



Exploring the structure of decision-making in health care managers during the COVID-19 crisis: A content analysis

Farhad Sattar Mohammed¹, Kaveh Bahmanpour², Sina Valiee³, Adel Fatemi⁴

1 Department of Health Care Management, School of Medical Sciences and Technologies, Sciences and Research Branch, Islamic Azad University, Tehran, Iran

2 Department of Nursing, School of Medical Sciences, Sanandaj Branch, Islamic Azad University, Sanandaj, Iran

3 Clinical Care Research Center, Research Institute for Health Development, Kurdistan University of Medical Sciences, Sanandaj, Iran

4 Department of Statistic, School of Basic Sciences, Sanandaj Branch, Islamic Azad University, Sanandaj, Iran

Original Article

Abstract

BACKGROUND: Dealing with crises in the current era requires a fundamental change in science and technology, consumption patterns, and people's relationship patterns, which demands new strategies, alternatives, and administrative methods to deal with different realities of life. Due to the severe outcome of the coronavirus disease 2019 (COVID-19) pandemic, governments had to intensify their efforts to deal with this disease and make decisions to manage the crisis and its extreme economic, health, and educational consequences. This qualitative study was conducted in 2023 and aimed to explain the healthcare executives' decision-making structure in the COVID-19 crisis.

METHODS: This qualitative study was conducted using content analysis method. 14 managers working in health and treatment sectors of Kurdistan University of Medical Sciences, Sanandaj, Iran were selected with purposeful sampling in 2023. A semi-structured interview was used to collect data. The conventional content analysis method was used to analyze the data.

RESULTS: The results led to the extraction of 3 main categories, seven sub-categories, and 16 primary categories. The executives had made decisions, based on their point of view, to deal with COVID-19 in pre-crisis (including the sub-categories of crisis initiation signal recognition, preparing to resist the crisis, and preventing the geographical spread), during-crisis (preventing the crisis damage, limiting the crisis injuries), and post-crisis (including sub-categories of recovery of management and guidance systems and learning from the experiences) phases.

CONCLUSION: Based on the results of this study, scientific management and the characteristic of leadership over people can be a way forward for healthcare managers to organize in crises.

KEYWORDS: Management; Crisis; COVID-19; Content Analysis

Date of submission: 18 Sep. 2023, **Date of acceptance:** 25 Sep. 2023

Citation: Sattar Mohammed F, Bahmanpour K, Valiee S, Fatemi A. Exploring the structure of decision-making in health care managers during the COVID-19 crisis: A content analysis. Chron Dis J 2024; 12(1): 54-65.

Introduction

Corresponding Author:

Kaveh Bahmanpour; Department of Nursing, School of Medical Sciences, Sanandaj Branch, Islamic Azad University, Sanandaj, Iran

Email: kaveh.hpt.bahmanpour@gmail.com

Some have called the current century as "The Century of Crisis". It has witnessed remarkable developments in cultural and intellectual openness, affecting all aspects of life. These developments and challenges have created a group of crises embedded in human

life. Dealing with crises in the current era requires fundamental changes in science and technology, consumption patterns, and people's relationship patterns.¹

Among the crises we have witnessed in recent years is the outbreak of the coronavirus, with its rapid spread rate, increase in infections, and deaths in all countries worldwide. On March 11, 2020, the Director-General of the World Health Organization (WHO) announced coronavirus disease 2019 (COVID-19) as a global pandemic. Due to the severe outcome of the pandemic, governments had to intensify their efforts to deal with this disease and make plans to manage the crisis and face its extreme economic, health, and educational consequences.² Managers' inability to make critical decisions during crises, inconsistencies in creating good political standards and inefficiency in developing them, lack of skills, and non-supporting environment cause ineffectiveness in management. Making inappropriate decisions in times of crisis may lead to heavy casualties at all levels.³

Al-Helou defines the crisis management as an administrative approach to preparing and planning for crises. This approach primarily depends on the ability to predict crises and develop possible scenarios through in-depth investigations.⁴

Crisis are events with unknown consequences. The COVID-19 outbreak is an inevitable reality that all societies face. It affects institutions, people's safety, and financial resources.⁵

This research was conducted to keep pace with current global events (e.g., the COVID-19 crisis) and, on the other hand, to develop a broad conceptual theory that explained the process of managing a pandemic crisis like COVID-19.

