

The challenges of telephone consultation program during severe acute respiratory syndrome-coronavirus-2 epidemic in Iran: A qualitative study

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Abstract

Introduction: With the spread of severe acute respiratory syndrome-coronavirus-2 (SARS-CoV-2) disease and its potential risks for vulnerable groups such as the elderly with chronic diseases, telehealth appointments gained more attention around the world. However, using such a system brought about challenges to patients and service providers that need to be addressed by policymakers for system improvement.

Purpose: The present study was conducted with the aim of investigating the challenges of the telephone consultation program, which was run by the Social Security Insurance Organization of Iran during the epidemic of SARS-CoV-2.

Methods: This qualitative study was conducted through semi-structured interviews with physicians who participated in the program, using a purposive sampling approach. The interviews were recorded, transcribed verbatim, and analyzed through conventional content analysis by ATLAS.ti9 software.

Findings: Based on the results of the qualitative content analysis, the challenges in three categories, including program development, implementation, and evaluation and monitoring, and with 10 themes (planning challenges, infrastructure provision, education and culture building, legal issues, motivational mechanisms, effective communication, efficiency, and effectiveness of care, organization, monitoring, and evaluation) and 26 sub-themes were extracted.

Conclusion: Telephone appointments allow medical centers to serve some patients better. However, properly implementing the telephone consultation program requires better planning, training, appropriate infrastructure, and continuous evaluation and improvement of processes.

Keywords

COVID-19 crisis, severe acute respiratory syndrome-coronavirus-2, telephone visit, telehealth, telemedicine

Submission date: 12 December 2022; Acceptance date: 13 July 2023

Introduction

New technologies are developing rapidly in the world, and the industries affected by new technologies have grown even faster.¹ One of these complex technologies is telemedicine, accompanied by the ever-increasing growth of information and communication technology in line with globalization.²

Telemedicine or telehealth includes the remote evaluation, diagnosis, and provision of medical services using communication technologies.³ Remote visit with communication

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equipment is a part of telemedicine, which is helpful for vulnerable people and also for following up on the treatment of patients with chronic diseases.⁴ The simplest method of providing remote health services is using a phone for consultations. Although it has weaknesses, such as the lack of visual information, it is getting attention due to the ease of implementation, significant effects on reducing costs and unnecessary referrals, and improved access to care.⁵ Low-income people, the digitally illiterate, and people with privacy concerns may prefer telephone appointments over video calls.⁶

With the spread of the severe acute respiratory syndrome-coronavirus-2 (SARS-CoV-2) disease, the elderly were among the first victims of the disease, and there were serious concerns about them.⁷ One of the risk factors of the SARS-CoV-2 was having chronic diseases, so the elderly with underlying medical conditions were the most vulnerable to the coronavirus.⁸ Before the outbreak of the SARS-CoV-2 disease, it seemed that with the growth of technology, telephone calls to follow-up and provide medical services in the United States were obsolete, but with the epidemic of the SARS-CoV-2, the ease of access for patients, especially those with low incomes made it a key and available method.⁶

As SARS-CoV-2 spread and people were encouraged to stay home, telephone consultations significantly increased. Nearly one-third of Medicare patients in the United States received such services from mid-March to mid-June 2020. Phone calls could help physicians to provide care and control the condition of patients with chronic diseases such as diabetes, heart disease, chronic kidney disease, high cholesterol, and high blood pressure.⁹ The results of a study regarding telephone consultations showed the satisfaction of 84% of patients.¹⁰ Along with the advantages of telephone consultations, such as the ease of access, low cost, and time efficiency, disadvantages, such as weakening of effective relationships, jeopardizing the confidentiality of information, and inability to perform physical examinations, have been declared.^{11,12} Providing remote services may have many challenges for service providers and bring many questions about its consequences. There is not much information about physicians' views regarding telecare in crisis; however, the general understanding is that they have concerns about the lack of physical examination and reduced face-to-face communication with their patients.¹³

With the spread of the SARS-CoV-2 in Iran and the limitations faced by the elderly and those with chronic diseases, a telephone consultation program and the delivery of medicine to the doorstep of chronic patients were implemented in 17 medical centers affiliated with Social Security Organization (SSO) in Khorasan Razavi province of Iran from May 2019. In this program, after studying the patient's medical records, a remote telephone consultation was planned. After the appointment, the medications were

administered by the pharmaceutical technician to the patient's house. Considering that examining the challenges of implementing the program, and the views and experiences of the physicians who implementing the telephone consultation are valuable to improve the program, this study aimed to identify the challenges of implementing the telephone consultations from the physicians' point of view to help developing health strategies and telehealth programs.

