in each step. In the preparation phase, the analysis unit is first selected, which can be the text of the interview, a paragraph, a phrase, a word from the text, or other items. Then, the researcher should try to obtain a

general sense by reading the text several times. The purpose of this general sense is to become immersed in the data. In qualitative data organization, open coding is used to organize the data. First, the text of the text is read several times, and open codes are generated. Also, notes that are developed from repeated reading of the text of the writings should be used to describe all aspects of the phenomenon. In this step, a list of open-source codes is generated. In the next stage, categories are developed by grouping open codes and subcategories based on the differences and similarities between them, which aims to reduce the number of codes and create a tool to describe the phenomenon and increase knowledge about the phenomenon. Finally, in the stage of abstraction through the production of categories, a general description of the topic of the study is developed. At this stage, using words with higher abstraction, each category merges with the other categories, and eventually, the main categories are formed. In the reporting phase, the process of analysis and results, such as conceptual maps or categories, are reported (20).

In all stages of analysis, two researchers considered the main question of the study and had a constant intellectual engagement with the studied phenomena. The researchers had several sessions to discuss the extracted categories with each other.

Table 1. An example of questions in the interview guide

1. What is your impression of COVID-19 disease?
2. What are your unpleasant experiences with the new coronavirus?
3. What is the first thing that comes to your mind when you hear about the novel coronavirus?
4. What do you feel about these situations?
5. What changes have been made in your life?
6. How did you adapt to these changes?

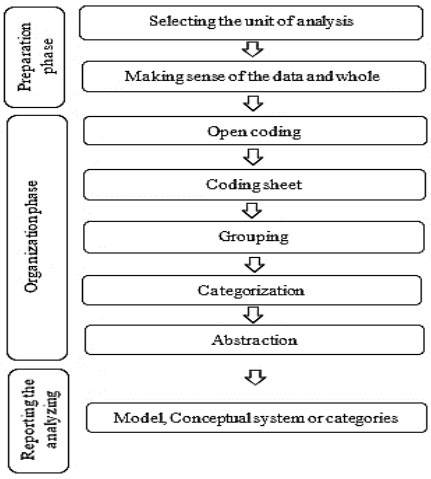

Figure 1. The process of analysis

Trustworthiness

Goba and Lincoln criteria were used to evaluate the validity of the study (23). For the credibility of the study, the findings were returned to the participants, and the validity of the extracted codes was reviewed. For a long time, the researchers were also involved with the phenomena and findings. For dependability, all stages of the study were described in detail to make the verification possible for a foreign reviewer. Hence, the results were sent to two external reviewers who specialized in qualitative studies, and the subject of the study was revised. The participants were selected with maximum diversity to increase transferability. Taking part in the analysis and review of findings by the research team and participants provided confirmability for the study. In the step of data collection and analysis, the researchers focused merely on the study findings to prevent imposing their views on the findings of the study and to acquire reflexivity.

Ethical issues/statement

This study was approved with code IR.MUMS.REC.1399.091 by Ethics Committee of Mashhad University of Medical Sciences. To take an interview, first, the researcher introduced himself, and then, the goal, subject, and method of the study were explained to the participant. Informed consent was received from all the participants. The participants were

assured that the information would be kept confidential. It was also announced that they would be entitled to freely exclude from the study. During the interview, the participants were given personal protective equipment, such as masks and gloves, and the interview was conducted outdoors with observing social distancing.

Results

The mean age of the participants was 41.92±16.18 years old. The youngest participant was 19, and the oldest one was 74 years old. The majority of the participants were male (56.0%). Two of the participants (8.0%) were illiterate, and the others were literate. In addition, the majority of the participants were employed in governmental and non-governmental organizations (32.0%). Table 2 shows the demographic characteristics of the participants.

In this study, 2 main categories and 5 categories were extracted. Difficulties in multiple domains and adaptation to the epidemics were integrated from the subcategories in Table 3. In the following, each main category is reported with statements from the participants.

