

Original Article



The components of effective management of dental services in Iran: A qualitative study

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Abstract

Background: The provision of dental services is one of the significant challenges in the health field, and dental treatments are consistently among the most costly treatments for chronic diseases, imposing a tremendous economic burden on both individuals and healthcare systems. Thus, the present study has been conducted to identify the components of effective management of dental services in Iran and offer the required suggestions to improve the current status.

Methods: The present study was conducted with a qualitative approach using the content analysis method. The data were collected using semi-structured interviews with 15 managers, university professors, employees, and beneficiaries in the field of dental services in Iran; they were selected using the purposive sampling method. The data were analyzed using directed qualitative content analysis (DQICA) and based on the steps suggested by Lundman and Graneheim in MAXQDA-2018. To evaluate the quality of the research results, Guba and Lincoln's criteria were assessed.

Results: Based on the results of the study and after analyzing the interviews and categorizing the codes, 15 subcategories were identified, including appropriate training, law management, optimal use of technology, innovation, change management, standardization, financing, optimal resource management, extra-organizational support, attention to preventive approaches, emphasis on responsibility, opportunity-threat analysis, quality of doctor-patient relationship, effective and continuous communication, quality diagnosis and treatment under five main categories: planning, organization, mobilization of resources and facilities, guidance, and monitoring and control.

Conclusion: Considering the high cost of dental services as one of the challenges in healthcare, there is a gap in effective management in this area. Therefore, effective management should take into account the management components of quality-focused management, improvement of the doctor-patient relationship, monitoring and quality control, standardization, and attention to the successful models in other parts of the world.

Keywords: Dentistry, Qualitative study, Management, Oral health

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Introduction

Health systems are facing significant challenges due to complex health problems, rapid social, economic, and technological changes, and important goals, such as the effectiveness of services and patient satisfaction at all levels.¹ The most crucial goal of a manager's development program is to provide quality services. Achieving this goal is difficult but essential. In this regard, giving due attention to services in different areas and prioritizing them is of utmost importance. Dental services are one of the priority services that call for attention as well as efficient and effective management. Dental services are significant and sensitive services that account for a remarkable portion of health costs in developing countries.² The importance

of maintaining oral and dental hygiene and its role in personal health is an undeniable issue; various oral and dental diseases disrupt the natural order of the body and are likely to result in pain and disease in other organs as well.³ Oral and dental diseases such as tooth decay, tooth loss, and periodontal diseases are common in adults and are major public health problems all over the world.⁴ This condition affects about 3.9 billion people in the world. Studies conducted in Iran also reported the DMFT (Decay, Missing, Filling, Teeth) index to be between 2 and 6.95 in different regions.⁵ Tooth decay can potentially lead to social and psychological problems. In addition to negative health consequences, poor oral hygiene and the high prevalence of oral and dental disorders impose a



significant financial burden on individuals, their families, and society

The high prevalence of oral and dental problems depends not only on behavioral factors but also on the barriers to accessing dental services and oral health care. The most critical issues creating this unpleasant situation in different countries are the lack of primary oral and dental health care, a preventive dental approach, and the management of dental services.^{6,7} Lack of effective management, as well as inequality in access to care and services, are among the factors that lead to inequality in oral and dental health. In many low- and middle-income countries, the national coverage, availability, and access to oral and dental health care (including timely diagnosis, prevention, and basic treatment) are either lacking or insufficient.⁸

The absence of a suitable and effective system in the field of dental services management leads to the provision of insufficient and poor services, lack of efficiency and effectiveness, lack of quality improvement, and the disintegration of the health of society. Meanwhile, given the increase in society's awareness, the level of people's expectations from the medical community is increasing.⁹ In addition, in dentistry, monitoring and evaluating the technical quality of treatment is not an easy task since its components are not explained systematically. Using experiences and approaches and investigating the theoretical models at the global level help respond to challenges and obstacles. Therefore, explaining these components can be an essential step in increasing the quality of dental services.¹⁰ As there is always an ideal situation compared to the current one in the discussion of health issues, there will always be a need for research on this topic¹¹. Moreover, the World Health Organization World Health Report in 2004 mentioned weakness in management as one of the most critical challenges at all levels of the health system of most countries across the world. According to the WHO, the lack of management capabilities in the health system is regarded as a significant limitation in the development of services and the realization of the development goals of the third millennium. Recognizing this weakness is accompanied by warnings that emphasize the need to develop and strengthen management¹². Therefore, the present study was conducted to identify the components of effective management of dental services in Iran.