Materials and methods

This qualitative study used a conventional content analysis method based on Graneheim and Lundman's.¹⁴ This approach of qualitative data analysis includes five steps: (a) Transcribing the recordings immediately after conducting each interview. (b) Reading the text several times to get a general understanding of it. (c) Determining primary codes. (d) Classification of similar primary codes in categories. (e) Determining the hidden content in the data.¹⁵ The study was conducted on 14 physicians in the medical centers affiliated with SSO of Khorasan Razavi province of Iran. Study participants were selected through purposive sampling. In addition to their willingness to participate in the study, the physicians who had experience in telephone consultations were included in the study. The participants were selected from the telephone consultation list purposefully and based on the maximum variation strategy (variation in gender, age, work experience, workplace, and working hours a week). At this stage, the researchers introduced themselves to the participants and explained the objectives of the research. If they decided to participate in the study, they were asked for a suitable time and place for the interview. In-depth semi-structured face-to-face interviews were conducted in places such as the physicians' office at the end of the patients' consultations. Interviews with new study participants continued until no new information was obtained from the new interviewees and the so-called data saturation was achieved.

At the beginning of the interview, a general question was asked: "Could you please talk about your experiences about the telephone consultation program in the SARS-CoV-2 epidemic and the problems and challenges you faced?" After that, in line with the objectives of the research, exploratory and more specific questions such as "What do you mean?" "Can you explain more about this?" and "Please give an example" were asked to get deeper information about the experiences of physicians. In order to increase the accuracy and completeness of the data, in three cases, reinterviews were conducted with the participants to provide more information. The interviews lasted between 20 and 60 min (an average of 35 min). The data collection period was from 5 December to 21 March 2021.

The data collection and analysis were done simultaneously so that all interviews were recorded and immediately

transcribed verbatim. Then, they were transferred to ATLAS.ti9 software for data management and analysis. Analysis was guided by conventional content analysis with an inductive approach to data analysis. In this way, the transcripts of the interviews were read several times to gain insight into the participants' experiences and views. Then, initial codes were identified in the texts. All the units and codes were organized based on their conceptual and semantic similarities and sub-themes were identified. According to the conceptual similarities between sub-themes, they were categorized into themes. At the final stage, identified themes were classified into three broad categories of policy process based on their relevance.

For establishing trustworthiness, Lincoln and Guba evaluation criteria were used. These criteria are based on four dimensions: credibility, confirmability, dependability, and transferability. For this purpose, the following strategies were carried out: long-term interaction with participants, conducting all interviews by a person who is familiar with the study subject and has experience in conducting qualitative interviews, checking some codes with interviewees to ensure the accurate reflection of their opinions, reconducting poor quality interviews, sufficient time allocated to data analysis by holding regular weekly discussion sessions among four members of the research team with different specialties (health policy, health service management, and health information technology) for assessing the coding process and reaching consensus about each step of data analysis, and purposive selection of the study participants to ensure diverse opinions are obtained.

Findings

The study reached data saturation with 14 interviews. Five interviewees were women and nine were men. The analysis of the data obtained from the interviews led to the extraction of 134 primary codes, which are divided into three main categories: (a) program development, (b) implementation, and (c) monitoring, evaluation, supervision, and 10 themes and 26 sub-themes for challenges (Table 1).

The challenges of program development

This category contains five main themes: planning, infrastructure provision, education and culture, legal issues, and motivational mechanisms.

Planning. Lack of straightforward work process and ambiguity in selecting and prioritizing target patients were put in this theme. A new process was defined, but the duties of each unit were not specified and the coordination between the units was not well explained. It was hard to prioritize and select patients from the list. Some interviewees said:

It seems that this is a voluntary work rather than an organizational duty. the coordination channels are not defined and it is not clear that the new duties are for which units. (Physician No. 6)

We have a problem in choosing patients from among thousands of patients because it is not clear how to choose from this large number of patients, and it would have been better if they had determined a specific number of target patients and given the responsibility to a physician. (Physician No. 8)

Providing infrastructure. Considering the development of phone networks and communication technology and its availability for a large number of people, it would be helpful in obtaining information, reporting, recording information, recording prescriptions, and modifying the software used. However, sometimes, the landline phones were not adequate for exchanging the needed information. The interviewees admitted:

