



Designing the core competence model of health managers based on the approach of using management assessment centers in health care system

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Abstract:

BACKGROUND: Managers of health and treatment organizations make decisions in very dynamic and unpredictable conditions, and hence the selection of competent managers in health-oriented organizations, especially universities of medical sciences, which has a vital role in health education, and training. Therefore, this research has been done with the aim of designing the core competence model of health managers based on the approach of Using Management Assessment Centers in Health Care System.

MATERIALS AND METHOD: This research was a qualitative study and the content analysis method were done in 2023 on 15 senior managers of Iranian universities of medical sciences. Information was collected with semi-structured interviews with 15 senior managers of universities of medical sciences in IRAN, and after analyzing the content of the interviews by using the Delphi technique, the core competencies model of managers based on the approach of Assessment Centers was designed.

RESULT: After analyzing the content of the interviews finally, the model of the core competencies of senior managers was designed in five dimensions including managerial competencies, perceptual competencies, personality (individual) competencies, communication competencies, ethical competencies, and thirty sub-components.

CONCLUSION: It is very important to pay attention to the core competencies of health managers in controlling, managing, and preventing diseases, and improving the level of community health. Based on this, it is necessary for the officials to base these qualifications on the selection of health system managers and to adopt appropriate health policies in this field to improve the level of health and health, and the efficiency of the health system.

Keywords:

Core competency, health education, health promotion, senior health managers, universities of medical sciences

Introduction

Today, attention to human resources is not unaffected by these changes and developments, and its goals are changing along with global developments, in which the role of managers of organizations is vital.^[1,2] Because managers, due to their

position as the official representative of an organization in creating coordination and increasing effectiveness, are at the head of that organization^[3] and as the main decision-makers in facing various issues inside and outside the organization, they play a crucial role in determining. They play a role in the success of the organization or the achievement of the organization's goals.^[4] In

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other words, managers play an important role in the transformation and excellence of the organization with strategic planning, allocation of resources, organization of people, leadership and performance management, and evaluation and control.^[5] Therefore, it is obvious that except for a competent manager, no other person will be able to fulfill the expectations and goals of an organization.^[6] The role of managers in all programs of the organization is important, so Poursadeghian and Arefi in their study mentioned the importance of competence and awareness of managers in all issues including safety and health, and they expressed the importance of management in promoting health.^[7] Also, this issue increases the job satisfaction of employees.^[8] The study of Dargahi *et al.*^[9] refers to the improvement of the health system with the behavior and competence of managers in the health and development system and also shows that managers can play a significant role in improving education and health.

Competence is generally considered as related behaviors or activities, types of knowledge, skills, and motivations that are behavioral, technical, and motivational prerequisites for successful performance in a specific role or job.^[10] Competencies provide a means to determine what is needed now and in the future, leading to productivity and cost reductions.^[11] Competence is one of the keys to opening the way in the field of organizational competition, and maintaining and strengthening the competencies of human resources can help the organization in the ups and downs of its life, which nowadays is changing more than ever before.^[12] On the other hand, competencies can be categorized into different types such as Basic group, differentiator, and core group. Meanwhile, core competencies are those capabilities that are difficult to cultivate and complete.^[13] These capabilities, both at the individual level and at the organizational level, are created gradually over many years and cannot be easily imitated. Individual and organizational capabilities can be evaluated and named as pivotal and key when they are related to the strategic orientations of the relevant organization and have a significant and irreplaceable effect on the realization of these orientations.^[14] A core competency is a set of special skills that enable an organization to offer unique products or services to customers, which leads to creating a competitive advantage for the organization. With this tool, the organization can create the possibility of organizational learning by using the coordination of production and services, the diversity of skills and the integration of multiple technologies.^[15] On the other hand, since the success of any organization is owed to competent and capable managers, therefore, it is necessary to establish a suitable framework or model to improve this valuable and excellent capital and promote it, by measuring the competencies needed and