Methods

This study was conducted with a qualitative approach using a directed content analysis method from March to November 2023. The participants of this study included managers, university professors, employees, and beneficiaries in the field of dental services in Iran. The inclusion criteria included being a faculty member or an expert in the field of dental services, working in the field

of dental services, and being willing to participate in the study. The exclusion criterion included interruption of the interview process and failure to complete answering the interview questions. The required data was collected using the interviews. The participants were selected by adopting a purposive snowball sampling method. Following the research goals, the participants were generally experienced scientific individuals who were familiar with the values and professional ethics of the employees. The criterion of data saturation was used to determine the adequacy of the research sample. Sampling and data collection continued until data saturation was achieved. Saturation was achieved when the circular process of collecting, sorting, and analyzing data reached a point where no new data were observed. In the purposive sampling method with maximum diversity, the researcher selects samples who have sufficient knowledge and experience about a phenomenon and have the desire to express their opinions and experiences to answer the research question; the researcher takes into account the maximum diversity in the field and the unique conditions of the emergence of the phenomenon.¹³ The data collection method was semi-structured face-to-face and individual interviews. With the permission of the participants, all the interviews were recorded, and in necessary cases, the researcher also used notes. Regarding the observance of ethical considerations, the researcher first met each of the participants and, after introducing himself and explaining the purpose and questions of the interview, invited them to participate in the research if they were willing to do so. During the research process, the confidentiality, consent, and freedom of the participants to participate in the study or withdraw from it were respected. After the questions were designed, two test interviews were conducted to determine whether it was possible to achieve the goals with the designed questions. After the completion of the test interviews, all the authors of the study reviewed and modified the interview questions, and finally, a guide to the interview questions was compiled (Table 1).

The lead and corresponding author conducted the interviews in a face-to-face manner at the workplace of the interviewees. In the beginning, the researcher introduced himself to the participants and explained the objectives of the research and the manner of conducting the interviews. The demographic questions were asked first, followed by the main questions (Table 1). The order of the interview questions was not the same for all participants because each question was asked according to the answer they gave to the previous one. However, all participants were asked all the interview guide questions. In order to comply with the ethical principles in research, written and oral informed consent was obtained from all the participants, and they were also informed that participation in the study was completely optional and that they could leave the interview meeting whenever they wanted. All

Table 1. The guide to interview questions

Interview questions	
1	What measures do you think should be taken to develop better dental services in the country? Explain.
2	What do you think is the best way to plan and manage the provision of dental services? Explain.
3	Do you think the management of health services in the country is in line with international standard models? Explain.
4	What are the components of effective management in the field of dental services? Explain.
5	In your opinion, what results and benefits will the proper implementation of the dental service management model have?

interviews were recorded with the permission of the participants, and notes were taken during the interviews whenever necessary. Based on the information provided by the participants, the duration of the interviews varied from 30 to 70 minutes.

Data analysis was conducted using Lundman and Graneheim's 5-step method using MAXQDA-2018. The process of data analysis was sent to all members of the research team, and the naming of categories and subcategories was conducted after summarizing their opinions. In the first stage, after conducting the interview, the researcher transcribed the interviews on the same day with the help of another colleague. Then, in the second stage, the text of the transcribed interviews was reviewed several times by two members of the research team to reach a general understanding/gist of the content. In the third stage, the text of the interviews was carefully reviewed in detail to obtain the primary codes. In the fourth step, the researchers placed the codes that were similar in terms of meaning and concept in the same category and determined how they were related. Then, in the last step, the categories that were formed in the previous step were placed in more comprehensive and abstract classes, and the themes were obtained. Three individuals from the research team (including the lead author, the third author, and the corresponding author) cooperated in the data analysis. After the final analysis, its complete steps were explained in a meeting for all the authors of the article, and in some cases, the names of the categories and subcategories were slightly changed.