Sometimes we had to use a personal cell phone in order to exchange information more precisely. (Physician No. 1)

The list of chronic patients was delivered as an Excel file, but there was not enough information on how to select the target patients. (Physician No. 8)

Education and Culture. In order to make telephone consultations more effective and to have better physician-patient interaction, there is a need for training and fostering culture among patients and physicians. The plan aimed to reduce the presence of patients in social gatherings, but they have difficulties describing their conditions and needs. They needed information in this regard as well. One of the interviewees believed: "Many times, patients did not have the necessary requirements for consultation and had requests not related to their chronic disease" (Physician No. 4). Another physician stated:

Some patients were not justified at all about the purpose of the plan which is to avoid attendance in the clinic. Sometimes we saw the patient in the clinic the next day or the same day of remote consultation, or when they called, they said they were at a party. (Physician No. 11)

Training medical staff is also necessary; in this study, some of the employees were not justified regarding the goals of the plan and it affected their activities.

This plan was very effective, especially in the severe initial restrictions, because the possibility of not seeking care and follow-up was high due to the patients' fear of attending

Table 1. Classification of components.

Sub-theme	Theme	Category	
Lack of clear definition of work processes	Planning	Program development	
Ambiguity in prioritizing and selecting patients			
Failure to provide the possibility of a video call	Infrastructure		
Incompatibility of the software			
Educating and culture-fostering of patients	Education and culture		
Training of service providers			
Failure to obtain legal permits	Legal issues		
Unable to authenticate			
Concerns about legal consequences			
Ambiguity in how to pay the physician	Motivation mechanisms		
Longer time of telephone consultation compared to face-to-face one			
Lack of follow-up to fix problems			
Lack of fair distribution of patients among physicians			
Communication problems with the patient	Effective communication	Implementation	
Limitation of phone calls in obtaining visual information	Effectiveness and efficiency of care		
Lack of visual information about the patient			
Lack of physical examination information			
Increased likelihood of medical errors			
Weak inter-departmental coordination and support			Organizing
Failure to define specific job descriptions for clinic staff			
Difficulties in organizing work done by volunteer physicians			
Failure to determine the criteria and number of consultations	Monitoring		Monitoring, evaluation, and control
The impossibility of controlling the accuracy of statistics			
Difficulty to report the right number of consultations			
Lack of needs assessment and challenges and corrective actions	Evaluation		
Failure to check the effectiveness and level of efficiency in the centers			

health centers, but many colleagues were not justified about the benefits of telehealth. So, the amount of work done was limited, as a result, a few percentages of patients were consulted by phone. (Physician No. 2)

Legal issues. Three themes of challenges: (a) failure to obtain legal permits for telephone consultations, (b) impossibility of authentication, and (c) concerns about the legal consequences of telephone consultations were identified.

Physicians considered prescribing medicine without the possibility of physical examinations as a high risk and cause of medical errors. “Physical examinations and even observation of the patient gives the physician a lot of information that is lost during a phone call, so the possibility of medical errors will increase” (Physician No. 10). In addition, the physicians did not believe in organization’s support in case of a lawsuit. A physician admitted that “this plan requires physicians to perform remote consultations in uncertain conditions, but if a mistake occurs and a complaint is made, no one will support the physician” (Physician No. 7).

Motivational mechanisms. In order to achieve organizational goals, considering sufficient motivations play an important role. In this regard, the physicians pointed to issues such as the lack of straightforward payment methods, the difference in payment for telephone consultations compared to face-to-face visits, and the fact that telephone consultations were longer and more difficult. “When a telephone consultation is more time-consuming and challenging, we prefer a face-to-face visit, unless a difference in the payment of a telephone consultation was considered” (Physician No. 4). Failure to resolve problems and challenges also adversely affected the motivation to continue working.

I really believed in this plan, of course, at the beginning, everyone’s cooperation was good, but over time, the cooperation weakened and no one sought to solve the problems, and it felt that the organization was not serious about implementing this plan. (Physician No. 8).

Another issue raised was the lack of equitable distribution of patients among physicians, “Some physicians were neither interested in this work nor cooperated, and no one asked them why they did not participate in this plan” (Physician No. 8). Other things that would help motivate physicians to participate in this program is resolving legal ambiguities and ensuring the organization’s support, creating a suitable environment and administrative support for coordinating communication with patients and solving existing challenges.

Implementation challenges

This category contains three themes: effective communication, efficiency, and effectiveness of care and organizing, which are explained below.

