

Research Paper

Explaining the Challenges of Providing Healthcare Services During COVID-19 Pandemic: A Qualitative Study



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ABSTRACT

Background: During the COVID-19 pandemic, the health and treatment departments of military organizations provided various services to control the pandemic; however, there were some challenges for the organization. This study explains the challenges in providing healthcare services in the COVID-19 pandemic from the managers' viewpoints.

Materials and Methods: In this study, a qualitative research method with a conventional content analysis approach was used. A total of 58 managers participated in this study. The participants included 8 senior managers, 23 middle managers, and 27 executive managers who were included in the study via the purposive sampling method. A semi-structured, in-depth individual interview with open questions was used to collect the data. Primary codes were extracted and compiled into main and sub-categories based on the codes.

Results: The initial codes after integration with inductive content analysis included 4 main categories and 13 subcategories, including challenges in the field of mental health (unknown illness and mental problems of military personnel), a lack of risk perception (in executives and employees), intra-organizational challenges (lack of equipment, dysfunction of functional structure, lack of medicine and vaccine, lack of resources, inconsistency of information) and external challenges (disruption of social order and unity, the lack of reliable news information, change of national education program and inconsistency between organizations).

Conclusion: The results of this study showed that managers of military organizations have faced important challenges in providing healthcare services. Carrying out measures to improve mental health, improving risk perception in managers and employees, and internal and external coordination can eliminate the weak points of the organization to manage similar incidents.

Keywords:

Health services, Military medicine, COVID-19, SARS-CoV-2, Qualitative research

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Introduction

The COVID-19 pandemic is a natural disaster of biological origin based on the detailed classification of the emergency events database and has resulted in numerous losses of lives and social crises, and millions of lives have been significantly changed [1]. This disease, as a serious crisis in the field of health and public health, required an appropriate emergency response from numerous organs and organizations [2].

Military organizations actively participated in the COVID-19 pandemic. They had good maneuverability due to their special characteristics and preparations and could appear in various roles and provide services. Up to now, military organizations worldwide can play an effective role in natural and man-made disasters by using their potential, including specialized health and treatment personnel, equipment, field treatment centers, regional hospitals, relief and quarantine posts, and reduce human casualties [3]. Many military resources from countries worldwide have been activated in response to the COVID-19 pandemic to help strained hospitals and civilian medical personnel, deploying military personnel and capabilities by establishing hospitals or deploying military doctors and nurses to respond to the crisis. For example, China mobilized more than 10000 military personnel. France and South Korea also started resilience operations with the help of the army to respond to the outbreak of this disease. Military support included transportation of medical equipment and patients, support and supply of medical equipment, transportation of health care workers, disinfection of hospitals and other public spaces, development and testing of potential vaccines, and production of medical supplies, such as masks and disinfectants. In America, military forces have been deployed to enforce mandatory quarantines by patrolling the streets, closing roads and restricting movement [4]. In Iran, combat medical care played an effective role in providing relief services by using medical personnel at different levels, medical and pharmaceutical equipment, fixed and mobile medical centers, means of transporting patients and other communication facilities. This organization has performed well in disasters [5].

At the same time as other countries and immediately after the report of the disease in Iran, the military health and medical forces started their activities based on predetermined protocols to deal with COVID-19 in military places and maintain the health of the human force [6]. Meanwhile, all the units under the command were issued

the necessary warnings to control the pandemic, and according to the declaration of needs, modern war equipment and military services were used to disinfect urban places, and hospitals, production of personal health protection equipment, in addition to creating quarantine posts, and temporary convalescent centers. Field hospitals were considered fully prepared to deal with any possible event [7]. With the increase in the number of hospitalized patients, all medical centers and regional military hospitals throughout Iran were used to admit patients with COVID-19. The health and service forces of this organization have played an effective role in facilitating the nationwide vaccination process by establishing collective vaccination centers [8]. One of the reasons for the participation of the armed forces in response to the outbreak of COVID-19 is that the armed forces have special capabilities that civilian health organizations lack [4]. However, since providing services is not part of the main mission of these organizations, they have faced issues in the process of providing services. Since there have been limited studies on the challenges of providing services during the COVID-19 pandemic in military organizations, the researchers decided to conduct this study to explain the challenges affecting the provision of healthcare services from the perspective of senior and middle managers, in addition, this study examines the health and treatment of a selected military organization in the COVID-19 pandemic.

Material and Methods

Study method

In this study, a qualitative research method with a conventional content analysis approach was used. Qualitative content analysis is a suitable method for creating knowledge, new ideas, presenting facts and practical guidance to achieve the goal of this research. The present study was carried out in the centers providing health and medical services of the selected army by conducting semi-structured interviews with people with practical experience in policy making planning and providing services.