To increase the validity and quality of the results, the four criteria of Guba and Lincoln¹⁴ were observed. Also, a 32-item checklist of the qualitative research report of Tong et al. (2007) was observed.¹⁵

Ethics approval:

This study was approved by the Azad University of Medical Sciences, Tehran, Iran (IR.82993).

Results

This study was conducted by interviewing 15 university managers and professors whose demographic characteristics are reported in Table 2.

Based on the results of the study and after analyzing the interviews and categorizing the codes, 15 subcategories (appropriate training, law management, optimal use of technology, innovation, change management,

Table 2. Demographic characteristics of the study's participants

Variable		Frequency
Marital status	Married	12
	Single	3
Age	Less than 35	2
	35–45	8
	More than 45	5
Gender	Male	9
	Female	6
Working experience	Less than 10 years	5
	10 years and more	10

standardization, financing, optimal resource management, extra-organizational support, attention to preventive approaches, emphasis on responsibility, opportunity-threat analysis, quality of doctor-patient relationship, effective and continuous communication, and quality diagnosis and treatment) in the form of five categories (i.e., planning, organization, mobilizing resources and facilities, guidance, monitoring and control) were identified (Table 3).

Planning

Planning, as one of the main components of management, includes forecasting, determining the methods and achievement paths, and implementing the necessary measures to achieve the main goals. This component in the field of dental services includes appropriate training, law management, optimal use of technology, and innovation

Appropriate training

Appropriate training is the basis of planning, and training is highly essential for having a specific and successful program in any field. Dental care planning includes planning for recommended treatments, preventive care, and developing ongoing programs, all of which are accomplished with appropriate training. Appropriate training in planning for dental services includes patient training, treatment planning, preventive care, treatment staff training, quality training and development of human resources, planning for children, planning knowledge, dental and oral care training, medical training, and knowledge enhancement. These principles and tips help to improve the quality of dental services, increase patient

Table 3. Components of effective management of dental services in Iran

Categories	Subcategories	Codes
Planning	Appropriate training	Patient training, training and qualitative development of human resources, planning for children, planning knowledge, dental and oral care training, medical training, and personnel knowledge enhancement.
	Law management	Codifying new laws, compiling and amending laws, providing practical instructions, and giving due attention to regulations.
	Optimal use of technology	Setting up a remote treatment system, advanced technologies, using technology, and suitable devices.
	Innovation	Being innovative, creating innovation and creativity in colleagues, using technology, planning to facilitate entrepreneurship, research and development of cross-border communications, and increasing the production capacity.
Organization	Change management	Focus on the goal, customer management, the ability to interact with different generations, waste management, change management, conflict resolution, fairness, updating, and solving individual conflicts.
	Standardization	Paying attention to the principles and standards, coordination, cooperation, independence of the organization, standardization, suitable atmosphere of the office, management of interaction with the world, and pleasantness of the office environment.
Mobilizing resources and facilities	Financing,	Financing, more insurance coverage, reducing dental costs, reducing customer costs, and signing agreements with insurance companies.
	Optimal resource management	Cost management, optimal management of resources and equipment, management and organization of forces, proper use of capacities, and provision of systems and devices.
	Extra-organizational support	Increasing the production capacity of products, attracting financial support from the private sector, government support, attracting grants, obtaining additional support, and cooperating with other medical institutions.
Guidance	Attention to preventive approaches	Cooperation with radio and television, production of preventive products, teeth prevention and care, emphasis on the importance of prevention, and providing applicable prevention guidelines.
	Emphasis on responsibility	Commitment and responsibility, creating loyalty and avoiding profiteering, commitment and loyalty, serving and tolerance, prioritizing collective interests over individual ones, spending time for others, paying attention to public interests, work conscience, preparation for daily interaction, adhering to the moral principles of altruism, attention to the rights of colleagues, the attitude of public service.
	opportunity-threat analysis	Paying attention to external opportunities and threats, paying attention to all people, pioneering in interaction, insurance of health services, and sharing the generated knowledge.
Monitoring and control	Quality of doctor-patient relationship	The extent of the information scope of the personnel and the doctor, the doctor-patient behavioral issues, attention to social considerations, customer relationship management, the ability to communicate with different people, respect for the patient's rights, and attention to the doctor's rights.
	Effective and continuous communication	Monitoring and inspection, having effective communication, monitoring the hiring of employees, monitoring, interacting with customers, not abusing others, and continuous monitoring.
	Quality diagnosis and treatment	Patient satisfaction, paying attention to effectiveness rather than performing one's duty, complete patient satisfaction, service guarantee, better service quality, and suitable materials.