Effective communication. The interaction between the patient and the physician is known as one of the most influential factors in the healthcare system.¹⁶ One of the most important challenges of telephone visits is communication problems with the patient. The physicians pointed out the following challenges: the hesitation of some patients to

answer the physician’s questions, the poor hearing of many elderly patients, not understanding the physician’s questions, the patient’s limited participation compared to face-to-face consultations, and not answering phone calls. “Sometimes, I felt that the patient does not want to answer my questions and many questions remain unanswered” (Physician No. 3). One of the physicians said: “We called the patient and after a lot of questions and answers, we found out that the patient is asleep and a relative answered the questions” (Physician No. 7). Also, telephone calls are not reliable methods of communication due to the impossibility of receiving visual information. “If you know the patient and have information about him, a telephone call is good, but when you have no knowledge of the patient, there would not be an effective interaction and there will be uncertainties remained” (Physician No. 9).

Efficiency and effectiveness of care. Although the telephone consultation solves the problem of not following up on the treatment of chronic patients and has been welcomed by the patients, because the physician loses visual information and physical examination, the treatment is carried out in uncertain conditions and there is a possibility of medical errors.

It is true that hearing the history of disease is one of the physician’s diagnosis tools, but physical examinations, control of vital signs and even observation of the patient help the physician’s diagnosis to be correct a lot. (Physician No. 12)

Of course, in the case of chronic patients, since the diagnosis has already been given, and the goal is to follow up on the treatment and repeat the prescription, a telephone consultation can be an alternative. (Physician No. 2).

Organizing. In the implementation stage of the plan, interdepartmental organization and coordination are of particular importance for proper implementation. One of the physicians believed that prior coordination should be in place and after contacting and justifying the patient, the physician should conduct the remote consultation.

I am given a list of patients and I have to call each one myself and lose a lot of time, while this is not the duty of the physician. It would be even better if a nurse was present next to the physician to cooperate and communicate with the patient. (Physician No. 12)

Challenges of supervision, monitoring, and evaluation

These types of challenges are presented in two main themes: supervision, and evaluation.

Supervision. In order to ensure the correct implementation of a plan or policy, appropriate monitoring methods should be considered.¹⁷ Among the monitoring challenges, the participants raised the following: not determining the number and criteria of consultations, inability to control the accuracy of the statistics sent, and the lack of a system to help report telephone consultations. One of the physicians said,

Because the monitoring methods have not been determined, and on the other hand, statistics should be sent to the headquarters regarding telephone consultations, some make statistics, for example, the patient's relative was consulted and the medicine was prescribed according to the patient's disease history, but no telephone calls were made, but it is reported as a telephone consultation. (Physician No. 8)

Another physician believed that "there is no requirement for a telephone or remote consultation. I do this voluntarily, but some colleagues did not do this and no one says anything" (Physician No. 1).

Evaluation. For the successful implementation of policies and plans, it is necessary to monitor and evaluate. It helps correct the implementation of the processes by correcting the defects.¹⁸ Not evaluating the program, solving the challenges and the lack of feedback and response from the officials to the problems were among the issues raised by the interviewees. One of them stated:

We did not receive any feedback during the implementation of the plan and nobody asked if there is a problem at all, even if we didn't take the time to call, no one would have checked. (Physician no. 8)

At the beginning of the work, we were dealing with problems due to the crisis of the Corona epidemic, but we expected that more coordination would take place over time. The general perception was that the headquarters are not serious in implementing the plan. (Physician No. 5)

Discussion

With the emergence of the Corona epidemic and the restrictions created and the concerns about the presence of patients, especially the elderly and those with underlying diseases in health centers, special attention was paid to telemedicine and telephone consultations. Studies show that telephone consultation, despite its problems, can be a suitable alternative to face-to-face visits. In the study by Martos-Pérez et al.,¹⁹ 95% of patients were satisfied with telephone consultations and 85% of physicians rated them as useful. In the present study, most physicians emphasized the usefulness of telephone consultations.

For the proper implementation of a policy, a common understanding of the policy and implementation and preparation for implementation is critical, and the more transparent the plan is, the easier it will be to implement.²⁰ Approving and communicating a policy or goal alone is not a guarantee for its implementation, but it must be structured and its implementation has to have a straightforward framework, otherwise, it will fail in the implementation stage.²¹ In this study, it was found that precise implementation plans that include the number of telephone consultations and criteria for prioritizing and selecting patients have not been developed. Each center planned the implementation processes by itself. The implementation methods and guidelines that specify the patients eligible for telephone consultations and target patients would help resolve the ambiguities.