Study participants

In this study, considering the objective of discovering practical experiences or theoretical knowledge regarding the challenges affecting the provision of healthcare services in the COVID-19 pandemic, a total of 58 participants including 8 senior managers, 23 middle managers, and 27 executive managers from the commanders of medical companies, commanders of medical battalions, combat medical officers of regional camps, officials

of regional hospitals and executive directors of health-care and educational command during the COVID-19 pandemic were selected via the purposeful sampling method. In choosing the participants, the researchers observed the maximum diversity in experiences. The inclusion criteria were having experience in controlling the COVID-19 pandemic and one year of experience in command, management and planning.

Collecting data

To collect the data, semi-structured interviews with experienced participants in addition to open-ended questions, experiences, and beliefs of people were investigated without limitations in defining or specifying them along with the help of an interview guide [9]. Interviews continued until information saturation was reached [10]. The duration of the interview was from 40 to 100 min based on tolerance, amount of information, willingness, and agreement of the participants. Interviews were conducted individually and at a time and place accepted by the participants where they felt comfortable. The interview was conducted with the permission of the participants and also recorded with their consent. Interviews with senior, middle and executive managers based on the main research question first started with general questions. Some of the questions were as follows: "Please tell us about your experience of providing healthcare services during the COVID-19 pandemic," "What problems did you face while responding?" "What organizations did you need to coordinate with to provide the services?" and "What is your suggestion to managers and policymakers for providing healthcare services during pandemics?" Subsequently, according to the participant's answers to the above questions, complete the explanations and clarify the answers given from leading and exploratory questions, such as "Please explain more?" "What did you mean?" "For what reason?" The researchers tried to understand the depth of the phenomenon. The interviews were implemented as soon as possible and typed using the Word software.

Data analysis

To analyze the qualitative content of the data, the method proposed by Granheim and Lundman (2004) was used [11]. In the first step, the main researcher converted the interviews into written texts and read them several times from beginning to end to gain knowledge about the general process taking place. In the second step, all interviews and observations were considered as the unit of analysis. The meaning of the analysis unit was the notes that should be analyzed and coded. In the third

step, words, sentences, or paragraphs were considered as semantic units. Semantic units were a set of words and sentences that were related to each other in terms of content and were placed next to each other. In the fourth step, the semantic units reached the level of abstraction and conceptualization according to the concept hidden in them and were named codes. In the fifth step, the codes were compared with each other in terms of their similarities and differences and were categorized under more abstract classes with specific labels. In the sixth step, finally, by comparing the classes with each other and carefully and deeply reflecting on them, the content hidden in the data was known as the theme of the study [12, 13].

Reliability of the study

Scientific accuracy criteria have been used in qualitative research. Guba and Lincoln stated reliability in qualitative research as an alternative to validity and reliability in quantitative studies [14]. Reliability includes four criteria validity, stability, verifiability, and transferability [15, 16]. In credit, the researcher as a military force had a long-term involvement with the subject, which started from the initial conceptualizations and continued until frequent meetings with participants, implementation, and processing of findings with experts in the field of service delivery. The long-term involvement of the researcher and the close relationship with the participants of the study led to gaining their trust and a better understanding of the mentioned experiences. To gain credibility, participants with a maximum variety of experiences were selected and sampling continued until data saturation was reached. The text of the interviews and the extracted codes were provided to the participants to comment on their accuracy. In cases of ambiguity or lack of understanding of the participants' meaning, the researcher clarified through a phone call.

In terms of consistency, the findings were checked by examining observers and participants. The moderators reviewed the interviews, codes and categories to check the analysis process and confirm their accuracy. Qualitative research experts did the process of coding and monitoring the themes. For validation, findings were given to participants who had not participated in the study to confirm appropriateness. A complete description of the research stages, including data collection, analysis, and formation of themes has been made to provide the possibility of a research audit by the audience and readers. Also, the process of doing the work was provided to the research colleagues to confirm the accuracy of the research. For the transferability of the findings, maximum variation was done. Finally, the experiences of the par-

ticipants in this research were taken into consideration. For the transferability of this research, the processes were documented.

Results

The results of the study showed that most of the participants were male (81.04%), executive managers (46.55%) with 5 to 10 years of managerial experience (37.94%) and an average age of 38.19 ± 8.0558 years (Table 1).

The number of initial codes obtained from the interviews was 2351 codes (1183 codes=executive managers, 1000 codes=middle managers, and 168 codes=related to executive managers) which were first placed in 20 classes and 50 subclasses and after merging with inductive content analysis, the 4 main class and 13 sub-classes included challenges in the field of mental health (unknown disease and mental problems of military personnel), lack of understanding of the risk (in executive managers and employees), challenges within the organization (lack of equipment, dysfunction of functional structure, lack of medicine and vaccine, lack of resources, inconsistency of information and information) and extra-organizational challenges (disruption of social order and unity, lack of reliable news information, change of national educational program and inconsistency between organizations) (Table 2).

