



Challenges and Problems of Hospitals During the Coronavirus Pandemic: A Qualitative Study

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Abstract

Introduction: With emergence of the Covid-19 pandemic, hospitals, as the core organizational structure of the healthcare sector providing services to the patients affected by the virus, were confronted with several issues. The aim of this study was to investigate the challenges and problems of hospitals during the corona virus pandemic.

Methods: This is a qualitative phenomenological study using a content analysis approach by encoding the data retrieved from 41 hospitals in Fars province, Iran.

Results: The content analysis of the data yielded 4 themes, 15 subthemes, and 1140 codes. Factors like lack of managerial knowledge, lack of medical knowledge, impairment in hospital information system (HIS), and lack of resources were shown as the major contributors leading to inefficiency and ineffectiveness in hospitals during the pandemic.

Conclusion: This research highlighted the issue of 'lack of managerial knowledge' among the healthcare staff as the most prominent weakness of hospitals when faced with the pandemic, which urgently needs to be addressed by scholars and managers in the scope of study to enhance the theoretical and practical framework in knowledge of management within the employees.

Keywords: COVID-19, Pandemics, Hospital planning, Hospital costs, Hospital administration

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Introduction

Coronavirus reportedly appeared in the Chinese city of Wuhan at the end of December 2019; in March 2020, WHO declared it a pandemic (1). Since then, it has affected all sectors in countries, especially the healthcare sector which has a prominent role to confront the crisis (2-5). The statistics show that the corona pandemic has caused a significant reduction in the global health indicators; as an example, the impact of COVID-19 on US life expectancy by 2020 is about 1.2 years and has reduced the life expectancy at the age of 65 years by 0.87 years (6). There have been numerous issues emerging in the healthcare system reported by officials and scholars since the start of the pandemic; they include healthcare staff burnout, and lack of funds to finance the services needed to solve the problems in delivering efficient quality services to patients admitted to hospitals (7-17). Due to the need of these patients to services, many activities of other hospitals have been limited, repurposed, or even suspended; as such, they operate with reduced

capacity. Non-critical medical services and elective surgeries have been generally postponed (18). In Iran, the corona pandemic adversely affected the healthcare system and led to several issues including lack of resources in response to the huge stream of patients visiting hospitals (19, 20). Even though there is a good amount of literature regarding the issue of probing the problems in the healthcare system in the past (21-28), there is an urgent need to probe such problems during the corona pandemic due to a lack of experience in healthcare systems and their managers in delivering the needed services in the event of such crisis. An understanding which can give the managers vast amount of knowledge about their strengths and weaknesses provides them with a clear vision of what they will be exposed to in their near future. By considering such context, this paper investigated the problems and issues hospitals confronted during the pandemic by conducting a content analysis on the details and sheets acquired through the accreditation process of hospitals in Fars province in Iran from 2020 to 2021.

Materials and Methods

This research used a qualitative phenomenological approach to probe the given data using an accessible sampling method to reach the desired sample due to the vastness and complexity of the population. The sample of the study contained 41 hospitals residing in different parts of Fars province in the Islamic Republic of Iran. The data were obtained through the accreditation program of hospitals in Iran. Since the accreditation process took place on an annual basis and hospitals were obliged to send their reports to the related university in each province (Shiraz University of Medical Sciences (SUMS) in this case) each year, the authors were able to reach such information in detail through contacting the university (SUMS). Having appropriate reachable data on the topic of the study and being a hospital under the supervision of SUMS were regarded as the inclusion criteria during the sampling process. All the sampling and the data extraction process were done by adherence to the common ethical norms in research studies. We obtained permission from the corresponding office where the data was extracted, and confidentiality of the people's information and organizations mentioned in the data was considered. A qualitative summative content analysis methodology was used to examine the data provided by the hospitals during the accreditation process. The authors used MAXQDA-10 software for conducting a content analysis on the data obtained from the hospitals. During the process, a deductive method of investigation of the content alongside Graneheim and Lundman's approach to content analysis was applied (29), an approach that focuses on analyzing both the explicit or manifest content of a text as well as interpretations of the 'latent content' of texts. In the explicit analysis, the focus is on analyzing the data which explicitly refer to the problems and issues of hospitals during the pandemic (29). As to trustworthiness as one of the core principles of content validity and reliability in qualitative studies, this paper used Lincoln and Guba's approach toward trustworthiness for qualitative studies in which items like validity, transferability, dependability, and confirmability are ensured by the researchers (30). In this analysis, the extracted data was reread multiple times by the authors. After reading the data several times, the we entered the sentences into a Microsoft office file, so that we were able to get into the MAXQDA 10 software to determine the themes and sub-themes. it is worth mentioning that such process continued till we reached the needed framework of content. After the analysis of latent content which is related

