Original Article

Iran's Struggling Health System in the Policy of Managing the COVID-19 Pandemic

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Abstract

Background: Infectious diseases are one of the most important problems that affect the whole world. The World Health Organization (WHO), an active health organization, has identified coronavirus disease 19 (COVID-19) as a public health emergency and advises governments not to waste time on effective measures and interventions to attack and suppress the virus. In Iran, so far, the total number of screening tests has exceeded 21 million tests and more than 5 million doses of vaccine have been injected. However, we are still far from controlling the epidemic wave. Given the current situation, it is necessary to identify the challenges of managing the new coronavirus epidemic (COVID-19) in the country's medical universities. **Methods:** This qualitative study was conducted from January 2020 to January 2021 to explore the views of a group of service providers and staff managers of medical universities who were selected via purposeful sampling (n = 47). Data were collected through semi-structured interviews and analyzed using Graneheim and Lundman's conventional content analysis methods. The trial version of MAXQDA 16 software was used to manage the coding process. **Results:** Upon analysis of data by service providers and staff managers of medical universities, five main themes including governance and leadership, service delivery, human resources, medicine and technology, and financing and 15 sub-themes including management and leadership, culture and society, process, infrastructure, manpower, training and skills, mental pressure, work pressure, nutrition, safety, employee motivation, medical equipment, medicine, payment, and funds were found. **Conclusions:** Identification of the most important challenges of service providers and staff managers can play an important role in improving the management of the new coronavirus epidemic (COVID-19). It seems that in order to solve some of these challenges, coordination is needed outside the field of health, and considering the formation of the National Corona Headquarters at the national level, it is possible to use this infrastructure to provide the necessary policies and strategies.

Keywords: *Health system, Iran, management, policy, service provider, staff manager*

Introduction

Infectious diseases are one of the most important problems that affect the whole world.[1] Infectious diseases make up more than 120,000 hospitalizations per year in the public sector system. The challenges of infectious diseases are much more complex today.[1,2] Coronaviruses are a large family of viruses that cause diseases ranging from the common cold to more severe illnesses such as Middle East respiratory syndrome (MERS-CoV) and acute respiratory syndrome (SARS-CoV).[1,2] Coronaviruses are relatively old viruses that were first identified in 1930 as the infectious bronchitis viruses in birds and in 1940 as the causative agent of gastroenteritis in pigs.[3] These viruses are morphologically similar to the corona solar because of their superficial growths, and for this reason, they were named corona- viruses.[4] These viruses infect many animals, including pigs, birds, dogs, cows, cats, and humans and cause gastroenteritis and respiratory diseases in these hosts.[5,6] Coronaviruses are generally divided into three groups. Groups 1 and 3 are mostly animal viruses, and human viruses such as MERS and SARS are in group 2. In December 2019, in Wuhan, China, a virus originated from the aquatic market and caused its severe contamination and spread in the Chinese society and then in the world. This disease, called coronavirus disease 19 (COVID-19), was caused by a virus called cov-19 or ncov-2019, which may have a bat origin.[7] Although the origin of this virus is not completely known, its

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genetic similarity with the SARS virus is 79% and with the MERS virus is 55%, but it is about 95% similar to the bat virus. Coronaviruses are in the form of microscopic particles 100 to 150 nanometers in diameter.[2,8] Inside the virus, the genome, which is a positive single-stranded ribonucleic acid (RNA), is the largest RNA gene in viruses. RNA is positive because it can be infectious on its own. As of June 10, 2021, 175,341,392 diagnosed and 3,780,433 diagnosed from Covid-19 disease have been reported.[9] The median incubation period of COVID-19 is 3–5 days from the time the virus enters until it can transmit it to another person.[10] The average number of basic and effective generators is 2–3 people and less than 3, respectively. People change drastically with the government and the health system, which is controlled by an epidemic when it reaches below 1.[10,11] The infectivity period of this virus is 10–14 days after the onset of symptoms. The interval between two people is 5–7 days, and the hospitalization rate is 18–20%.[6,8] Among those admitted, the death rate is between 7%-10%. Also, the average time from the onset of symptoms to shortness of breath and severe respiratory distress that requires special care is between 6 and 7 days and 7-8 days, respectively. Finally, the average time from the onset of symptoms to death is 10–12 days after the onset of symptoms.[2,12] The virus is transmitted by both direct transmissions to smaller particles and indirect transmission to larger particles. As a result, if a person becomes infected with COVID-19, they can transmit it after about 5 days, and this period of transmission can last up to 10 days. However, it can be transmitted to others in a few days without any symptoms.[1,10] In Iran so far, 3,003,112 sick people and 81,672 deaths have been confirmed based on official reports. As shown in Figure 1, the number of daily death in the world has risen again.[9]