Challenges in the field of mental health

Unknown disease

The field of mental health during the COVID-19 pandemic had its complexity. The disease has created numerous novel psychological disorders. Report of new and rare cases of mental dimensions in COVID-19 disease, people with no previous history of panic disorder, and leading people to severe isolation was one of the main issues that were unknown to activists in this field. The society was not exempted from the psychological burden of this disease. People who had psychological problems before this period were also more damaged and their obsessive-compulsive disorder was aggravated and uncontrollable.

A participant maintained, "It was impossible for me not to have several cases of obsessive-compulsive disorder during the day. This group suffered a lot during this period. Some of the cases who were treated returned and their situation was intensified. You would not believe how many poisonings with medical alcohol we faced due to unusual use?"

Psychological problems of military personnel

Concerns of families about their children getting sick in educational centers and units, disorder, and anxiety in duty personnel caused by them and their family members getting sick were among the issues that were heard many times in the interviews.

Table 1. Demographic characteristics of healthcare providers (n=58)

Demographic Profile	Variables	No. (%) / Mean \pm SD
Level of participants	Chief	8(13.79)
	Mid-level manager	23(39.66)
	Administration manager	27(46.55)
Gender	Female	11(18.96)
	Man	47(81.04)
Age (y)		8.58 \pm 38.19
Management experience (y)	<5	10(17.24)
	5-10	22(37.94)
	11-15	17(29.31)
	>15	9(15.51)

Table 2. Challenges of providing army health and medical services in the COVID-19 pandemic from the point of view of the senior, middle and executive managers of the selected military organization

Category	Sub Category	Codes	
The challenge of mental health	Unknown disease	Not knowing the nature of the COVID-19 disease	
		Multiple reports of different symptoms of COVID-19	
	Psychological problems of military personnel	Fear and anxiety caused by self-infection and transmission of COVID-19 disease to the family	
		Families worry about the health of military personnel and military students	
		Exacerbation of obsessive-compulsive disorder and suicide rates in people with a history of mental disorders	
Lack of risk perception	In executive directors	Lack of knowledge of disease prevention methods	
		Lack of effort in persuading people to go to the field hospital	
	In the staff	Lack of sufficient accompaniment of personnel in observing social distancing	
		The lack of knowledge of some personnel about the methods of disease transmission	
Internal challenge	Lack of equipment	Ban on the import of medical devices	
		Wear, shortage, oldness and uncelebrated equipment	
		Lack of mechanized dishes and food washing machines	
		Hard access to disinfectants by government agencies	
		Lack of experience in the production of personal protective equipment	
	Functional structural disorder	Impossibility of allocating physical space for isolation in the emergency department	
		The long-distance between the definitive diagnosis and the issuance of sick leave for personnel	
		Improper layout, lack of hall and decontamination gate equipment	
	Lack of medicine and vaccine	Internal challenge	Difficulty in accessing rural areas
			Increase in the price of rare drugs
Short supply		Lack of insurance coverage for rare drugs and increase in counterfeit drugs	
		Citizens' lack of knowledge about vaccines due to the lack of a comprehensive database	
		Difficult access of government organizations to disinfectants and price increase	
		Excessive storage of disinfectants and personal protective equipment by citizens	
		Lack of experience in the production of personal protective equipment	
Short supply	Death and lack of efficient specialized personnel in the field of health and treatment		
	Failure to use the capacity of specialized military personnel in the field of healthcare		
	Lack of credit resources to encourage the staff of health centers and headquarters		
Short supply	Short supply	Not enough funding to build portable hospitals and personal protective equipment	

Category	Sub Category	Codes
Internal challenge	Inconsistency of information	The absence of a single command in people’s projects
		Statistical inconsistency and lack of online communication system between command centers
		The non-publication of the selfless activities of the selected military organization
		Spreading rumors about receiving compensation for personnel due to illness
External organizational challenge	Disruption of social order and unity	Congestion of people at the entrance of the cities due to the approval of the official closure
		Increasing the duration of administrative tasks due to remote work and personnel leave
	Lack of reliable news information	Quick sharing of fake news
		Lack of reliable mass media as a reference
	Changing the national education program	Lack of suitable educational content due to lack of internet access for all people
		Academic backwardness affected by the planning of the national headquarters of Corona to be closed
	Inconsistency between organizations	Creating confusion due to issuing different orders from specialized committees
		Lack of decontamination units in some provinces

A participant maintained, “The soldiers’ families are worried about their children. On the other hand, the soldiers are also afraid of getting sick themselves and passing it on to their families.”