effective in its performance. Be done so that the process of continuous improvement of managers is realized through this framework.^[16] Because the use of the competency model can provide a clear picture of the knowledge, skills, experience, and personal characteristics needed by employees to carry out their responsibilities and missions efficiently and effectively.^[17] Among the types of patterns and models, the use of patterns of core competencies of managers can lead to the effectiveness of managers and ultimately the success of organizations.^[18] On the other hand, one of the organizations in which the role of managers' competencies is much more prominent and the effects and consequences of their performance are of double importance is the health system. In health-oriented organizations that have the mission of preserving, providing maintaining, improving health, controlling, and preventing diseases, the need for competent managers is felt more.^[19] Managers of healthcare organizations, especially senior managers of medical sciences universities, make decisions in dynamic and unpredictable conditions and are faced with many changes and developments and increasing pressure to reduce costs, improve quality, and optimize the use of limited resources. So the use of a system of recruitment and selection of managers based on competence can help the performance of the health system in facing challenges.^[20] In other words, senior managers of medical sciences universities, along with general awareness and familiarity with health issues, should also have complete knowledge of managerial, financial, and economic issues.^[21] In terms of management, the health department of our country needs to increase its ability and capability, and the possibility of directing this vital department should be entrusted to people who have the necessary expertise and competencies in management affairs.^[22] But in some cases, it is seen that, unfortunately, the senior managers of medical sciences universities choose the staff without defining the tasks and criteria or based on the comparison of their suitability with their mental model. While the individual model may not be related to the personal characteristics required in that job (job description).^[23] Therefore, in order to select and appoint managers of the health sector and identify and choose the most qualified people, it is necessary to determine detailed job descriptions and criteria so that qualified and worthy people can assume organizational positions.^[24] On the other hand, based on various studies, it has been done in the field of determining managerial competencies and evaluating managers in crisis departments.^[25] Finally, considering that most of the researches and studies conducted in this field have focused on the general competencies of government organizations, and on the other hand, the health sector is also using the same proposed model in the field of evaluating and developing the general competencies of managers.^[26]

The necessity of a competency model in senior managers; among the important issues in organizations is effective competition, which is solved by the job needs of employees and the balance between job needs and people's abilities.^[27] One of the methods has been the use of job analysis, in which the job hierarchy of people is used to identify and describe job requirements and distinguish between high and low performance.^[28] Do focuses on the perceptions of what people do and what should be done in the future.^[29] In job analysis, two problems may arise in describing and explaining jobs. 1- The job description is only for describing and explaining the activity and may not clearly describe the outputs necessary for the success of the organization. 2- The job description changes rapidly in today's fast-changing environment.^[30] Therefore, a relatively new approach called the competency model is used to define and determine performance.^[31] A competency model is a detailed description of the competencies required for success or full performance in a job, role, or organization and a decision-making tool in the human resource management system in the recruitment, selection, and training processes. An alternative to performance management and programming, as well as a mechanism for linking systems. It provides human resources and organizational strategies.^[32]

that this problem itself has flaws and shortcomings that can be attributed to things like the same use of this model in all three management levels (operational, middle and senior) and its non-specificity for health-oriented organizations and also the use of General competences are mentioned in most cases of use.; Therefore, the need to have a specific and practical model for the core competency of health managers, especially senior managers of medical science centers, is strongly felt. Therefore, considering the importance of the subject, this research has been carried out with the aim of designing a core competency model for senior health managers of medical sciences universities in Iran. It is hoped that the results of this research can help senior managers of universities in identifying and employing competent managers and promoting their core competence by designing a suitable model and localizing it.

Material and Methods

Study design and setting

This research was a qualitative study and content analysis method. The collection of information is also of the type of retrieval of documents that have been extracted by using databases in this field. These three methods are traditional, guided and comprehensive approaches.^[33] In this research, after analyzing the content of the interviews and using the opinion of experts and using the Delphi technique, key concepts were extracted

and categorized in the form of main themes, and finally, the model of promoting the core competencies of senior managers was extracted and in the form of main themes. Were categorized and determined in five dimensions including managerial competencies, perceptual competencies, personality (individual) competencies, communication competencies, ethical competencies and thirty components.

Study participants and sampling

The time frame of this research is from 2023 and the statistical population studied at this stage was 15 senior managers.

The samples were selected by convenience sampling method and focusing on available samples.

Since the interview part was a qualitative study, the interview was continued until the information obtained reached saturation, or in other words, until a new code was obtained. In this study, 15 people were interviewed, and no new information was obtained after 11 people. But in order to ensure the results of the interview, 4 other people were also interviewed.