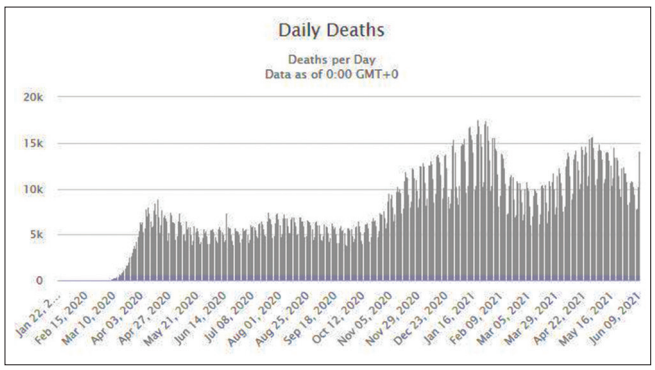

Figure 1: Death per day from January 2020 to January 2021

The World Health Organization (WHO), an active health organization, has identified COVID-19 as a public health emergency and advises governments not to waste time on effective measures and interventions to attack and suppress the virus. In Iran, so far, the total number of screening tests has exceeded 21 million and more than 5 million doses of vaccine have been injected. However, given the above, we are still far from controlling the epidemic wave. Given the current situation, it is necessary to identify the challenges of managing the new coronavirus epidemic (COVID-19) in the country's medical universities.

Methods

Overview

This research used a qualitative research design, wherein semi-structured interviews were employed to gather contextually rich data from interviewees. Volunteer interviewees were recruited through health care providers in the field of inpatient, outpatient, pre-hospital emergency, and Headquarter manager and via purposeful sampling by explicitly asking interviewees if any of their friends or colleagues came to mind for participation in the study. Researchers adhered to methodological guidelines by Braun and Clarke[13] throughout the collection of qualitative data and thematic analysis of interview transcripts. Ethical approval was obtained from the Iran University of Medical Sciences, Management and Economics Research Center (99-2-48-18102).

Participants

The researchers conducted semi-structured interviews with a total of 47 participants from service providers and headquarters managers in Iranian universities of medical sciences. A total of 24 males and 23 females were interviewed, ranging from 25 to 48 years of age, with 1-25 years' experience with their organization. Among the 47 participants in the study, eight physicians, six headquarter manager, nine nurses, six paracilinic personnel, six outpatient personnel, five administrative staff of health centers, four logistic staff and four pre-hospital emergency personnel were present. All interviewees were selected from those who are currently serving patients with COVID-19 or have executive responsibilities in this area. Participants had the choice to be interviewed either in person or over the phone.

Interview schedule and procedure

A semi-structured interview guide consisting of 10 questions was used to obtain qualitative, contextually rich data from interviewees. The guide was developed through professors specializing in disease management with prior experience in studies on the topic. To better assess the various factors surrounding the issue, this questionnaire examines Four main areas include; The challenges of Diagnostic services to patients (paraclinic), the challenges of service providers in the field of inpatient services, the challenges of service providers in the field of outpatient services (clinics) and the challenges of service providers in the field of pre-hospital emergency.

In this regard, questions such as "In your opinion, what are the most important challenges and shortcomings for health care providers in the field of inpatient services? Please explain about each" and "What are the challenges you face in the field of outpatient services? Please Explain about each " were asked.