The world today is experiencing extreme events with their complex impact and nature, which increases the need for wise decision-making and management. The current research was conducted as an attempt to develop a theory that will help decision-

makers identify effective strategies that will enable them to deal and resolve the modern crisis (i.e., the COVID-19 pandemic). The results contribute to the theory that the COVID-19 pandemic has turned into a disaster and can be effectively managed and dealt with through crisis management.

Preparedness theory emphasizes that organizations vulnerable to crises and sudden events must define emergency roles and responsibilities to deal with crises. This theory also has emphasized the concept of control, coordination, and decentralized organization of decision-makers in times of crisis as procedures for anticipating or preparing for the unknown without optimism.⁶⁻⁸ Likewise, the complexity theory in crisis management also exists that tries to provide a way to manage organizational crises.^{9,10}

A decision is a situation or solution proposed to face problems and is usually formulated politically or legally. Decision-making procedure and making a decision involve defining the problem, gathering and classifying information as well as the status of alternatives, and then making a better choice in a way that improves the efficiency of the decision-maker.¹¹ Crisis conditions make decision-making relatively different from regular decisions because it requires speed in finding an alternative while avoiding improvisation and randomness. As management researchers call it an exceptional decision, the nature of the decision-making process in a crisis depends on the ability of managers and the rational decision-making of decision-makers.¹² Although many skills can be acquired through learning, this is not the case with decision-making. As decision-makers often deal with uncertain, doubtful situations, they are obliged to try to make decisions quickly at a given time and keep in mind that indecision is one of the worst mistakes.¹³

Policymakers faced a critical period during the outbreak of the COVID-19 pandemic.

Millions of people worldwide were expecting concerted actions to deal with the disease and provide appropriate corrective solutions.¹⁴ Government decision-makers had to choose the best strategy to deal with this pandemic and convey certainty to their citizens and convince them of the necessity to follow orders, even if it meant following decisions that obliged them to comply with social distance and its costs. Therefore, any wrong move could undermine the managers' confidence.¹⁵

Researchers have identified several steps or actions necessary to include any effective response in disasters and crises. They believe decision-makers of the world countries must realize the danger threatening their citizens, simulate and drill the required infrastructures and actions to deal with crises, and apply different methods that lead to data collection about the crisis before it occurs that eventually results in a quick non-delayed decision in the times of need. At the stage of practical measures, the decision makers should know to what extent their decision depends on citizens' cooperation. Citizens' trust in their governments and decision-makers is often determined by their relationship and communicational messages in the form of statements and televised speeches they may receive. In this regard, one should be aware that effective decision-making in crises cannot simply be achieved by taking the right actions. In such a situation, the decision-maker needs to develop a strong and coherent vision to present to citizens and give them a clear picture of the problem's nature at hand to reach what is known as voluntary consensus. Decision-makers' success in achieving this consensus is critical to make better decisions and develop better policies.¹⁶

James and Wooten showed that complexity, ambiguity, and lack of insight increased while the ability to make wise decisions decreased in times of crisis.¹⁷ Crises and disasters are very

complex, and making the right decisions in these conditions requires scientific thinking to turn the crisis into an everyday problem. The qualitative research approach is the most suitable research method to find the challenges of crisis decision-makers and the strategies and skills they need to solve the COVID-19 crisis. Conger recommends that a qualitative method is best for understanding decision-makers in crisis.¹⁸ This study was conducted to explain the decision-making structure of healthcare executives in the COVID-19 crisis.

Methods

This qualitative study was conducted to explain the decision-making structure of healthcare executives in the COVID-19 crisis. Participants were health service managers who worked in the health and treatment departments of Kurdistan University of Medical Sciences, Sanandaj, Iran.

In order to produce rich data, the maximum diversity was observed. Participants of both sexes were selected at different levels of health and treatment departments through purpose-based sampling. Sampling continued until data saturation was reached, and eventually, interviews were conducted with 14 managers.