Lack of risk perception

In this main class, two approaches were taken into consideration as follows: The lack of understanding of risk in executive managers and the lack of understanding of risk in employees, which were separately extracted codes from each sub-class according to the opinion of study experts.

Executive managers

The managers of the selected military organization were noticeably surprised at the beginning of the pandemic, and the crisis management that could effectively help people during a widespread pandemic was very weak. Extensive field hospitals were built by this organization throughout the country, but their efforts to encourage people to visit these centers, which could solve many of the people’s problems on an outpatient basis, were unsuccessful.

A participant maintained, “Many managers, especially in the areas outside the capital, never believed in the spread of the disease and assumed everything was a rumor and a psychological war. We were never treated properly at the very beginning of the establishment of the field hospital and this discouraged our personnel. Kurds continued to gain trust. In those days, no one knew how futile it could be to disinfect places and release these substances into the air. We ate, we had nine alternatives for them, and their repairs were time-consuming and very specialized.”

Staff

Some employees in this organization did not take many issues and protocols seriously at the beginning of the pandemic and perhaps they did not believe that the pandemic had started; therefore, there was a lack of sufficient personnel support in observing social distancing. Also, the lack of knowledge of some personnel about the methods of disease transmission and the existence of fear due to the many advertisements on news channels had created difficulty in creating an effective self-care culture among employees.

A participant said, “In the beginning, everyone caught COVID-19 as if they had a disease like the plague and everyone ran away from it. Some personnel came to work even though they had symptoms, they did not care about it, and they felt bad. Their losses were over and they missed the golden period of treatment and it led to death.”

Internal challenges of the organization

Lack of equipment

The non-calibration of diagnostic and therapeutic equipment, the presence of international sanctions on Iran in the import of medical equipment, wear and tear, shortage and old equipment and lack of sterile packs were some of the major issues that had challenged this military organization in the field of medical equipment. The nutrition units of military hospitals were faced with serious challenges during COVID-19, such as the lack of mechanized dishes and food washing machines in military hospitals, the lack of sufficient knowledge about the clinical nutrition of patients suffering from COVID-19, and the high costs of providing suitable food for patients.

A participant Said “Since many patients were converted, our need for respiratory support equipment was several times. We pressed the items that were available during this period so much that they did not function properly due to wear and tear. We never thought the failure to import these devices due to sanctions would harm us so much.”

Another participant maintained, “The big challenge we faced was washing the dishes of COVID-19 patients. Each expert gave a different opinion. We had a strange conflict in this matter. We never thought that the issues in the field of nutrition and food hygiene would become so complicated.”

Structural and functional disorder

The functional structure in the study military organization was designed in such a way that many changes had to be applied for an effective response and there was practically not enough space for these actions. Also, leave instructions for personnel interfered with the operational nature of the organization. Due to its nature, unlike other organizations involved in the pandemic control, the military organization set up quarantine posts and field hospitals throughout the country, which brought challenges despite the different nature of the COVID-19 disease. The lack of quarantine halls, the uncoordinated

arrangement of some decontamination gates and quarantine posts, and the difficulty of access to services in rural areas were among the major issues that were raised as challenges in one of the most important service sectors of this military organization.

According to one participant, “On some days, you do not know what a stressful situation was created in the wards. It was not possible to move the patient easily due to the lack of space. We had few staff, and on the other hand, we had to prolong the hospitalization process. There were so many outpatients whose treatment was very difficult. It was difficult.”

Meanwhile, another participant maintained, “We had designed the triage unit, quarantine posts, and decontamination with a standard structure, but this pandemic of respiratory disease caught us by surprise and we realized how specific all the issues are in this disease, although guidelines were later made available for it. But the way of admitting patients and these separations tormented us a lot.”

Lack of medicines and vaccines

In this area, there are factors, such as the increase in the price of rare drugs, the increase in the consumption of supplements and herbal medicines, overcrowding in pharmacies, the difficulty of obtaining and supplying drugs, the lack of insurance coverage for rare drugs, the decrease in the economic ability of people to buy drugs, and the lack of vaccination information for foreign citizens. From the country, the lack of a comprehensive vaccine shortage database, the lack of awareness of some citizens about vaccines, the lack of proper drug depots in drug warehouses, and the profit-seeking of virtual channels selling counterfeit drugs for the treatment of COVID-19 were raised as challenges in the field of medicine and vaccination.