satisfaction, and improve treatment results.

“Increasing the knowledge and skills of the medical staff is of high significance in planning dental services. Training on new treatment methods and techniques, improving patient-medical staff communication, and using up-to-date medical equipment and hygiene principles can improve the quality of dental services.” (Male, 45 years old, married)

“Programs to prevent oral and dental problems need to be prioritized, and this is only possible by training people. Moreover, cooperation with mass media and raising people’s literacy are important as well.” (Male, 37 years old, single)

Law management

Another subcategory of planning for effective management in the field of dental services is law management. Management of rules and regulations is of great importance in planning for dental services. These rules and regulations are implemented to create a professional and safe environment for both patients and medical staff. For proper law management, attention should be paid to the codification of new laws, the development and amendment of laws, helpful instructions, and the development and revision of regulations and bylaws.

“... Some laws and instructions are related to the past and need to be revised. The management must consider changes and even codify new laws whenever necessary. I mean, the management needs to take all aspects into account and lead the system to further improvement.” (Male, 53 years old, married)

Optimal use of technology

Another subcategory of planning for effective management in the field of dental services is the optimal use of technology. With the passage of time and the advancement of technology, dental services, including the process of tooth restoration and reconstruction, have gained a high speed, and a remarkable transformation has occurred in the field of dental treatment. Compared to traditional methods, dental restorations using new technologies are not only more accurate in terms of dimensions and more aesthetically pleasing but also have fewer structural defects, making them last much longer. The use of these technologies requires planning.

“Setting up a remote treatment system based on advanced technologies and using technology can make the work of dentists easier. There are many new technologies; unfortunately, we either do not have access to such technologies, or they are not affordable at the

moment.” (Female, 49 years old, married)

Innovation

The foundation of the development of countries and organizations is related to creativity and innovation of human resources. This need is felt more in healthcare organizations that have the mission of preserving, supplying, maintaining, and promoting health, as well as controlling and preventing diseases. Given the problems in the field of dental services, innovation in this field can lead to improved effectiveness. Moreover, using technology, planning to facilitate entrepreneurship, conducting research and developing cross-border communications, and increasing the production capacity of products are among the operational solutions.

“Perhaps the main challenge in the management of rehabilitation services in most fields is the lack of application of new and creative approaches. The management needs to be open-minded and provide the required conditions for development; the management must not create obstacles.” (Female, 33 years old, single).

“Nowadays, the topic of entrepreneurship is one of the topics that should be invested in any field. Dental services are no exception and need to be paid due attention. Research in this field should be valued, and researchers should be encouraged...” (Male, 37 years old, single)

Organization

Organization is a process during which efforts are made to achieve goals by sharing work among people and working groups and creating coordination between them. Organization is a process that continues constantly, and organizational life will depend on ensuring the existence of a structure that achieves effectiveness and efficiency. Undoubtedly, no organization can have significant growth and progress without proper organization and management of its employees and resources. In addition, the management of rehabilitation services should also be acceptable in this area. The results of various studies have indicated that change management and standardization are among the most important subcategories of organization.