to the data referring to topics and contexts similar to the core topic (hospital's problems and issues during the pandemic), through a repetitive scanning of the texts, the meaningful units were found, encoded, and edited multiple times by several authors; then, the final codes were obtained. In the next phase, just like what was done in the analysis of the explicit content in the MAXQDA 10 software, the themes and sub-themes were determined till we achieved the desired content framework. The reliability of this phase of the research was achieved through repetitive monitoring by the authors, and validity was determined by examining the relationship level of the extracted data to the research's questions and goal. We specifically looked at words, sentences, and language styles by using the following pre-defined areas with flexibility to add more predefined areas throughout the coding process:

- A) Any descriptions connoting the hospital's problems and challenges during the pandemic
- B) Areas that have led to inefficiency in hospitals during the pandemic
- C) Any description of how impairment in each section of hospitals has led to their inefficiency during the pandemic.

Results

The research yielded 41 potentially usable reports from hospitals in the sample. After doing the content analysis on the data gathered from the sample of hospitals, the authors retrieved 1140 codes, 15 subthemes, and 4 themes from the data regarding the issues and problems they confronted during the 2021 year coincided with the pandemic. A detailed view of the themes and subthemes is displayed in Table 1.

Theme 1: Lack of Resources

Covering over 151 cited codes, this theme included subthemes such as 'financial issues', 'lack of physical space', and 'lack of equipment'. Among them, the subthemes of 'financial issues' and 'lack of physical space' had the highest frequency in the data retrieved from hospitals. In the content analysis, the issue of lack of resources mainly referred to the decreasing number and quality of equipment in the hospitals due to the increasing burden of service delivery to a larger population, a phenomenon which has been clearly mentioned in the literature by a number of scholars (20, 28).

"There is a need for new equipment, i.e., oxygen capsules"(hospitals 3 & 9)

"The computer systems are weak, leading to a prolonged data inscription" (hospital 39)

Table 1: List of themes and subthemes extracted from the codes

Themes	Subthemes
Lack of resources	Financial issues Lack of physical space Lack of equipment
Lack of managerial knowledge	Impairment in the staffing process Lack of cooperation Inability to respond to high workload Improper analysis of the stock Irresponsibility toward duties Lack of control
Lack of medical knowledge	Unqualified physicians Delay in acting upon guidelines Incorrect diagnosis Impaired reference system
Impairment in hospital information system (HIS)	Impairment in the admission process Incomplete patient sheets

Theme 2: Lack of Managerial Knowledge

Asserting itself as the theme with the highest number of cited codes in hospitals (546 times), 'lack of managerial knowledge' declared itself as the most prominent issue hospitals confronted with during the pandemic; this urgently needs to be addressed. The subtheme of 'irresponsibility toward duties', was shown to be the most frequent issue reported by the hospitals (reported by 87.5 percent of hospitals) regarding the issue of managerial knowledge. The issue of lack of managerial knowledge mainly refers to the educational background and knowledge of management among healthcare personnel in hospitals on the issue of service delivery during the pandemic under critical and emergency situations.

"The personnel don't come to do their work and duties on time" (hospital 6)

"The archived documents get lost and cannot be found easily" (hospital 3)

Theme 3: Lack of Medical Knowledge

Lack of medical knowledge refers to the educational background and knowledge of medicine and medical services among healthcare staff of hospitals during the pandemic. As the second theme with the highest cited codes (291 times), 'lack of medical knowledge' included 4 subthemes such as 'delay in acting upon guidelines', 'unqualified physicians', 'impaired reference system', and 'incorrect diagnosis' in which 'delay in acting upon guidelines' showed to be the most frequent problem hospitals are faced with (87.5% of hospitals).

"Patients have an unnecessarily prolonged length of stay in hospital" (hospitals 2, 3,5,7,25).

Theme 4: Impairment in Hospital Information System (HIS)

Impairment in hospital information system (HIS) mainly refers to the inefficiency and paralysis in the process of entering, saving, and citing of patient's personal and medical information during the period of service delivery. Cited over 152 times in the reports, this theme included subthemes such as 'incomplete patient's sheets' and 'impairment in the admission process' in which the subtheme of 'incomplete patient's sheets' showed to be the more frequent dilemma hospitals were confronted with during the pandemic (85.3 percent of hospitals) in comparison to 'impairment in admission process' (50% of hospitals).