A participant maintained, “I remember one day a woman went to the car vaccination center and wanted to get the third dose of AstraZeneca so that she could travel abroad, but there was no information in the system because she had been vaccinated abroad. She was very angry that we were failing, but it was our fault. We did not have it, although we solved the problem in the future. We did not have the proper drug and vaccine depot to provide services to everyone.”

Short supply

Based on the experiences of the participants, both human resources and financial resources were in trouble. The COVID-19 pandemic has led to an unprecedented infection of the medical staff and significant complications and deaths among specialized healthcare workers. Perhaps, the shortage of medical staff was not felt so strongly in military organizations before this. Funding allocated to military organizations to respond to the COVID-19 pandemic varies across countries and specific military branches. Many countries, including Iran, had mobilized their armed forces in response to the pandemic, which had led to the deployment of personnel and the imposition of additional financial resources.

According to one participant, “There was frequent news of the death of medical personnel. We were losing our strength. The death of specialized health and medical personnel, apart from the psychological burden it imposed on other personnel, could never be compensated and the shifts would be empty. On the other hand, the personnel would get sick and we still did not have replacement staff, nursing in the special care department is very specialized. All the expenses were spent on buying equipment and other issues. Now we wanted a budget line for this. We could not consider the case, although we did some things ourselves, but it was not useful and did not convince the personnel, that they were right. We never had a budget for other work, and our first and last priority was disease control, but it was important that even during the work period, the personnel were financially encouraged.”

Inconsistency of information and notification

Information inconsistencies made it difficult to accurately track the spread of the virus, identify areas of concern, and effectively allocate resources. For health and treatment managers of military organizations, the accuracy of information is necessary to standardize definitions and reporting methods. On the other hand, media coverage of the selfless activities of military personnel causes the continuation of these people's activities. In the meantime, spreading rumors and fake news causes mistrust in society and discouragement of these people.

According to one participant, “The statistics did not match because we had not worked before. Coordination was also very difficult. No matter what we did, no matter how we taught, we would have problems at work. Every day we received statistics, but the numbers and figures were very there were problems in some places;

for example, we had a patient, who died, but it was not included in the number of patients. Our organization worked very hard, but it does not have a media to spread the word. How many nights were given shifts and served in field hospitals, but withholding a proper media reflection is a cause for reflection and should be considered. On the contrary, there were rumors that the personnel infected with COVID-19 were rewarded.”

Challenges of the external-organizational field

Disruption of social order and unity

Overall, the COVID-19 pandemic has had significant effects on the rules governing society and military organizations, disruptions in social order affecting vulnerable populations, education, and welfare.

According to one participant, “I saw this experience with my eyes and I still do not understand why this ill-advised action was taken. The release of equity shares has crowded the city and created problems in terms of providing security for the government's counter centers. Also, after a few days, the explosion of patients in our medical centers increased. When I asked a few sick people, especially the older and poorer ones, they said that they went to a crowded place for justice, and after a few days, they had the symptoms.”

Lack of reliable news information

The rapid sharing of false and fake news, and the lack of reliable and reliable mass sharing media as a reference, from the point of view of research experts, were raised as important challenges in the field of lack of reliable news information.

A participant maintained, “We were in the field ourselves. I do not know where this news comes from. For example, western media published news that today our hospital had 34 deaths. We had as many deaths in our organization during the COVID-19 pandemic. If I did not work there myself, maybe when I heard the news, I believed it. People had the right to be so afraid, but it was very difficult to distinguish between true and false news at that time.”

Changing the national education program

During the COVID-19 pandemic, the educational model in the country as well as military organizations changed virtually. The lack of access of all people to the Internet made the education process a challenge.

A participant said, “The axis of our training was very affected. Our training centers are based on face-to-face training, which means that the courses must be repeated every day. Every military person becomes competent with a continuous training course, and I saw the bad effects of closing classes later, how much education is important, and how irreparable the interruption of education is.”

Inconsistency between organizations

Military operations require coordination between military, civilian, and other relevant organizations. Issuance of different orders by specialized committees and creating confusion, the absence of a decontamination command unit in some provinces due to the existence of cumbersome rules regarding the departure of equipment from the organization’s units, and on the other hand, the parallel work and the lack of alignment of the orders with the biological defense headquarters of the Armed Forces It caused a noticeable lack of coordination between organizations.

A participant maintained, “All the devices were involved, but everyone had their process, there were some places where we wanted to help and we even knew that we had a better performance, but another unrelated organization was there before us.”

Discussion

This study was conducted to discover the challenges in providing healthcare services during the COVID-19 epidemic from the perspective of senior, middle, and executive managers of healthcare in the military organization. Challenges in the field of mental health, lack of understanding of risk, intra-organizational challenges, and extra-organizational challenges have been among the most important challenges.