Change management

The first subcategory of organization is change management. Focusing on the goal, customer management, the ability to interact with different generations, waste management, conflict resolution, justice, updating, and solving individual conflicts were among the most important codes extracted in this section. Thus, successful and effective management in dentistry should be receptive to changes to improve the existing status while paying due attention to the rights of both patients and doctors and observing justice.

“Usually, in every organization and every field, changes are faced with difficulties. Now, in the medical field, it will take a long time for this change to be accepted. Lots of conflicts are created. Successful management needs to take these conflicts into account.” (Female, 56 years old, married)

Standardization

Another important subcategory of organization is standardization. The scope of standardization in oral health care includes terminology, definitions, performance requirements, safety and specifications of dental products, clinically relevant laboratory test methods, etc., all of which contribute to the improvement of global health. The significance of quality in medical science education has drawn attention to the need to develop appropriate standards in educational systems as a basis for quality verification. The developed standards need to organize the program to be implemented. Giving due attention to the principles and standards, synchronization, cooperation, independence of the organization, standardization, proper environment of dentists' offices, management of interaction with the world, and pleasantness of the office environment are among the codes extracted for this category.

“Paying attention to the principles and standards helps the management a lot. For example, interacting with other departments should help to maintain the independence of the dental department. It must help the allocation of appropriate and optimal space and ...” (Male, 37 years old, single)

Mobilizing resources and facilities

The concept of mobilizing resources and facilities includes everything from providing financial resources to providing human resources and raw materials, as well as creating relationships and social networks. In dental service management, just like other sectors, there is a lack of resources, and in line with this lack, the management must mobilize all the available facilities and resources and, considering justice, have the highest level of effectiveness in the field of health. In the field of mobilizing resources and facilities, as one of the important components of management, based on the results of this study, financing, optimal resource management, and extra-organizational support are among the most important subcategories.

Financing

Financing is the first subcategory in the field of mobilizing resources. To mobilize resources, there must first be strong financial management. Financial management refers to the flow of financial decision-making based on the collection of information related to their correct registration and reporting, forecasting events based on economic models, and analyzing the results of actions.

After proper and accurate financial management, management can take steps towards financing. More insurance coverage, reduction of dental costs, reduction of customer costs, and signing agreements with insurance companies are among the most important codes identified in this section.

“Given the inflationary situation and the laboratory and side costs, more attention should be paid to this sector. The general belief is that there are a lot of resources and money here, but there are limited resources that are not affordable. The management should conduct financial evaluations and must be able to convince other sectors to bring more resources to this sector...” (Male, 44 years old, married)

“Dental expenses are high here, and everyone knows this, though they are still low compared to other places. However, the point is that here, the insurances do not cooperate, and the patients pay all costs...” (Male, 41 years old, single)

Optimal resource management

Optimal resource management is another subcategory of this category, including cost management, optimal management of resources and equipment, management and organization of forces, proper use of capacities, and provision of systems and devices. In the optimal management of resources, the management is required to manage the process of identification, selection, recruitment, training, and development of human resources in order to achieve the goals of the organization while providing them with suitable facilities and conditions and monitoring their activities regularly and continuously.

“...Resources are really the first and the most important issue in dentistry, and if the management wants to be successful, it must definitely prioritize this sector and use the capacities correctly and to the fullest extent so that the results are satisfactory...” (Female, 56 years old, married)

Extra-organizational support

Extra-organizational support is another subcategory of this category; the manager is required to be able to prepare the grounds for the members' activities by consulting and cooperating with other related sectors and organizations. Increasing the production capacity, attracting financial support from the private sector and government support, attracting grants, obtaining additional support, and cooperating with other medical institutions are among the most important codes of this subcategory.