Between March and May 2023, data were collected by the leading researcher with semi-structured interviews using an interview guide at a convenient place and time for the participants. Before starting the interviews, the cooperation of the participants was obtained by creating an atmosphere based on trust by explaining the purpose of the research and ensuring the confidentiality of the information. The interview process began with open-ended questions based on the purpose of the research. During the interview, mood changes and concerns were recorded through observation techniques and note-taking of non-verbal information. All interviews were audio recorded. The followings are some of the conductor's questions:

- How did you make the “X” decision? Please explain.
- What was your method to control the “Y” challenge?

The interviews were performed in Sanandaj, and the location was coordinated with each participant. The interviews took place in a private room so that the privacy of individuals was respected. The length of each interview varied from 30 to 90 minutes, depending on the conditions of the participants. Interviews were conducted in Farsi. The whole sessions were audio recorded and then written down word by word on paper.

Data analysis method: Conventional content analysis was used to analyze the data of this study. The leading researcher conducted all the interviews. The data analysis started after the first interview and continued as the interviews were performed. 19 interviews were read several times to get a general understanding of the text. Then, the text was read line-by-line while the first level of coding was performed so that the sentences that answered the questions raised in the interview were determined. Next, a theme was given to the main concepts in these sentences.

A list of main themes 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, then the main themes with similar meanings were grouped, and categories were formed. The researchers executed coding and categorizations, then the themes they determined were compared.

In order to validate the results, the interviews were read repeatedly, and colleagues' opinions were regularly asked and used. External monitoring was also used to increase its reliability. Thus, some data were sent to a researcher unrelated to the study who acted as an external observer to determine whether they also had a similar understanding of the data. Strategies were used to promote rigor, including transcribing, member check, reviewing the texts, and using the participant's words. The interpretation, audio recording,

interviewing, and coding methods, themes and sub-themes, and using direct quotes were monitored to support the findings.

The present study was approved by the Research Council of Islamic Azad University and the Bioethics Committee of Islamic Azad University, Sanandaj Branch, with code IR.IAU.SDJREC.1402.039-2023/07/11. Written informed consent was received from all the people participating in the study, and they were assured about the study's objectives, the confidentiality of their statements, and the elimination of audio files after transcription. The interviews were coded, and the participants' information was kept in a safe and separate place for confidentiality. The participants were assured they could withdraw from the study if they wanted.

Results

The descriptive results of the participants' demographic characteristics are summarized in table 1.

Table 1. Demographic characteristics of participants

Variables	Subgroups	Value
Age (mean ± SD)	46.2 ± 0.4	49.3 ± 0.7
Gender	Female	2
	Male	12
Organizational post	Hospital manager	4
	Boss of hospital	4
	Treatment manager	2
	Health manager	4
Education level	Master	4
	PhD	2
	GP	3
	Specialist physician	5

SD: Standard deviation

The results of the analysis of 296 codes led to the formation of 3 main categories, seven sub-categories, and 16 primary categories. The data analysis showed that managers made different decisions in the COVID period based on the situation in three pre-, during-, and post-crisis phases.

The extracted main categories, sub-categories, and primary categories were summarized in table 2.

Table 2. Categories, sub-categories, and primary categories of the study

Categories	Sub-categories	Primary categories
Pre-crisis phase	Signal recognition	Identifying threats, extents, and factors that initiate and intensify the crisis Continuous monitoring of the crisis initiation signs by the crisis response headquarters
	Preparedness	Preparing crisis management programs Checking medical equipment stocks
	Prevention	Launching public awareness campaigns Creating multi-level crisis prevention committees and headquarters
During-crisis phase	Containing	Identifying competencies and requirements Assembling the crisis management team and defining specific responsibilities
	Limiting harm	Exposure risk reduction and protection against infection transmission Safety of healthcare workers Creating safe spaces within risk areas
Post-crisis phase	Recovery	Reviews of decisions and actions designed to deal with the crisis Analysis and prediction of corrective and supplementary measures
	Learning	Organizing the experiences gained from the crisis Documenting the experiences and findings Announcing the institutionalized instructions to deal with similar crises

Management interventions in the pre-crisis phase

This category was established through the convergence of the sub-categories of crisis initiation signal recognition (includes the primary categories of identifying threats, extents, and factors that initiate and intensify the crisis and continuous monitoring of the crisis initiation signs by the crisis response headquarters), preparedness to deal with the crisis (includes preparing crisis management programs and checking medical equipment stocks primary categories), and preventing the geographical spread and the epidemic (involves the primary categories of launching public awareness campaigns and creating multi-level crisis prevention committees and headquarters).