The challenges in the field of mental health with two subcategories of unknown disease and mental problems of military personnel were considered among the challenges of providing health and medical services during the COVID-19 pandemic. In line with the present study, Stamo et al. examined the psychological aspects of the COVID-19 disease. Accordingly, COVID-19 is a new and rapidly spreading disease, and information about its long-term effects is still unknown. This uncertainty can lead to anxiety and fear in individuals and societies. The constant flow of news and information about this disease can also be overwhelming and lead to confusion and stress. The pandemic has a significant impact on the

entire society and leads to feelings of isolation, sadness, and anxiety. Social distancing and quarantine measures can exacerbate these feelings and lead to an increase in mental health problems such as depression and anxiety. This is truer for vulnerable people such as those with COVID-19 [17].

The lack of risk perception with two subclasses, and lack of understanding of risk in executives and employees was considered as another challenge. In line with the present study, Boiral et al.’s study to investigate the management of organizations during the COVID-19 pandemic showed that in the conducted research, the managers of the organizations do not have a correct understanding of the risks of the COVID-19 epidemic and cannot minimize the absence of COVID-19-related risks. This disease has brought significant risks, such as disrupting the health and safety of employees, supply chain and operations, and economic effects for organizations, and managers must take measures to reduce these risks and ensure compliance with relevant legal and regulatory requirements [18]. In a study aimed at identifying the characteristics of disasters as an effective factor in managers’ risk perception, Atofi et al. found that crises before becoming a risk for health organizations have an impact on managers’ risk perception and consequently on their actions [19]. In research aimed at identifying an effective approach to reduce the risks of disasters in Iran’s healthcare organizations, Seyedin et al. found that although there are comprehensive plans within the organizations, the operational committees of disaster management in the organizations have not taken appropriate action to improve the ability to deal with crises [20].

Another challenge in providing healthcare services during the COVID-19 pandemic was intra-organizational challenges with subcategories of lack of equipment, dysfunction of functional structure, lack of medicine and vaccine, lack of resources and inconsistency of information and information. In line with the present study, a 2020 study by Keeley et al. examining the challenges of COVID-19 in New York City, USA, showed that the New York City public healthcare system rapidly expanded the capacity of 11 acute care hospitals and three new field hospitals to deal with the disease. These changes created challenges for related organizations and the hospital. These challenges were in the field of manpower, equipment and supplies, infrastructure and also in the field of coordination with other healthcare departments and planning. Addressing these challenges is critical to ensure capacity building in the field and emergency hospitals to improve the quality of service to patients during the pandemic, in addition to the provision of medical re-

sources, equipment, and supplies and coordination with other healthcare centers causing continuity in care [21]. In line with this study, de Val et al.'s study to investigate the challenges of managing medical resources in field hospitals in Birmingham during the COVID-19 era in the three areas of specialized workforce, education, and clinical pharmacy concluded that due to the conditions of crises with the biological challenges of field hospitals will be more different and maybe there is no plan for it in advance [22]. In the study by HabibiSaravi et al. in 2020, which was carried out to investigate control measures in general and reduce the patient load of hospitals in Iran, the lack of facilities and personal protective equipment required for the use of employees and restrictions on purchasing equipment from other countries due to international sanctions have been one of the challenges to achieving the desired goals. In this study, the codes of lack of sufficient facilities personal protective equipment, and cruel sanctions were among the codes that were raised by managers in the classes of intra-organizational challenges [23]. In the study by Labaf et al., which was conducted to examine the challenges and management solutions of Tehran University of Medical Sciences hospitals during the COVID-19 pandemic in 2021, the results showed that the most important challenges identified are related to the lack of preparation at the macro level, the impracticality of the use control among the personal protective equipment was the use of drugs and also the provision of equipment, drugs and medical protective equipment [24].

Another part of the challenges related to extra-organizational challenges with sub-classes was disruption of social order and unity, lack of reliable news information, change of national education program and inconsistency between organizations. These challenges were due to the conditions of the country at that time and the plans made by the selected military organization and its related services. In line with the present study, Person et al. in a study aimed at investigating organizational coordination and policy-making during the COVID-19 pandemic in Germany, found that external organizational factors include investing in reliable news information, supporting educational systems, and promoting social cohesion and health. Streamlining and increasing coordination between agencies is critical to mitigating the long-term effects of the pandemic and ensuring a coordinated and effective response to future crises [25]. Singhal et al. stated that crisis management in diseases such as COVID-19 requires fundamental and structural changes at the government level and is not limited to finding and treating people with critical conditions. [26]. In a study aimed at explaining the challenges of information services in COVID-19, Ashrafi-Rizi stated that accurate

information in time, place and audience are important factors and should have programs in this field. Among these programs, which play a very effective role in these services, was increasing health information literacy and health media literacy [27]. In the current study, changing the educational program of the country was one of the external organizational challenges. In the study by Emami Razavi et al. which was conducted in 2023 to examine the lessons learned from COVID-19 with a focus on challenges and opportunities, the challenges of re-opening schools and universities were among the things that were examined as an influential component in health and the needs of society Proposed a comprehensive plan for biological preparedness in such cases [28].