“Our managers need to conclude that dental services are not a special service but a general one for the whole society. Now, the health of the society is measured by oral and dental problems, and these should be taken into consideration; all organizations and institutions need to

be pioneers in this area.” (Male, 37 years old, married)
“It would be a great improvement if insurance companies agreed to fully cover dental services. Not only will motivation increase, but the quality will also increase, and oral problems and diseases will decrease; the people will then visit dental offices. Now, given the high costs, there are very few visits to dentists' offices.” (Female, 59 years old, married)

Guidance

Another main category and important dimension of management is guidance. Guidance is a process in which the management attempts to facilitate the performance of tasks in line with the fulfillment of organizational goals by creating motivation and effective communication; the employees are then encouraged to perform their duties with desire and interest. In the field of dental care and related services, guidance is also important and effective. Thus, paying due attention to preventive approaches, emphasis on responsibility, and opportunity-threat analysis are among the most important codes extracted in this subcategory.

Attention to preventive approaches

It is important to strengthen the preventive approach in the education of future dentists. In addition to spending much money, the treatment approach has problems, such as the lack of stability of treatment results, as well as problems related to maintaining and promoting health. According to the Ottawa Charter for Health Promotion, the provision of dental services should be redirected, i.e., it should be moved from a purely therapeutic approach to a preventive approach. Therefore, effective management in the field of dental services should focus on preventive approaches. Cooperation with radio and television, production of preventive products, oral and dental care, emphasis on the importance of prevention, and provision of practical guidelines for prevention are among the most important codes extracted for this subcategory.

“Management in the field of dental services should move beyond a silo mentality and move towards inter-departmental cooperation. For example, radio and television can be invaluable. In films, advertisements, and even special programs, time should be allocated to doctors and the dental community. This is for everyone's benefit so that the problems reach the minimum.” (Male, 62 years old, married)

“... It is possible to help and plan a meeting where all specialists and experts meet and design suitable key guidelines for prevention.” (Female, 44 years old, married)

Emphasis on responsibility

Organizations are on the path to progress when managers are accountable and responsible. Today, the ethics and

social responsibilities of managers have received more attention from experts than in the past. Managers make decisions that should be based on reality and call for value and moral judgments. Every manager's decision can sooner or later affect the fate of all departments and their subdivisions hierarchically. Therefore, giving due attention to responsibility has been highlighted. This principle also applies to dental services, and it is possible to imagine efficient and effective management in this field when accountability is put on the agenda. Accountability increases performance while rewarding achievement results. Every individual, team, and department knows they can rely on each other, and that builds trust. The most important codes extracted in this subcategory are as follows: commitment and responsibility, building loyalty, avoiding profiteering, commitment and loyalty, service and tolerance, prioritizing collective over individual interests, spending time for others, paying attention to shared interests, work conscience, preparation for daily interaction, adhering to the moral principles of altruism, attention to colleague's rights, and public service attitude.

"A good manager should be aware of their subordinates and feel responsible for them. Adherence to moral principles and altruistic spirit are essential for a manager. A manager should be responsible and must not prioritize their own interests." (Male, 53 years old, married)

"A good manager is one who is committed and dedicates themselves to the organization. Dental services are such that the manager must be able to keep a balance between service providers and service recipients, and this is a turning point." (Male, 53 years old, married)

Opportunity-threat analysis

The last subcategory of guidance as one of the practical components in dental services is opportunity-threat analysis. While identifying opportunities for the system, the management is required to provide people with an opportunity to participate in projects and develop guidelines. In addition, given the high sensitivity of dentistry and its services, the manager must identify the threats in this field in order to design and implement a suitable strategy to deal with such threats and ensure the success of the entire system. Paying due attention to the opportunity and external threat, paying attention to all individuals, being a pioneer in creating interaction, insurance of health services, and sharing the generated knowledge are the codes extracted in this subcategory.