The telephone was available for almost all patients, but to communicate better and more effectively, the participants believed that adequate infrastructure including video calls and more practical software needed. In a study conducted in California regarding remote consultations during the COVID-19 epidemic, the interviewees also pointed out that although telephone calls were satisfactory, there was a need to provide the necessary infrastructure for video calls.²² Because of its ease and accessibility, consultations by telephone, especially for the elderly and low-income individuals, have made this method a priority.¹⁹ Enhancing health literacy, fostering the culture, and educating patients about self-care can make remote appointments more effective.²³ In this study, physicians emphasized the necessity of educating patients and raising awareness on how to evaluate their condition and self-care so that they can communicate more effectively and efficiently on the phone.

One of the issues raised by the studied physicians was the ambiguity in the laws and legal concerns regarding remote consultations and the possibility of medical errors. Studies show defects in the laws related to telemedicine in most countries. The laws are interpreted in two ways: (a) in telemedicine, a new form of medical error appears²⁴ and (b) medical errors are not different from face-to-face consultations and treatment methods.²⁵ According to Chiang et al.'s²⁶ study, there is disagreement about medical errors and responsibilities because of unclear regulations and laws in the field of telemedicine. However, the benefits of remote services far outweigh the limited risks that may arise.²⁴ Training physicians to prevent possible errors in remote consultations will help to reduce possible consequences.

Results of a study showed that the concerns about the challenges related to patient care and proper communication with the patient were important obstacles to motivating physicians in telephone consultations. In addition, financial gains have not had much effect on physicians participating in remote consultations.²⁷ Although financial incentives

and the transparency of how to pay the physician are important, creating a suitable platform and supporting remote appointments, and solving challenges and concerns can help motivate physicians.

Communication problems are among the most important obstacles mentioned in remote visits, especially telephone consultations. Patient understanding, lack of knowledge, hearing problems, and being in an inappropriate environment for effective telephone communication are among the factors hindering effective communication. Informing and educating patients can solve most of these challenges, while continuing telephone appointments will make society get used to this new method and adapt to it. Aspects of the relationship between the physician and the patient are psychologically and emotionally important, and human relations are effective in the treatment process.¹² Therefore, based on the needs of the patients, the type of consultation can be determined.

Losing the possibility of physical examination makes physicians decide with low confidence which is one of the important challenges in treatment efficiency. Obtaining a complete history of the disease, the participation of the patient in reporting his condition, and increasing information skills and evaluation are some ways to reduce this challenge.²⁸ Moreover, developing guidelines to determine which patients can benefit from remote consultations seems necessary. Due to the outbreak of COVID-19, telephone consultation is urgently needed to be implemented. Shortage of time and restrictions on holding meetings resulted in less inter-departmental coordination and teamwork, so by reducing the restrictions related to Corona, coordination and training meetings are needed. These are consistent with Donnelly et al.'s study.²⁹

When a policy is announced by the government, to ensure its correct implementation and the realization of the goals of that policy, it is necessary to monitor and evaluate the results based on the stakeholders' opinions. In the studied program, there was no proper evaluation plan and necessary feedback, so the number of remote consultations decreased over time.

Conclusion


This study aimed to identify challenges in the telephone consultations program that has been newly established in medical centers affiliated with the SSO of Iran and to report the experiences of physicians to solve problems and improve remote health service provision programs. To ensure the effectiveness of remote care and telephone consultations, supporting the implementation of the plan and providing infrastructure, training patients and medical staff, evaluating and solving challenges, and coordinating treatment teams can be helpful in providing remote services and saving time and costs, ensuring treatment follow-up, and creating higher safety and increasing patient satisfaction.

Acknowledgements: The authors thank all the study participants in the health centers affiliated with Social Security Organization (Khorasan Razavi branch).

Declaration of Conflicting Interests: The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Ethical approval: The present study has been approved by the Ethics Committee of Mashhad University of Medical Sciences, Iran (code: IR.MUMS.FHMPM.REC.1401.061). At the beginning of the study, written informed consent was obtained from all participants and they were informed that they could withdraw from the study at any time without any negative consequences. By assigning a code to each participant, no identifiable information was collected from participants and responses remained anonymous.

Funding: The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This work was supported by the Mashhad University of Medical Sciences.

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