Conclusion

The results of this study showed that the health and treatment of the military organization faced important challenges in the fields of mental health, risk perception, and internal and external coordination to provide services. By recognizing the challenges of providing services and planning in these areas, it is possible to overcome the weak points of the organization to manage similar incidents.

Study limitations

Among the limitations of this study, we can point out the non-cooperation of some commanders and managers to conduct interviews and the impossibility of entering some security institutions, which is often solved by explaining the research objectives and emphasizing the principle of confidentiality.

Ethical Considerations

Compliance with ethical guidelines

This study was approved by the Ethics Committee of [Hamadan University of Medical Sciences](#) (Code: IR.UMSHA.REC.1400.783). Written and oral consent was obtained from the participants to take part in the study. In addition to informed consent, anonymity, confidentiality of information and the right to withdraw were considered during the study. The time of the interview was arranged according to the participants' wishes.

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Authors' contributions

Conceptualization and supervision: Arezou Karampourian and Hojatollah Gharaei; Data collection: Hossein Salehi; Methodology, funding acquisition and resources: Arezou Karampourian and Hossein Salehi; Data analysis, investigation and writing: All authors.

Conflict of interest

The authors declared no conflict of interest.

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References

- [1] Sohrabizadeh S, Mockel L, Yarmohammadian MH, Zare M. Editorial: Health system response to the coincidence of the COVID-19 pandemic and disasters: A call for action. *Frontiers in Public Health*. 2023; 11:1281042. [DOI:10.3389/fpubh.2023.1281042] [PMID] [PMCID]
- [2] Hui DS, I Azhar E, Madani TA, Ntoumi F, Kock R, Dar O, et al. The continuing 2019-nCoV epidemic threat of novel coronaviruses to global health-The latest 2019 novel coronavirus outbreak in Wuhan, China. *International Journal of Infectious Diseases*. 2020; 91:264-6. [DOI:10.1016/j.ijid.2020.01.009] [PMID] [PMCID]
- [3] Shadmi E, Chen Y, Dourado I, Faran-Perach I, Furler J, Hangoma P, et al. Health equity and COVID-19: Global perspectives. *International Journal for Equity in Health*. 2020; 19(1):104. [DOI:10.1186/s12939-020-01218-z] [PMID] [PMCID]
- [4] Kalkman JP. Military crisis responses to COVID-19. *Journal of Contingencies and Crisis Management*. 2021; 29(1):99-103. [DOI:10.1111/1468-5973.12328]
- [5] Shirzad H, Abbasi Farajzadeh M, Hosseini Zijoud SR, Farnoosh G. [The role of military and police forces in crisis management due to the COVID-19 outbreak in Iran and the world (Persian)]. *Journal of Police Medicine*. 2020; 9(2):63-70. [DOI:10.30505/9.2.63]
- [6] Raofi A, Takian A, Akbari Sari A, Olyaeemanesh A, Haghghi H, Aarabi M. COVID-19 pandemic and comparative health policy learning in Iran. *Archives of Iranian Medicine*. 2020; 23(4):220-34. [DOI:10.34172/aim.2020.02] [PMID]
- [7] Farazmand A, Danaeefard H. Iranian government's responses to the coronavirus pandemic (COVID-19): An empirical analysis. *International Journal of Public Administration*. 2021; 44(11-12):931-42. [DOI:10.1080/01900692.2021.1903926]
- [8] Heidari M, Jafari H. Challenges of COVID-19 vaccination in Iran: In the fourth wave of pandemic spread. *Prehospital and Disaster Medicine*. 2021; 36(5):659-60. [DOI:10.1017/S1049023X21000777] [PMID] [PMCID]
- [9] Yaghmaei F, Mohammadi S, Alavi Majd H. Developing and measuring psychometric properties of "quality of life questionnaire in infertile couples". *International Journal of Community Based Nursing & Midwifery*. 2013; 1(4):238-45. [Link]
- [10] Polit DF, Beck CT. *Essentials of nursing research: Methods, appraisal and utilization*. Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins; 2010. [Link]
- [11] Graneheim UH, Lundman B. Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. *Nurse Education Today*. 2004; 24(2):105-12. [PMID]
- [12] Nasrabadi AN, Mohammadi N, Rooddehghan Z, Shabani EA, Bakhshi F, Ghorbani A. The stakeholders' perceptions of the requirements of implementing innovative educational approaches in nursing: A qualitative content analysis study. *BMC Nursing*. 2021; 20(1):131. [DOI:10.1186/s12912-021-00647-7] [PMID] [PMCID]
- [13] Graneheim UH, Lundman B. Qualitative content analysis in nursing research: Concepts, procedures and measures to achieve trustworthiness. *Nurse Education Today*. 2004; 24(2):105-12. [DOI:10.1016/j.nedt.2003.10.001] [PMID]
- [14] Guba EG, Lincoln YS. Competing paradigms in qualitative research. *Handbook of Qualitative Research*. 1994; 2(163-194):105-17. [Link]
- [15] Amankwaa L. Creating protocols for trustworthiness in qualitative research. *Journal of Cultural Diversity*. 2016; 23(3):121-7. [Link]
- [16] Bastami M, Imani B, Koosha M. Operating room nurses' experience about patient cares for laparotomy surgeries: A phenomenological study. *Journal of Family Medicine and Primary Care*. 2022; 11(4):1282-7. [DOI:10.4103/jfmpc.jfmpc_1085_21] [PMID] [PMCID]
- [17] Stamu-O'Brien C, Carniciu S, Halvorsen E, Jafferany M. Psychological aspects of COVID-19. *Journal of Cosmetic Dermatology*. 2020; 19(9):2169-73. [DOI:10.1111/jocd.13601] [PMID]
- [18] Boiral O, Brotherton MC, Rivaud L, Guillaumie L. Organizations' management of the COVID-19 pandemic: A scoping review of business articles. *Sustainability*. 2021; 13(7):3993. [DOI:10.3390/su13073993]
- [19] Otoufi M, Sharififar ST, Pishgooie SAH, Habibi H. [Disasters characteristics; An effective factor in risk perception of healthcare middle managers in armed forces: A qualitative study (Persian)]. *Military Caring Sciences Journal*. 2019; 6(3):215-27. [DOI:10.29252/mcs.6.3.7]
- [20] Seyedin SH, Sohrabi Zadeh S, Zaboli R. Disaster response planning: An effective approach to disaster risk reduction in health & care organizations in Iran. *Quarterly Journal of Relief and Rescue*. 2011; 2(4):39-45. [Link]
- [21] Keeley C, Jimenez J, Jackson H, Boudourakis L, Salway RJ, Cineas N, et al. Staffing up for the surge: Expanding the New York city public hospital workforce during the COVID-19 Pandemic. *Health Affairs*. 2020; 39(8):1426-30. [DOI:10.1377/hlthaff.2020.00904] [PMID]