It has previously been suggested that data saturation can occur within a minimum of 12 interviews,[14] but that heterogeneity among the sample can influence this number. Given this, 20 interviews were conducted over the phone, and 27 were conducted face to face. After obtaining informed consent either digitally or in person, researchers asked volunteers questions from the semi-structured interview guide, utilizing prompts and additional questions to explore points of personal relevance and interest to each interviewee.

With consent to participate given orally, interviews were recorded by the interviewer and later transcribed verbatim in preparation for analysis. Interviews ran for approximately 35–45 minutes each. Any names or other identifying information was redacted from transcripts throughout the transcription process, and pseudonyms have been used throughout.

Data analysis

Volunteer interviews were thematically analyzed by researchers using an inductive thematic analysis approach, following the six guidelines proposed by Braun and Clarke.[13] An inductive thematic analysis is where the analysis is grounded in the data rather than from existing theories. Each transcript was approached with a preliminary read-through for researcher familiarization with the data by two researchers. Both researchers then interpreted analytic codes, line by line, from the transcribed interviews. These codes were further refined into latent codes and then into themes and sub-themes to better capture the underlying ideas of each data set. This process was repeated for each transcript until no further themes could be interpreted from the data, and thematic saturation was reached.[14] Throughout analysis, researchers conducted some coding independently and some in collaborative meetings in the interest of researcher triangulation. If disagreements arose during the process of theme identification, they were resolved through collaborative discussion between researchers. Once consensus had been reached regarding the identification and segmentation of themes, themes were collaboratively named and defined and further reviewed by the rest of the team. Themes were sent to other team members for review and feedback. This was done to strengthen dependability by ensuring no radical interpretations and to reduce potential researcher bias. Relevant quotes were selected from a diverse range of the analyzed transcripts to add further depth to the themes interpreted from the data.

Quality procedures

To ensure quality and rigor in the current study as well as to allow triangulation, a team of researchers divided the transcripts for analysis and met multiple times throughout this process. The engagement in such confirmability processes aimed to reduce any subjectivity or bias in the researcher's interpretations and analysis of the data, increasing trustworthiness. To increase dependability, the researchers involved in data collection participated in reflexive technique, after each interview, to reflect on their own social position and how potential personal biases may influence the research process.[15] Additionally, the researchers involved in data analysis journeyed any broader ideas or concepts which appeared pertinent in relation to underlying themes throughout the data.

Results

Demographic of participants

The participants included 47 service providers and staff managers of medical universities with a mean age of 36.5 ± 4.8 years, ranging from 25 to 48 years. The mean duration of work experience was 8.5 ± 3.4 years, and all the participants had more than 1 years of experience.

Main Results

A total of 15 sub-categories were obtained based on data analysis. After several reviewing and summarizing and based on similarities and differences, five main contributing categories were eventually formed through the content analysis method including 1) governance and leadership, 2) service delivery, 3) human resources, 4) medicine and technology, and 5) financing, which are also displayed in Table 1. These five major categories were in turn classified into several sub-categories, extracted by means of analyzing hand-written notes and interviews. The categories and corresponding sub-categories are described in the following sections.

Governance and leadership

Regarding the achievement of this goal, all interviewees stated that during the outbreak of COVID-19, there was a lack of principled management in hospitals, a lack of emphasis on scientific management, taste-based