Crisis initiation signal recognition: According to the participants, identifying the threats, extents, and crisis creators and escalators was one of the most important factors to prevent and manage the crisis:

“Crisis is a complex and unpredictable process that can happen to any system at any time, and we need pre-crisis policies to deal with it. Unfortunately, our system did not have pre-crisis policies, which made us encounter many issues” (P1).

Another essential factor in preventing and

managing the crisis was the continuous crisis initiation signal monitoring by the crisis response headquarters:

“Before COVID-19 reached the country, we constantly monitored the international news of the disease” (P3)

“We asked the health and treatment centers to quarantine the patient immediately and report to the provincial health center in case of any COVID symptoms suspicions” (P8).

Preparedness to deal with the crisis: Preparing crisis management plans before the crisis was among the essential factors in handling the crisis from the participants’ points of view:

“Since we did not have a clear framework and faced a completely unfamiliar phenomenon, we faced the pandemic situation without proper planning” (P8)

“In the crisis committee, they made it clear how to replace a malfunctioning oxygen concentrator, so when we faced a problem due to the excessive load on the oxygen concentrator during the pandemic since the process was defined for us, we started the process of purchasing the second oxygen concentrator and put it into operation in a short period” (P10).

Another aspect that was very important

from the participants' points of view in the pre-crisis phase was the continuous checking of the medical equipment stocks:

"With the beginning of the pandemic, people quickly started to buy and stockpile personal protective equipment (PPE) for their homes, and medical facilities faced a shortage with these types of equipment such as masks, gloves, shields, and disinfectants" (P1).

Preventing the geographical spread and the epidemic: The participants also mentioned the launch of awareness campaigns to prevent the spread of the disease as a crisis management feature in the pre-crisis stage:

"Another instance of people informing management policy is giving information through television programs and virtual media on a daily basis and distributing handouts, booklets, and pamphlets throughout urban and rural health centers" (P6).

From the participants' perspective, another notable pre-crisis phase strategy was the formation of crisis prevention committees and headquarters at different regional levels to take appropriate preventive measures:

"In the health center of the province, the provincial headquarters for dealing with COVID was immediately formed based on the announced instructions. This committee included the president of the university, the vice president of health, the governor, and some managers of subordinate departments" (P9).

Management interventions in the during-crisis phase

The during-crisis phase was created by the convergence of sub-classes of containing and controlling the crisis-caused harm (including the primary categories of identifying competencies and requirements and assembling the crisis management team and defining specific responsibilities) and limiting the crisis-caused harm and traumas (including the primary categories of exposure risk reduction and protection against infection transmission, safety of health care workers,

and creating safe spaces within risk areas).

Containing and controlling the crisis-caused damages: The research participants believed identifying competencies and needs was an influential factor in decision-making to control the harm caused in the during-crisis phase:

"When we faced a shortage of PPE, we bought the necessary equipment with the help of the country's health benefactors and quickly established centers for producing PPE in cooperation with various organizations" (P4).

Assembling the crisis management team and defining specific responsibilities was another essential factor:

"As health officials, we held various committees at different levels of the health department, governorate, university, and at the national level and the ministry, during which we carried out management planning" (P3).

Limiting the crisis-caused damages and traumas: The study participants believed that one of the crucial factors in limiting harm through the COVID-19 crisis management was to reduce the exposure risk and protect against the transmission of infection:

"By creating a center for this disease, we separated the patients from each other, and after this, the next step we took was to create separate triages for patients with respiratory symptoms and without, which was shown very useful and effective in preventing virus transmission by subsequent investigations" (P2).