Data collection tools and technique

Semi-structured interviews were conducted with managers to determine the core competency models, and after analyzing the content of the interviews and using the opinions of experts and using the Delphi technique, key concepts were extracted and in the form of the main themes of the category. Were classified and finally the model of core competencies of senior managers of medical sciences universities of the country was determined. By using document retrieval, all the instructions and job descriptions of senior managers of medical sciences universities in Iran are reviewed and evaluated. At this stage, the researcher referred to the human resources area of the university, the university president's office and, if necessary, to the human resources area and the deputy support of the Ministry of Health, Treatment and Medical Education, and identified and collected the latest issued instructions related to the main duties of managers then using semi-structured interviews, the necessary information was collected from the statistical community consisting of senior managers of the country's medical sciences universities and human resource management experts (15 people), who were selected by purposeful sampling. The criteria for selecting people was having a doctorate in human resources or having at least 5 years of work experience at the senior management level, as well as the desire to participate in research. Then, the data and information collected through interviews were analyzed using qualitative content analysis. The time and venue were chosen based on the agreement of the parties and based on the interviewee's preferences. The

written consent form was signed by the interviewees and they were assured that they could withdraw from it at any stage of the research. The estimated time for each interview was about one hour. At the end of each interview and completion of the said form, a single code was given to the written interview form or audio file to facilitate follow-up. The process of conducting interviews continued until reaching saturation (15 people).

The main question and sub-questions were conducted with a semi-structured interview. The main question includes:

1. *What are the core competencies of senior managers of medical sciences universities in the country?*

And sub-questions include:

1. *In your opinion, what other duties does a senior university manager (president and vice presidents) have in addition to the tasks mentioned in the regulations of the cultural revolution council of the university?*
2. *In your opinion, what other roles does a senior university administrator (principal and vice presidents) have?*
3. *What qualifications does each of these duties and roles require?*

The content analysis method was used to analyze the data. For this purpose, the data of each interview was written immediately, and after several times of careful reading and familiarization with the texts, the findings were described, analyzed and interpreted. For this purpose, MAXQDA software²⁰²⁰ were used. Some initial coding were given to some interviewers for confirmation. In the third stage, the compilation of the basic competency model of senior managers of medical sciences universities was done using the panel of experts. For this purpose, 7 human resources experts and managers with more than 5 years of senior management experience in the University of Medical Sciences were selected; and a coordinator was present in the meetings. At this stage, the studied community included experts in the field of human resources and managers with more than 5 years of senior management experience in the University of Medical Sciences. The tool of data collection in this stage of the study is using a checklist and a panel of experts, and the researcher used them to obtain the opinions of the participants. For data analysis, in addition to recording and recording all the conversations of the participants in the meeting, the participants' interactions with each other and the meeting coordinator's notes were also analyzed. Data analysis was done at two descriptive and interpretive levels. Finally, the initial model was determined with the opinion of the research team and based on the results of the group discussion. finally, in the fourth stage, the Delphi technique was used to confirm the core competency model of senior managers

of medical sciences universities in Iran. This technique is based on the assumption that the views of several experts on a subject are better than their individual views.^[34] The consensus criterion was at least 70% and the rejection criterion was below 50%. At the same time, ethical considerations were observed in all stages of the research, such as obtaining permission from the university, informed consent of the participants in the research, keeping names confidential and mentioning the results without the names of the individuals.

Ethical consideration

In addition, ethical considerations were observed in all stages of the research, including obtaining permission from the university with the code of ethics Ethical consideration: IR.MUI.NUREMA.REC.1400.220, the informed consent of the participants in the research, keeping the names confidential and mentioning the results without the names of the individuals.

Result

After completing the presented steps, the results indicated the following in order to achieve an organizational model for the native model for the main competency of health managers in the field of managers of the University of Medical Sciences.

From the primary results of the study, which is shown in Table 1, it has been mentioned the evaluation of the quality of the research findings according to its explanations and criteria in dealing with the model.

Table 2 refers to the process of extracting the code to create the initial codes, which is determined according to the interview text, the code assigned to the person and the theme code. It is worth mentioning that the output of all the data leads researchers to the mentioned model.