Table 1: Categories and sub-categories of the

Theme	Subtheme	Example
Governance and leadership	Management and leadership	Lack of principled management in hospitals
		Lack of emphasis on scientific management
		Try and error intervention of managers
		Non-expert intervention of parallel institutions
		Wrong policies of the Ministry of Health for the forced employment of medical staff
		Wrong policy for compulsory and early recall of those involved in the medical system
		Lack of proper management in equipment distribution
		Lack of readiness of the Ministry of Health in organizing doctors and specialists
		Lack of coordination in the distribution of specialized physicians
	Culture and society	Gender Pretending Corona
Service delivery	Process	Confusion of personnel in providing services
		Inter-sector parallelism in service delivery
		Lack of accurate, scientific and coordinated process in the process of examining inpatients and outpatients
		Lack of understanding of support and treatment staff for the type of services they provide
		Failure of the services to observe the necessary training in the field of safe disposal of medical waste of suspicious patients
		Lack of fair distribution of personal protective equipment
		Rising food waste due to fear of corona
		Lack of attention to expert advice
		Lack of formulated clinical guidelines
		Existence of appointment hours
		Existence of parallel instructions from upstream authorities
		Lack of support from law enforcement, military and the Red Crescent
		Disinfect wards with Vitex
		Improper triage of patients
		Uncertainty of the detection protocol
		Lack of proper treatment protocol
	Infrastructure	Lack of separation between care departments for covid-19 patients and other patients
		Impossibility of free use of the center's facilities by the personnel in case of suspicion of illness
		Lack of diagnostic and therapeutic facilities
		There was not enough bed in the ward
		Lack of proper ventilation
		Lack of morgue capacity
		Impact of sanctions on medical devices
		Infection of healthy people due to the fact that some cities are single hospitals
		Difficulty providing care to patients with covid-19 disease
		Lack of standard isolated rooms in the wards
Human resources	Manpower	Severe shortage of specialist doctors
		Lack of manpower
		Lack of anesthesia and infectious disease specialists in some hospitals and cities
		Infection of service and support personnel with covid-19 and compulsion to attend hospital
		Visit of patients with covid-19, healthy and suspected by a physician due to lack of physician
		Lack of staff in CSR and laundry departments
		Lack of infectious disease specialist at the beginning of the crisis
		Lack of fixed service staff in radiology

Contd...

Table 1: Contd...

Theme	Subtheme	Example
	Training and skills	Lack of attention to health tips
		Lack of adequate literacy in some hospital staff in observing health principles
		Lack of skills in working with equipment
		Lack of correct knowledge against covid-19
		Improper use of personal protective equipment by personnel
		Belief that the disease does not affect the treatment staff
		Lack of proper training to service personnel
		Misdiagnosis of the disease
		Lack of necessary and sufficient preparation
		Weakness of the teaching staff
	Mental pressure	Fear of disease and getting involved with it
		mental pressure
		Physical weakness and malnutrition due to fear of eating in the hospital
	Work pressure	Support and treatment personnel lack of understanding of the type of services they provide.
		Having grueling shifts
		Burnout
		Increasing the workload of nurses
		Not overloading personnel with high work experience
	Nutrition	Preparation of disposable dishes for meals by the personnel themselves
		Malnutrition and weakness of personnel due to not receiving supplements
	safety	Failure to continuously disinfect the environment and putting the safety of people and employees at risk
		Non-observance of safety tips regarding the case of corona patients
		Direct contact with contaminated admission papers
	Employee motivation	Lack of proper forecasting to improve the morale of employees
		Lack of motivation of a group of providers
		Lack of specific support from the upper authorities
		Lack of moral support from personnel
Medicine and technology	Medical equipment and supplies	Lack of personal protective equipment
		Lack of necessary sanitary supplies for employees
		Lack of flowmeter to the number of beds
		Low pressure oxygen device
		Lack of portable diagnostic equipment
		Failure to provide disinfection tools by the Deputy Minister of Health
		Waste of time due to lack of equipment
		Lack of special devices in some cities
	medicine	shortage of medicine
Financing	payment	There is discrimination in payment between doctors and other staff
		Outsourcing employees are not covered by increased payments
		Irregular and late payment
	Funds	Increase the cost of disposable items

intervention, unprofessional intervention of parallel institutions, wrong policies of the Ministry of Health for compulsory employment of medical staff, wrong policies for compulsory and premature recall of those involved in the medical system, a lack of proper management in the distribution of equipment, unpreparedness of the Ministry of Health in organizing physicians and specialists, and a lack of coordination in the distribution of specialized physicians in patient reference centers in medical universities. It has been one of the factors that caused failure and dissatisfaction in providing services to patients with COVID-19.