"There is a huge volume of unfinished patient's sheets in sections" (hospitals 19, 26)

Discussion

This study was conducted to probe the problems hospitals confront with during the pandemic by conducting a content analysis on the data retrieved through the annual accreditation program of hospitals under the supervision of each medical university in Iran. Throughout the literature, a study was conducted with a similar objective with a different approach and declared the factors related to the resources, management, patient characteristics and organization as the most prominent issues the Iranian healthcare system is confronted with during the pandemic (31). In this regard, our findings revealed that 'lack of managerial knowledge' in hospitals is their major weakness in their confrontation with the challenges they deal with during the pandemic. Such problems can result from several factors like

appointing medical staff in charge of managerial positions without any supplementary education in healthcare management and economics which can be seen routinely in Iranian healthcare centers, lack of academic education in management and economics in hospitals and healthcare managers, and more importantly, the existing conflict of interest between the medical staff, especially physicians who are mostly in high ranking policy-making positions in Iranian ministry of health and medical education (MoHME) and paramedical staff specifically those educated in healthcare management and economics in the Iranian healthcare system (32). In the same line with what this paper has addressed regarding the lack of resources as a major challenge with which hospitals are confronted during the pandemic, a study reported that supplying protective equipment was a serious challenge for the people and health workers in the early stages of the pandemic. The consumption of medical equipment needed to control infection such as medical masks, N95 masks, hand disinfectants, etc. significantly increases in pandemic situations (33). Furthermore, it should be mentioned that, similar to other findings, this paper revealed such factors as 'irresponsibility toward duties' and 'impairment in the staffing process' as the major contributors leading to inefficiency and ineffectiveness in hospitals during the pandemic (34-38), something which is correlated with the unprecedented rise in healthcare costs with the advent of the pandemic crisis and high level of staff burnout due to the high workload (39-42). Meanwhile, factors like 'delay in acting upon the guidelines' and 'incomplete patient's sheets' had a high amount of share in the organizational dilemmas during the crisis (43-45); this is a phenomenon that unarguably refers to the existing lack of proper monitoring and an efficient health information system in Iranian hospitals in response to the high workload driven by the corona pandemic (19). In this regard, a study has reported that there should be more concentration on the inter-organizational processes and coordination to provide better services and achieve the system goals (46).

As mentioned earlier, this study was done by using the data obtained through accreditation process of hospitals under the supervision of Shiraz University of Medical Sciences in Fars province, Iran. Therefore, there is a need for consideration of the socioeconomic political status of the province by scholars and managers who dare to use the findings of the current study. The most prominent limitation of the current study was the limitation of the sample size used by the researchers. Private hospitals were eliminated

from the analysis due to the inability to access their documents and reports; it is recommended that future studies consider these factors.

Conclusion

With the advent of the corona pandemic, all sectors of the states all over the world have been hugely affected by the crisis, and the healthcare sector, especially, the hospitals with the fundamental role of providing healthcare services to the citizens appeared to be in a huge dilemma. This study was an attempt to investigate the problems hospitals were faced with during the pandemic and revealed that 'lack of managerial knowledge' among healthcare staff was the most prominent weakness of hospitals in face with the pandemic which urgently needs to be addressed by scholars and managers in the scope of study.

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Authors' Contributions

MKH conducted the content analysis and provided the manuscript, NSN provided the data and supervised the writing of the manuscript, EG and FR provided the data and cooperated at some parts of the content analysis

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Ethics Approval and Consent to Participate

All the data used in the manuscript was retrieved totally by the permission of the corresponding department in SUMS.

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Appendix 1: Hospitals and their connotations used in the text

Hospital	Number
Zarqan	1
Abadeh	2
Ali Asghar	3
Arsanjan	4
Ashkenan	5
Bayza	6
Bavanat	7
Chamran	8
Darab	9
Dastgheib	10
Ibn sina	11
Oghlid	12
Istahban	1
Faghihi	14
Farashband	15
Firooz abad	16
Ghaemiah	17
Ghalb alzahra	18
Ghir va karzin	19
Hafiz	20
Hazrat Zainab	21
Kevar	22
Kazeroon	23
Khalili	24
Kharamah	25
Kisht kinartakhteh	26
Khuram bid	27
Lamerd	28
Mamasni	29
Marvdasht	30
Mehr	31
Neiriiz	32
Namazi	33
Ustad mutahari	34
Pasargad	35
Rajaii	36
Sarvistan	37
Savanih va sukhtegi	38
Sepidan	39
Shushtari	40
Zarin dasht	41