"In every system, there are great opportunities and threats that are ignored. If we ignore these opportunities and threats, we will have to face the consequences very shortly. For this, due attention is required to be paid to the system's individuals and their needs. Attention should also be given to new knowledge and ways of its

production and dissemination..." (Male, 53 years old, married)

Monitoring and control

Monitoring and control are considered among the main components of management; without paying attention to this component, other components of management, such as planning, organization, and guidance, are also incomplete, and there is no guarantee for their correct performance. In this category, the quality of the doctor-patient relationship, effective and continuous communication, and quality diagnosis and treatment were among the most important subcategories.

Quality of doctor-patient relationship

Establishing a proper relationship between the patient and the doctor is an essential part of quality medical care. The improvement of this relationship makes the patient adhere more to the treatment; they will be more satisfied with the treatment team, and medical errors and complaints will be significantly reduced. Despite the global commonalities about this concept, many differences in this field distinguish different communities and even different services. In the field of dental services, the quality of the relationship is essential. The management should provide the basis for this effective communication by offering appropriate and practical solutions. The extent of the information scope of the personnel and the doctor, the doctor-patient behavioral issues, attention to social considerations, customer relations management, the ability to communicate with different people, respect for the patient's rights, and attention to the doctor's rights are among the most important codes identified for this subcategory.

"... Everyone has special characteristics and comes from a certain culture. This should be taken into account because sometimes lack of communication makes the services poorly understood and received; it results in numerous problems..." (Female, 49 years old, married)

"The relationship between the doctor and the patient should help the patient's treatment process. However, despite the many advances in science, not only do we not witness such a relationship in most cases, but also, we completely ignore them at times; the patient is only in contact with medical devices and equipment ..." (Male, 41 years old, single)

Effective and continuous communication

Communication is an integral and necessary part of efficient and effective management. A successful manager must be able to communicate effectively with their subordinates during supervision and inspection. This monitoring includes a wide range of activities, from monitoring the hiring of employees and the interaction of the staff with customers to assessing the satisfaction level.

While emphasizing the implementation of orders and commitments, the manager should be able to maintain continuous communication with different sectors and individuals. Not abusing the personnel and paying due attention to their needs and demands can be significant in this regard.

“The relationship between management and its subordinates is the missing issue not only in the dental services sector but in all medical services; it should be taken into consideration. The more distance the manager has from their subordinates, the more problems he/will face ...” (Female, 33 years old, single)

Quality diagnosis and treatment

The last subcategory in monitoring and control is quality diagnosis and treatment. Proper and accurate diagnosis followed by quality treatment can guarantee the durability and status of the system as a strong credit. This issue calls for attention and proper management. To do so, the management must provide the necessary and required resources and tools to provide quality services. Patient satisfaction, paying attention to effectiveness rather than performing one's duty, service guarantee, better service quality, and suitable materials were the most important codes identified for this subcategory.

“... The patient must be satisfied. Given the high costs of dental services, it is essential for the quality to be high as well. Otherwise, the level of satisfaction will decrease, and the credibility of the dental services will suffer. Better quality guarantees the success and proper status of dental services, and the manager should work round the clock in this area.” (Male, 44 years old, married)

“You cannot do your job well if you do not have the right tools and materials. In the field of dentistry, there are a lot of counterfeit products in the market, and we use them. Later, you find out that the patient is unhappy, and there will be problems and consequences that follow. These are our challenges, and good management should monitor and provide the required tools and materials.” (Male, 37 years old, single)

Discussion

Health systems are facing significant challenges due to complex health problems, rapid social, economic, and technological changes, and important goals, such as effectiveness and satisfaction at all levels. The most crucial goal of the manager development program is to provide quality services. Achieving this goal is difficult but essential. The lack of an appropriate and effective system in the field of dental services management leads to the provision of insufficient and poor services, lack of efficiency and effectiveness, lack of quality improvement, and ultimately, the disintegration of the health of society. Therefore, the present study was conducted to identify the components of effective management of dental services in Iran and

offer suggestions to improve the current status. The results of this study have indicated that appropriate training, law management, optimal use of technology, innovation, change management, standardization, financing, optimal resource management, extra-organizational support, attention to preventive approaches, emphasis on responsibility, opportunity-threat analysis, the quality of the doctor-patient relationship, effective and continuous communication, quality diagnosis and treatment in the form of planning, organization, mobilization of resources and facilities, guidance, and monitoring and control are the most critical components of management that can help the effectiveness of dental services.