Management and leadership

"One of the challenges is the lack of proper management in hospitals and the late screening of sick people and the lack of necessary hygiene items for staff. The result is contamination of medical staff, which in turn has led to a shortage of staff for treatment. It has also transmitted the disease to others in the hospital setting."

"One of the challenges that can be named is the lack of proper management and delay in selecting specific clinics

to provide services to sick and suspected patients. As a result, other healthy people are exposed to infected people and the chain of infection increases, and the next case is the lack of proper information for people in the community and encouragement to go to the centers faster and timely diagnosis."

Culture and society

"Recently, senior managers of the university and city do not have any personal protective equipment when taking promotional photos with hospital staff, but women do so with the maximum protective equipment available!"

Service delivery

Regarding the achievement of this goal, the interviewees stated that during the outbreak of Covid-19 disease, there were staff confusion in providing services, parallelism between departments in providing services, a lack of accurate and scientific and coordinated processes in the process of reviewing inpatients and outpatients, a lack of understanding of support staff and the type of services they provide, failure to provide the necessary training in the field of medical waste disposal of suspicious patients, a lack of fair distribution of personal protective equipment, high levels of food waste because of fear of corona, a lack of attention to expert advice, a lack of codified clinical guidelines, meeting hours, sending parallel instructions to higher authorities, a lack of support from law enforcement and military forces and the Red Crescent, disinfection of the ward with Vitex, inadequate triage of patients, an unclear identification protocol, and a lack of a proper treatment protocol. It has been one of the factors that have caused failure and dissatisfaction in providing services to patients with Covid-19 in order to provide services to patients with COVID-19.

Process

"The lack of knowledge of the virus on the other hand and the lack of practical crisis management programs in the centers and even the Ministry of Health and the Ministry of Interior have caused possible actions to not be taken in a timely and consistent manner. Just as the action and spread of the virus is chain-like and continuous, the way to deal with and defeat this disease will certainly be chain-like and continuous. Island actions and actions by various centers, provinces, ministries, and institutions have caused the chain to be broken and inefficient, and despite their selfless efforts, they seem to lack the necessary effectiveness."

Infrastructure

"The lack of a lot of equipment, which was much more severe in the early days of the disease, is still present with less severity. Our hospitals have a shortage of intensive care unit beds. Service staff have little information and sometimes put themselves and others at risk."

Human resources

According to the findings, most of the challenges were among the interviewees in this area. Interviewees stated that at the time of the outbreak of Covid-19 disease, severe shortage of specialist physicians, shortage of manpower, a lack of anesthesia and infectious disease specialists in some hospitals and cities, infection of service personnel and support for Covid-19 disease and forced hospitalization, Covid-19 patients visits in the healthy and suspicious by a doctor because of a lack of doctors, a lack of staff in the Corporate Social Responsibility (CSR) and laundry departments, a lack of an infectious disease specialist at the beginning of the crisis and a lack of permanent staff in the radiology department, a lack of attention to health tips, a lack of adequate literacy in some hospital staff hygiene, a lack of skills in working with equipment, Lack of correct knowledge against the coronavirus, a lack of proper use of personal protective equipment by personnel, etc., have been among the factors that cause failure and dissatisfaction in providing services to patients.

Manpower

Due to the severe shortage of specialist doctors in the country, doctors must visit patients with covid-19 and other patients at the same time in one work shift.

Training and skills

"Neither the doctor nor the nurse (the entire treatment staff) was prepared to deal with the disease. In fact, our specialized team does not have the necessary knowledge and ability. That is, neither of them understood the readiness and severity of the disease and they are not aware of it."

Mental pressure

"One of the most important challenges for providers is the fear and anxiety of contracting the disease and transmitting it to their families and the bruising of personal protective equipment and the poor condition of inpatient rooms in terms of the high-efficiency particulate air system and the isolation of patients."

Work pressure

"Because of the fact that the course of this disease is not known and it has been almost a month and a half since its prevalence and extent, the lack of medical staff from doctors to simple service personnel has caused physical and mental fatigue, which is because of the illness of staff, and leaving them out of the treatment group for at least 2 or 3 weeks causes the other staff's shifts to be tight, and the distance from the family is reduced in the long run as a result of the service."