Moreover, the participants believed that the safety of healthcare workers was an important measure that should be taken into account during a crisis:

"We optimally managed the distribution and consumption of all various kinds of masks so that employees and doctors have proper access to these items based on scientific standards. We installed dispensers, placed hand sanitizer solutions in high-traffic places, and considered the necessary safety measures for pregnant employees in response to COVID-19, so they would not be put to work in the

departments providing services to patients with COVID-19. We applied social distance in visiting the clinic patients so that the treatment processes of patients in need of medically necessary interventions were not disrupted. Eliminating unnecessary meetings and training sessions to reduce exposure was also among our measures" (P4).

Creating safe spaces within risk areas was of high importance:

"For the admission and hospitalization of patients with COVID-19, we created two lanes in the hospital's emergency room. Patients with respiratory symptoms were allocated an exclusive lane, so they were not having contact with other patients. The triage and also the hospitalization of these patients were separated" (P4).

The extraction process of the categories of different crisis phases is summarized in table 3.

Management interventions in the post-crisis phase

The post-crisis phase was created from the convergence of two sub-categories of management and guidance systems recovery (including the primary categories of reviews of decisions and actions designed to deal with the crisis and analysis and prediction of corrective and supplementary measures) and learning from the crisis experiences (including the primary categories of organizing the experiences gained from the crisis, documenting the experiences and findings, and announcing the institutionalized instructions to deal with similar crises).

Management and guidance systems recovery:

From the point of view of the participants in the study, one of the essential procedures that should be paid attention to after passing through the crisis was reviewing the decisions and actions designed to deal with the crisis:

Table 3. Extraction process of the crisis phases

Main categories	Primary categories	Sub-categories	Codes	
Management interventions in the crisis phase of COVID-19	Curbing and controlling the damage caused by the crisis	Identifying competencies and needs	The challenge of providing medicine, providing personal protective equipment, lack of equipment, lack of personnel, using the capacity of donors, applying experiences and learnings, recruiting planned and volunteer staff, extending the workforce plan, and transferring treatment staff	
		Forming a crisis management team	Forming a crisis team, determining a crisis team leader, leveling units, using experienced people, and dealing with crises in teams	
		Defining specific responsibilities	Creating a committee to update information, assigning responsibilities by the crisis team, creating a group for description of decision-making tasks	
	Limiting injuries and traumas caused by the crisis	Reducing risk of exposure and protecting against transmission of infection	Healthcare worker safety	Creating a COVID-19 center, limiting borders, prioritizing patients in drug allocation, structural changes in triage, holding virtual meetings, monitoring crowded places, following up with discharged people, screening for secondary infection and observing social distance, isolating patients with COVID-19
			Healthcare worker safety	Protection of personnel and medical personnel in the face of COVID-19, use of replacement personnel in case of conflict, prioritization of vaccination of medical personnel and high-risk groups, planning for the protection of medical personnel
		Creating a safe environment in high-risk areas	Establishing separate triage, changing the composition of treatment departments, the policy of creating unique and isolated departments for patients with COVID-19, setting up crisis triage, creating different lanes in the emergency room, setting up and activating ICU beds, separating patients	

COVID-19: Coronavirus disease 2019; ICU: Intensive care unit

“Since we passed through the many peaks of the disease, got to know more about its nature, and gained enough knowledge about the ways of transmission of the disease, the management policies were changed to prevent the increase in cases of infection and by shuttering economic activities from 7 to 14 days, with the order of the president and the crisis headquarters, we rushed to minimize the spread of the virus in other peaks” (P1).

It was essential to analyze and predict corrective and supplementary measures in the post-crisis phase:

“Our problem is that, unfortunately, we did not have committees to review the decisions made, which made us unaware of the strengths and weaknesses of those decisions” (P5).

Learning from the crisis experiences: The participants believed that organizing the experiences gained from the crisis would lead to learning and using these experiences in future crises:

“Due to the dynamics of the management system, we were challenged by various crises, and appropriate reforms were made in our management so that if the province faces a similar crisis, we will use the experiences and lessons we have learned to move forward in the direction of rapid crisis management” (P2).

Another factor that the participants thought was crucial in the post-crisis phase was the documentation of experiences and findings:

“A new wave of field research regarding COVID-19 appeared in the country, and the results of many of these researches can help us solve problems” (P7).