- [22] de Val J, Sohal G, Sarwar A, Ahmed H, Singh I, Coleman JJ. Investigating the challenges and opportunities for medicines management in an NHS field hospital during the COVID-19 pandemic. *European Journal of Hospital Pharmacy*. 2021; 28(1):10-5. [DOI:10.1136/ejhpharm-2020-002364] [PMID] [PMCID]
- [23] HabibiSaravi R, Saleh Tabari Y, Ghasemihamedani F. Measures to control COVID-19 epidemic in public and reduce the patient load in hospitals: A report from Iran. *Health in Emergencies and Disasters Quarterly*. 2020; 5(3):139-44. [DOI:10.32598/hdq.5.3.34.2]
- [24] Labaf A, Jalili M, Jaafari Pooyan E, Mazinani M. [Management of covid-19 crisis in Tehran university of medical sciences hospitals: Challenges and strategies (Persian)]. *Journal of School of Public Health and Institute of Public Health Research*. 2021; 18(4):355-72. [Link]
- [25] Person C, Behnke N, Jürgens T. Effects of territorial party politics on horizontal coordination among the German Länder—An analysis of the COVID-19 pandemic management in Germany. *German Politics*. 2023; 1-26. [DOI:10.1080/09644008.2023.2187782]
- [26] Singhal T. A review of coronavirus disease-2019 (COVID-19). *Indian Journal of Pediatrics*. 2020; 87(4):281-6. [DOI:10.1007/s12098-020-03263-6] [PMID] [PMCID]
- [27] Ashrafi-Rizi H, Kazempour Z. [The challenges of information services related to the COVID-19 crisis (Persian)]. *Journal of Military Medicine*. 2020; 22(2):207-9. [Link]
- [28] Emami Razavi SH, Bagheri Lankarani K, Behzadi E, Biglari A, Tara SM, Tabrizchi N, et al. [Lesson learned from the epidemic of Covid-19 in Iran: Challenges and opportunities (Persian)]. *Iranian Journal of Culture and Health Promotion*. 2023; 6(4):611-20. [Link]