Nutrition

"Due to the arduous shifts and the need to follow the food menu announced by the university, the staff does not get enough nutritional supplements, and this has led to malnutrition and staff weakness."

Safety

"The Deputy Minister of Health does not provide the environmental health expert with tools related to disinfection, and this has prevented the disinfection of suspicious environments."

Medicine and technology

Regarding the achievement of this goal, the interviewees stated that during the outbreak of COVID-19, a lack of personal protective equipment, a lack of necessary sanitary equipment for employees, a lack of special devices in some cities, wasted time because of a lack of equipment, Failure to provide disinfection tools by the health department, a lack of diagnostic portable equipment, a low oxygen pressure, a lack of a flowmeter in the number of beds, and finally a lack of medication are among the factors that cause failure and dissatisfaction in providing services to patients with COVID-19.

Medical equipment and supplies

"Another problem is the lack of diagnostic resources, such as computed tomography (CT) scans. Hospitals do not have a separate CT scan and radiology device to perform diagnostic tests on Covid-19 patients. Suspected patients were detected late in the first weeks and the transmission chain overtook."

Medicine

"A lack of diagnostic kits, a lack of diagnostic facilities in other cities and small provinces that can lead to lower rates of covid-19 diagnosis, a lack of medicine because of sanctions, Lack of proper disinfection methods, Presenting wrong statistics in the national media (in many cities and regions, even in the capital, we see that none of the streets are disinfected).""

Financing

Regarding the achievement of this goal, the interviewees stated that at the time of the outbreak of COVID-19, there was discrimination in payment between doctors and other staff and irregular and late payment, and outsourcing staff were not covered by increased payments and an increased cost of disposable items, including the factors that have caused failure and dissatisfaction in providing services to patients with COVID-19.

Payment

"The most important challenge for nursing, in addition to the lack of personal protective equipment, is motivational issues, including nurses' livelihood problems, discrimination in payments (compared to similar organizations such as social security, other organizations, and other countries), and irregular and late payments."

Funds

"One of the problems we face is the over-use of disposable tableware for fear of getting sick."

Discussion

This article was the first qualitative study on management challenges during the epidemic in Iran, which was conducted using qualitative content analysis. The aim of this study was to evaluate the implementation challenges from the perspective of service providers during the outbreak of COVID-19.

According to the study findings, the five main themes include leadership, service delivery, human resources, medicine and technology, and financing, and the 15 sub-themes include management and Governance and leadership, culture and society, process, infrastructure, manpower, training and skills, mental pressure, work pressure, nutrition, safety, employee motivation, medical equipment and supplies, medicine, payment, and funding.

The results of the present study indicate the fact that the lack of emphasis on scientific management is one of the challenges under management and leadership. Abdi *et al*. (2021)[16] also considered a wide range of special managerial competencies necessary for health care leaders with the prevalence of Covid-19 disease. Sengupta *et al*. (2021)[17] in a study of the challenges facing health care providers during the corona outbreak concluded that identifying trained personnel, ensuring equitable staffing, and working on the motivation and morale of caregiver health care are essential to improve the health care system. In practice, however, there is a gap that is often seen as managerial incompetence and inefficiency. In the present study, this issue is seen as the lack of principled management in hospitals, taste-based intervention of managers, and a lack of coordination in the distribution of physicians.

One of the challenges posed by the participants in providing services was the lack of written clinical guidelines and the sending of parallel instructions to higher authorities. Findings from the study by Sengupta *et al*. (2021)[17] also show that the knowledge, judgment, and decision of health care professionals have been challenged because of limited guidelines in the COVID-19 epidemic. This is because there is no standard protocol or previous literature on this type of COVID-19-specific pandemic.