The participants believed that one of the appropriate measures in the post-crisis phase was announcing institutional guidelines to deal with similar crises:

“At the end of each wave of COVID-19 spread, the set of measures taken had to get collected and categorized based on the effectiveness of the decisions. Then, they were announced to the subordinate institutions to

help deal with future crises” (P10).

Discussion

The study aimed to explain the decision-making structure of healthcare executives in the COVID-19 crisis. The results of the data analysis based on the contractual content analysis method led to the formation of 3 main categories. The findings showed that the managers made different decisions to deal with this epidemic in the 3 phases of pre-, during-, and post-crisis according to the situation faced in each phase.

Hospitals, as the front line of the healthcare system, faced this crisis. Although health executives and policymakers in Iran experienced crises such as war, floods, and earthquakes, they never experienced an infectious disease epidemic. They had to control and manage the situation under new circumstances. Identifying hospitals' challenges, solutions, and practical measures implemented by them facing biological crises can be a road map for future crisis management plans. Capabilities, limitations, and weaknesses in each hospital should be identified so that by raising the work capacity and standards, they become more prepared to deal with the crisis and reduce its destructive effects. Studying the experiences of people responsible during the crisis was one way to observe the effectiveness of the crisis management program and its strengths and weaknesses.

Takian *et al.* stated that when the virus reached Iran, due to the lack of sufficient knowledge and information about it and the research conducted in China, a suitable approach for preventing the spread of the disease was not chosen. In addition, the epidemic's beginning simultaneously with the Iranian New Year holidays led to the spread of the virus in all provinces, especially the northern ones that are open to tourism. If social distancing is not strictly observed, we

will have dire consequences from this virus's spread and death rate.²⁰ In another study Sufi et al. state that this pathogenic viral infection challenges industrial companies and businesses around the world, and the most crucial question is whether the existing clinics and drugs in the world countries are ready to deal with this deadly virus. Currently, many measures related to the reduction and prevention of COVID-19 are being carried out by people, and there are still not enough findings to adopt drug therapy and vaccine prevention.²¹ In a study conducted on the flood of the state of Iowa in the United States (US), the opinions of Iowa University officials were examined through a qualitative study, and the resulting thematic analysis showed that teaching crisis management to all components of an institution was not an easy task. Financial payments are challenging, and the employment of forces during the shutdown due to the crisis is another problem.²² In another study that was conducted through interviews with crisis management experts in Nepal, it was stated that issues such as the economic and cultural conditions of the people could be obstacles to the implementation of crisis management decisions. Furthermore, the weakness of leadership and guidance of organizations in times of crisis is considered a serious obstacle. A study was conducted in Nepal by Shrestha et al., which aimed to identify a robust program for dealing with pandemics and epidemics that could be extended to other hospitals in the country. This study used existing public health crisis management programs, focusing more on inter-departmental coordination and increasing communication, support, provision of PPE, and incident command training in the hospital. The plan was tested across the hospital using a high-fidelity, real-time simulation, and lessons learned were reported as findings.²³

Considering the importance and specific

features of this crisis, more studies are needed to examine its various dimensions and provide operational experiences to policymakers and managers.²⁴

When COVID-19 reached the country, many people became scared of the disease, and the fear was higher among the medical staff and hospital personnel due to their direct contact with patients. This virus's new and unknown nature intensified the fear of infection or transferring it to others and family members. It turned this issue into one of the most critical challenges in human resources. The results of an article showed that during the COVID pandemic, adverse psychological effects, including post-traumatic stress disorder, depression, anxiety, stress, sleep disorders, and anger in the treatment staff and other people involved with the coronavirus showed a meaningful, significant increase.²² Similar studies conducted around severe acute respiratory syndrome (SARS) disease have also mentioned stress and fear of contracting the virus. In the study of public health nurses' experiences in quarantine management of patients with SARS in Taiwan, most public health nurses expressed a lack of self-confidence in dealing with the SARS epidemic.²⁵