Proper training in general and in the field of dental services, in particular, is the basis of planning, and to have a specialized and successful program in the field of dental services, there is an essential need for continuous and appropriate training. This training should be considered both in the field of service providers and in the field of service recipients. According to the results of this study, for being able to meet the care needs of the next two decades, dental graduates are required to deal with the challenges caused by the rapidly changing healthcare environment with the knowledge and skillset necessary to effectively serve society based on the standards that adapt to future needs.^{16,17} Based on the results of the study, in addition to proper training, the existing laws and guidelines should be reviewed with a welfare approach and based on inter-departmental cooperation and cooperation; new laws should be codified and enforced in the required cases. These laws and guidelines should be in line with innovation and optimal use of technology, taking into account changes and innovations. In addition, a large portion of society is not aware of dental services¹⁸, and therefore, no effective communication is formed between service providers and service recipients. Effective and continuous communication was also identified as one of the vital subcategories in the present study. Therefore, in line with the concerns expressed in previous studies,^{16,17,19,20} the management of dental services calls for comprehensive attention and interdepartmental cooperation in the fields of education, codification, and enforcement of laws, financing, and service quality. Interdepartmental and professional collaboration is a process in which organizations, institutions, and different professional groups work together to improve dental care and healthcare. This collaboration results in greater resource efficiency and improves standards and the comprehensiveness and continuity of care by reducing duplication and gaps in services; it will ultimately lead to providing better education for people.²¹

Based on the results of the present study, the mobilization of resources and facilities, as one of the most critical tasks and components of effective management, should provide the basis for providing economical and

affordable services to the community, taking into account the well-being of the dental community. Thus, financing by attracting the support of related organizations can be an operational solution. According to the results of previous studies,^{19,20} despite the high cost of dental treatments, the financial protection of people against the costs of dental treatment is very little and insignificant; people who need dental treatment are faced with back-breaking costs. In this regard, optimal resource management is another fundamental and decisive principle, which includes cost management, optimal management of resources and equipment, management and organization of forces, proper use of capacities, and provision of systems and devices needed for dentists. In this regard, it has been stated that there is a need to adjust the price and quality in all clinics and areas of dental services in order to achieve a combination of optimal price and quality for clients; even when receiving quality dental services, the clients do not face a high financial burden.²²

Another important result of the present study is the emphasis on the relationship between service recipients and service providers. In the field of dental services, given the special nature of the services and also the high cost, this communication needs more attention and planning than in other fields. Dental care is usually faced with a traditional doctor-patient relationship, based on which the dentist does not seek feedback, and patients feel dissatisfied when they are involved in the health care process.²³

The central role of communication between doctor and patient in providing successful and quality services has also been stated in other studies, where a balanced relationship between patients and doctors has been found to improve dental care services.^{23,24} In general, the relationship between the doctor and the patient is formed when the patient consciously requests the doctor's services and the doctor also accepts them as a patient. This communication calls for planning and providing sufficient and accurate information for the participation of both parties so that the practical and desired result is achieved.

Limitations

Despite its strengths, the present study has some limitations, such as the impossibility of generalizing the results to other domains, difficult access to experts, and limitations related to qualitative studies, which should be taken into account.

Conclusion

Considering the challenging and expensive nature of dental services as one of the challenges of the health field, there is a gap in effective management in this field. Thus, considering the components of management, effective management should focus on quality, improve

the doctor-patient relationship, monitor and control quality, standardize the services, and pay due attention to successful models worldwide.

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Competing Interests

There are no conflicts of interest.

Ethical Approval

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