Table 2. Demographic characteristics of the participants (n =25)

Participants	Gender	N	%
Gender	Female	11	44.0
	Male	14	56.0
Educational level	illiterate	2	8.0
	Diploma and less	5	20.0
	More than high school diploma and BSc	11	44.0
	MSc	3	12.0
	PhD	4	16.0
Job Status	Unemployed	2	8.0
	Housewife	2	8.0
	Self-employed	6	24.0
	Employee	8	32.0
	Retired	3	12.0
	University Student	4	16.0

Table 3. Categories and subcategories extracted from study results

Categories	Subcategories	Initial codes
Comprehensive challenges	Psychological and informational problems	Disbelief, fear, stress, anxiety, feeling in danger, depression, anger, aggression, imploration, confusion of information,
	Social challenges	Limited access to health facilities and living essentials, undetermined criteria in quarantine, the disorder in social relations, Feeling lonely and isolated, Social constraints, Getting away from each other,
	economic problems	To lose a job, Rising prices, lack of needed goods, Wage reduction, Price Fluctuation
	Spiritual and religious challenges	Grief over the closure of shrines, mosques, etc.
Adaptation to epidemic	Coping and managing problems	purposive self-care, Ignoring the disease and health instructions, Relying on God and optimism

Main category 1: difficulties in multiple domains

The participants in the study experienced psychological, social, economic, religious, and informational challenges during the coronavirus outbreak.

Psychological and informational problems

The participants with different experiences described psychological problems during the COVID-19 outbreak. At the beginning of the outbreak, most of them expressed disbelief, fear, stress, anxiety, and a sense of being at risk and perished. The emotional and psychological feelings that disturbed the participants were due to a lack of understanding of the spread and treatment of diseases, conflicting information, and high rates of infection and death. One of the participants said, "At first, it was hard to believe. When they announced that someone had died in the city of Qom, I started to worry ..." (Female, 29 years, Faculty member)

Another participant said about fear and anxiety in the early days of COVID-19, "I'm so scared of getting infected, it is very dreadful. They say if those who survive will also suffer from the side effects for a lifetime." (Male, 47 years, Employee)

A young lady said, "If I die out of coronavirus, all my dreams will perish. All the difficulties I have endured so

far for my education and work would be gone." (Female, 25 years, University student)

Over time, with the prolongation of the epidemic situation, the second wave of disease outbreak, and government action for traffic restrictions and quarantine, most of the participants experienced depression, anger, aggression, family quarrel, and confusion about varicose information. One participant said about his depression, "It has taken a long time, I am bored, and I'm not feeling well." (Male, 23 years, University Student)

The family quarrel was another experience of participants. One participant said:" My wife left my child and me because I do not have enough money. He was constantly arguing. Now his father's house is gone." (Male, 43 years, Self-employed)

A male said: " I went into a bakery, saw a woman who did not wear a mask, and was not observing hygiene. I got very angry ... I got aggressive. I could not stand his behavior at all and had a difficult argument with the baker. My behavior of mine was unprecedented." (Male, 58 years, Employed)

The contrast in information published by the media at the beginning of the epidemic had unpleasant experiences for many participants. One of the participants said, "I have not received the correct information yet. They are very different. I am constantly searching on my phone for how this disease is transmitted." (Male, 24 years, Self-employee)

According to the experience of most participants, the quarantine implemented by the government is inefficient and brings challenges such as confusion and distrust .

Another participant said, "There is no decision for the type and time of quarantine; government officials change their decisions every moment. It's hard to say it is a quarantine at all" (Female, 53 years, retired)

Social challenges

Social challenges were a part of the participants' problems. Most of the participants expressed Limited access to health facilities and living essentials, undetermined criteria in quarantine, irregularities in quarantine rules, a disorder in social interactions, feelings of loneliness and isolation, and alienation from each other as unpleasant social experiences. In this regard, one of the participants said,"…, they did not know what to do… sanitary equipment was scarce …, "(Male, 48 years, Self-employed)

Another participant said: "The quarantine has no framework; it is completely chaotic…" (Female, 53 years, Employee)

One of the participants said about his problems in social relations: "It has become very difficult; I fear even communicating with the loved ones." (Male, 29 years, University student)

Economic problems

Economic problems were other challenges that people were struggling with as the epidemic continued. Loss of jobs due to quarantine and traffic restrictions was a major concern for most of the participants who did not have a permanent jobs. One of the participants said, "I lost my job due to the conditions. Now, my father is helping my family and me". (Male, 31 years, Self-employee)