The most critical challenge in the university education department was related to the closure of clinical training, which was mentioned by most of the participants in the study. Some interviewees believed that medical science students could use this opportunity to increase their experience in crisis management of epidemics. Unfortunately, despite the expenses incurred in the field of higher education, the capacities of this institution have not been used systematically in the decision-making process of policymakers, as well as in the documentation, modification, and publication of measures; therefore, it is suggested that universities have a specific advisory role in the executive teams and specific responsibilities

should be assigned to them. Due to the closure of universities, professors should be involved in executive processes and play an influential advisory role. Considering the different aspects of the subject, the professors of the related fields of social, economic, and management sciences, while helping to make evidence-based decisions, can examine and study the produced evidence in their future research by attending the executive meetings not as a real person but in the legal position of the university.²⁶

One of the most effective clinical solutions mentioned in this research is isolating COVID sections to isolate patients, identify suspicious clients from arrival, and double triage. In a study conducted in China, it was stated that early detection and primary isolation were essential to control infectious diseases. Several mistakes and shortcomings in this field could be identified in China. First, an infectious disease surveillance system at the national level was not functioning well. Besides, there were no effective regulations to prevent the spread of the disease, and the government did not inform the public quickly, which caused the rapid spread of the disease in the country.²⁷

Another significant problem that was mentioned in this study was the problem of providing human resources. A solution suggested in this crisis by hospitals of Tehran University of Medical Sciences, Tehran, Iran, was financial and spiritual incentives for personnel. As time passes and fear and anxiety subside, it is necessary to consider financial incentives for the treatment staff and other personnel involved. Experience has shown that financial encouragement for nurses has significantly increased their cooperation. A study states that support systems and incentives were essential for managing the conflict between nurses' family and professional roles.²⁸

The interviewees pointed to the management solutions implemented in the

post-crisis phase. They mentioned that learning from experiences and correcting decisions have been the most repeatedly effective solutions for people to manage the COVID crisis. Dealing with a crisis, one gets disoriented and confused, and their mental power is depleted. The information may also be distorted or wrong, while the time to make a decision is extremely short, and being surprised and unprepared to make a decision also adds to these problems.

Managers participating in this research consider continuous change in decisions as the right solution in crises. They stated that the meetings of the crisis committee were held repeatedly, the past decisions that were implemented were reviewed, and the results were evaluated in order to decide whether to continue or change the approvals. In a press conference held by the Ministry of Health, the then Deputy Education Minister of the Ministry of Health, Treatment, and Medical Education stated the contradictions in the management of COVID: "This epidemic was a new phenomenon and experiment for the whole world and not only Iran, and the management system worldwide did not score well, and in the post-COVID period, the world must review the management systems. The officials in North America and even Europe changed their words several times. Disagreements in this matter are very high; for example, the speech of the Netherlands is very different from that of Austria. Due to the ambiguities, countries decide according to their requirements. You are expected to find inconsistencies in opinions, or opinions change over time because there is no way to avoid them".²⁹

Conclusion

Crises are always the most challenging test for all kinds of management theories. Measures the results show that prevention and preparation, which should be addressed before the crisis, have been neglected despite their

great importance. Adopting weak preventive policies from the beginning to prevent the spread of the virus in the country caused much damage to the people and healthcare organizations. In order to maintain readiness against biological crises, diagnostic and therapeutic equipment, medicine, and PPE should be provided and maintained. In the post-crisis or reconstruction phase of the crisis management cycle, Clinical training of medical students, which was closed, should be resumed by adopting personal protection protocols. Psychological services are used to improve the mental condition of people involved in crisis and the psychological exhaustion of the treatment staff. Managing emotions and motivations in human resources is one of the essential solutions to post-crisis challenges.

Conflict of Interests

Authors have no conflict of interests.

Acknowledgments

This study was a part of doctoral dissertation which was funded by the Research Administration of Tarbiat Modares University, Tehran, under the supervision of Dr. Kaveh Bahmanpour, Dr. Sina Valiee, and Dr. Adel Fartemi. Moreover, we would like to gratefully thank the experts and all managers who gave us their time and willingly participated in the study.

Financials support and sponsorship

This study was a portion of doctoral dissertation which was funded by the Research Administration of Islamic Azad University, Research and Sciences Branch, under the supervision of Dr. Kaveh Bahmanpour, Dr. Sina Valee, and Dr. Adel Fatemi.

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