Among the problems mentioned by the participants under the topic of providing services and under the topic of "infrastructure" were the lack of diagnostic treatment facilities, the lack of adequate beds in the ward, and the lack of standard isolation rooms in the wards. A similar study by Begun and Jiang (2020) also showed that the first key challenge in the hospital, with the corona outbreak, is the lack of sufficient capacity to handle the growing patient volume. In many places, the need for intensive care unit (ICU) beds and ventilators as well as staff is far beyond capacity. For example, the number of ICU patients treated in New York City health hospitals was more than 3 times the capacity of the ICU.[18]

The findings of the present study show that "fear of COVID-19 and involvement with it" is one of the challenges facing human resource nurses. Davoodi and Heidari (2021) also pointed out in their study that COVID-19 puts a lot of pressure on nurses because for patients with underlying diseases, COVID infection progresses faster than usual. Nurses are constantly concerned about their inability to treat patients, their own safety and that of their colleagues, and their potential risk to their health.[19]

Another study that is consistent with the results of the present study is the study of Rahman Razu (2021) which states that excessive work pressure causes mental distress, insomnia, physical weakness, and also fear of infection by health care professionals.[20] Sperling (2021) also noted nurses- ' concerns about possible contamination and a lack of personal protective measures in their findings and noted nurses' fears of contracting the virus or infecting others (family, friends).[21]

Another challenge in the field of human resources was "stress". In a study conducted by Davoodi and Heydari (2021), it was stated that nurses have received more attention in this crisis because they play a wide range of roles at the same time: performing a variety of roles, screening, caring for critically ill patients, deciding on triage protocols, contacting families, and informing them of a loved one's death. This condition can cause harm to the nurse. As a result, they feel powerless to regulate and resist stress.[19] The results of Kang (2018) study also revealed that the prevalence of infectious diseases causes a significant level of anxiety and fear among nurses and causes psychological damage to health care professionals.[22]

The issue of "manpower shortage" was another challenge mentioned by the participants. Labaf *et al*.[23] (2020) also emphasized the challenge in their study by expressing the shortage of specialized manpower. In this regard, Garosi *et al*.[24] Also mentioned the lack of specialized and experienced nurses, an unconventional work schedule, involuntary transfer of power between departments, insufficient support of the organization, and insufficient specific training of the coronavirus as important problems of nurses in this period. "Poor training of medical staff" is also an important challenge, and neglecting this issue leads to insufficient knowledge and hinders their ability to work safely. Similar studies such as Sun (2020), Yin (2020), and Rathnayake (2021) report the importance of nursing education during the corona epidemic. A lack of awareness is one of the main causes of insecurity, and providing training in prevention and control of COVID-19 can also reduce the psychological burden and insecurity of nurses.[25-27] On the subject of medicine and technology, the interviewees believed that we were facing a shortage of personal protective equipment. The findings of the Razu study (2021) show that incentives such as financial support, continuous monitoring, adequate protective equipment, and adequate manpower can encourage health workers to be more involved in epidemic conditions.[20]

Regarding the issue of financing, Radfer *et al*. (2021)[28] in their research raised the issue of nurses as victims of organizational bias and considered the permanent financial problems and inequality in regulations in this area, which is consistent with the results of the present study regarding the existence of pay discrimination between physicians and other staff and their irregular pay.

Conclusions

Identifying the most important challenges of health care providers at the level of inpatient services and outpatient services in comprehensive health centers and clinics and finally in the field of pre-hospital services on one hand and the challenges of service recipients on the other hand can play a significant role in upgrading the management of the new coronavirus (COVID-19). The findings of the present study include the most important challenges of Covid-19 patients admitted to the country's hospitals from the perspective of university staff managers and professional staff of the health department in the hospital, including staff of clinical wards and diagnostic units. Obviously, the analysis of the challenges extracted by the stakeholders at the city, province, and country levels can lead to the provision of effective solutions to address these challenges and improve the epidemic management process in the country. As mentioned in the challenge category, it seems that some of these challenges require coordination outside of health.

Because of the formation of the National Corona Headquarters at the national level, it is possible to use this infrastructure to provide the necessary policies and strategies for this purpose.

Declaration of patient consent

In this study, all interviewees have participated in the study with informed consent.

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Conflicts of interest

There are no conflicts of interest.

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