Another participant said, "Believe me; I lost most of my customers. The situation is really difficult" (Male, 49 years, Self-employee)

Spiritual and religious challenges

Religious and spiritual challenges were also among the problems experienced by the participants. One of the participants said, "Every moment, we may die; this thought bothers me…I say to myself, so what about the efforts I made." (Female, 29 years, Employee)

A number of the participants were upset and concerned about the closure of places and religious rites. One of the participants said, "My biggest concern is that I cannot go to shrine …" (Female, 55 years, Housewife)

Another participant said, " Only God should pay attention to us; now I would like to go to the shrine and pray. But it is not possible". (Female, 28 years, University Student)

In addition, another participant said, "I do not believe that it is God's will. " (Male, 33 years, Self-employee)

Main category 2: adaptation to the epidemic

Following the prolongation of the COVID-19 epidemic and exposure to its extensive consequences, the participants tried to manage the conditions by coping with epidemic problems and continuing their lives.

Purposive self-care

At the onset of the coronavirus outbreak, the participants took some measures to prevent the disease due to concerns about their family members and themselves, as well as a sense of responsibility to others .

A participant said, "It was not like that before, but now I definitely wash my hands when I come home." (Male, 58 years, Employee)

A pharmacy student said, "I can take part in the community and do my tasks by observing the health protocols." (Male, 29 years old, University student)

Another participant said, "I'm careful to observe

social distancing, and I do my job as well." (Male, 38 years old, Self-employee)

Another participant expressed, "I try to follow the health advice more than before and pay attention to my diet to eat foods that boost my immune system." (Female, 32 years, Housewife)

Ignoring the disease and health instructions

One of the other experiences of participants to reduce the problems ahead was to ignore the disease and health instructions. In this regard, participants said, "what is coronavirus? It does not matter." (Male, 53 years, Self-employee)

A young girl said, "I don't think the virus is going away soon; it is living with us, so we should continue our lives." (Female, 27 years old, University student)

Another participant said, "I think the mask does not matter … we shouldn't be tough on ourselves" (Male, 19 years, University Student)

Relying on God and optimism

Faith and positive thinking were other ways to adapt to the COVID-19 crisis. A participant said, "If God wills, there would be a miracle, and the vaccine could be produced in the near future." (Male, 49 years, Self-Employee)

Another participant said, "…, I even pray for everyone in the world." (Female, 57 years old, Retired)

Discussion

In this study, the aim was to obtain an in-depth insight into the phenomenon of the COVID-19 outbreak. Interpreting adult people's experiences revealed they were dealing with many challenges during the COVID-19 outbreak. In accordance with the previous findings, the characteristics of COVID-19 disease, including invisible transmission and asymptomatic carrier, are the most facts of the disease, which increases the experience of living with traumas (24).

In this study, psychological and informational problems were the first challenges that participants experienced. These challenges are different during the epidemic. Disbelief, fear, anxiety, stress, anger, rage, confusion, and depression were among the psychological experiences of the participants. In this regard, the findings of a study reported that people in Singapore had experienced fear and anxiety (35.42%), panic buying (21.21%), realistic expectations about the situation (20.24%), turmoil (10.07%), and concerns about the future (5.01%) during the COVID-19 outbreak (25). Ahmadi and Ramezani describe that fear is the first emotional stimulus that people experience in crises, followed by maladaptive emotions such as anxiety, worry, and anger in the crises (26). Another study reported anxiety as the most important psychological response of the general Chinese population to the COVID-19 outbreak, which varied in different regions and phases of the COVID-19 outbreak (13). In another study, the prevalence of emotional distress, irritability, mood swings, emotional exhaustion, and symptoms of post-traumatic stress disorder was reported among the individuals who were quarantined for COVID-19 infection prevention (27). In a mixed-method study, 20 groups of stressors were reported in the COVID-19 epidemic in the American elderly. The most common stressors were restrictions, loneliness/isolation, and worry for others. This study also found that stress from concern for others, contacting the virus, and an unknown future was significantly associated with poorer mental well-being (19).

The results of another study showed that symptoms of depression, anxiety, and stress during the COVID-19 outbreak in the Philippines were significantly associated with being a young female, a student, discrimination, poor health status, and concerns about family members (12).

Another stressor for the participants in this study was the confusion caused by receiving vague and contradictory information about the COVID-19 epidemic from various sources. Consistent with these findings, a study has shown that insufficient information from government and health authorities is a stressor that affects the behaviour of people in quarantine (27). What the findings of other studies confirm is that one of the predictors of behavioural changes in the COVID-19 epidemic is confusion over the validity of the information (13). To deal with the chaos caused by a lack of information and ambiguity, new communication technologies need to be used to improve public health literacy to help them make informed decisions about their health in an outbreak crisis (28).

Another part of the participants' challenges during the COVID-19 outbreak was the social and economic problems that people had because of the quarantine and social distancing. Studies show that economic problems and their psychosocial outcomes, such as a loss of jobs, have been present in similar outbreaks (29). Psychological support and provision of daily necessities, such as food as well as medical and domestic supplies, and financial compensation for lost workdays, can decrease people's economic concerns during such

epidemics (30). In the present study, the problem of quarantine ambiguities was another concern of the participants. Another study also reported that the stressors caused by quarantine are fear of infection, prolonged quarantine, insufficient supplies, stigma, and funding loss. The researchers reported that the ways to reduce these stressors are a shorter quarantine period, provision of instructions, transparent information about the quarantine, and assurance of sufficient resources (31). Another study reported that one of the ways to reduce the stress caused by quarantine is to trust in governing bodies of society for crisis management (27).

In the present study, with the continuation of the outbreak of COVID-19, adaptation to the epidemic helped participants to manage and continue their lives. In this study, participants used purposeful self-care to respond to the consequences of the pandemic crisis. A study argued that due to the high perception of the risk of disease in the first phase of the COVID-19 outbreak among the Hong Kong people, the majority of the people adopted preventive behaviours (11). A mixed-method study on 825 older adults in the U.S. showed that nature, faith, and self-care/exercise were associated with positive mental well-being (19).

Similarly, a study reported the avoidance and positive evaluation of the situation and problem-based coping strategies of the individuals during the outbreak of infectious diseases such as Ebola and H1N1 (32). In a cross-sectional study, it was shown that less anxiety was associated with spiritual growth, more private religious activities, and increased religious activities. Also, less fear was associated with spiritual growth, more private religious activities, and less grief (33). A previous study also indicates that adherence to religious strategies such as faith is part of coping strategies to increase resilience in the crisis caused by the COVID-19 outbreak (34).

One of the limitations of this study was that the adult experience was explained by focusing on the psychosocial threats posed by the COVID-19 epidemic and future studies need to explain the positive aspects of this epidemic to the general public and other groups in the community. In this study, a wide range of adult people participated, which increased the generalization of the study.

During the outbreak of COVID-19, participants faced various challenges, which were exacerbated by the vague and various information and chaotic and unclear regulations of quarantine. Psychological, informational, economic, and social issues, as well as spiritual and religious challenges, are important components of adult problems. These results provide a guiding framework for policymaking and intervention. To deal with the crisis caused by the COVID-19 pandemic and similar pandemics, policymakers and planners must carefully plan for quarantine and disseminate clear and accurate information. Supportive interventions should also be planned to reduce psychological, spiritual, social, and economic tensions.

Acknowledgments

We acknowledge all the study participants for involving in this study, as well as the professionals who helped us with their thoughtful notes and feedback on the study results.

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Appendix 1. Additional file 1: Interview Guide

1. What is your impression of COVID-19 disease? Why?
2. What did you think about coronavirus when it incidence in the country? Why? Would you please give an example?
3. What is the first thing that comes to your mind when you hear about the novel coronavirus?
4. From what sources did you get information about COVID-19, and what you think about them. Why?
5. What are your unpleasant experiences with new coronavirus?
6. What do you feel about these situations?
7. Please describe in detail your feelings and experiences in the face of the coronavirus epidemic from the beginning of epidemic
8. What changes have been made in your life?
9. What problems are you facing these days? Please give an example.
10. Please describe in detail what changes have been made to your normal life and education. Why?
11. How did you feel and act in the face of these changes? Please explain more
12. What do you think of the actions taken by managers to control the coronavirus? Why? please give an example?