In Table 3, it refers to the dimensions and components in the order of priority in the competency model of managers, and finally the output of this table expresses the competency model of managers which is presented in Figure 1 of the final model.

Discussion

This research was conducted with the aim of designing the model of core competencies of the senior managers of medical sciences universities in the country using a qualitative method. In order to achieve the goal of the research, with a semi-structured interview with each of the senior managers of the university and analysis of the findings, the main categories and themes of the model were identified with the theme analysis approach, and finally, the model of core competencies

Table 1: Evaluation of the quality of research findings

Criteria	Description
Reliability: The degree of agreement between the findings and the research data	1. How many times were the interview questions reviewed and revised; and 2. The codes obtained from the interviews were checked more carefully
Transferability: The extent to which the findings are practical in other similar locations	1. Finding the possibility of transferring research findings to similar places; and 2. Identifying all the concepts from the interviews.
Reliability: The degree of stability of interpretations over time	1. Coding in a systematic and methodical manner and 2. Identifying the interviewees' experiences regarding competence
Verifiability: The degree of objectivity and distance from the researcher's prejudice	Analysis and review of codes obtained by experts and informed people and pluralism
Recitation: The researcher's skill in receiving meanings and interpretations	1. Time management in the interview and 2. Confidence building during the interview
Usefulness: Practical dimensions of results	Using the competency model in important human resource processes, including the promotion and development of managers, performance evaluation and appointment
being original	The significance of the findings enriches the research literature in the field of medical sciences universities.
Adaptability: Flexibility to adjust	It is possible if the conditions of the extracted model change.

Table 2: Code extraction process to create initial codes

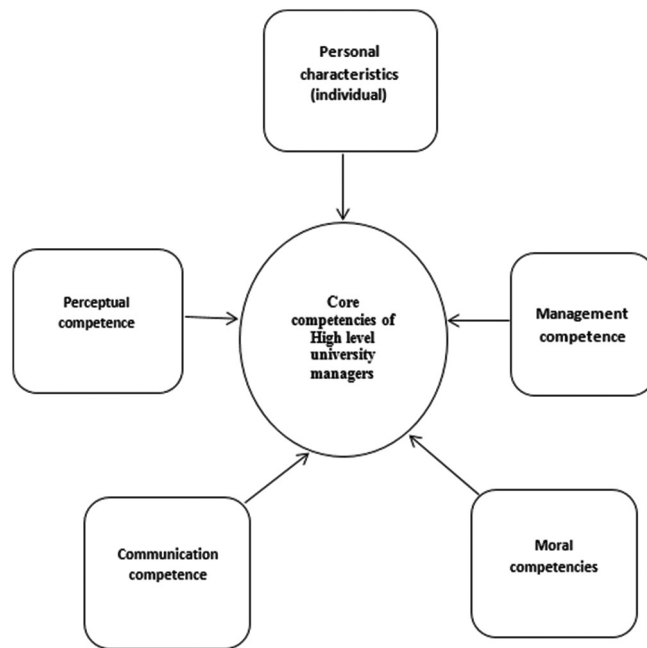
Interviewee code	Interview text	Theme codes
109	Interaction is very important, that is, a university administrator should interact constructively with equal and higher or lower organizations.	Effective internal and external communication
109	In fact, leadership means managing hearts and influencing people that a manager can sympathize with the organization apart from management. When this happens, people work wholeheartedly.	Leadership power
112	University managers mainly deal with several groups, the upstream group which includes the CEO and regulatory organizations. Second, a collection that is at their own level. Like other universities and staff managers, and the third subsets	Penetrability
111	A senior university administrator must hear well, be a good listener, be able to use body language well, and even be effective with his speech.	Interpersonal communication with all organizational levels
110	In my opinion, we should consider several factors for the university manager, firstly, the person who is going to be at the top must have those conditions. What I mean by conditions is that basically, a university administrator must have started from a process or from a place, that is, he must have gone through the organizational levels.	Communication skills (good listening/ body language)
113	Certainly, if a university manager has complete information in the field of operation, he is more successful, just as a doctor is more successful than an electrical engineer to manage a university of medical sciences or a hospital.	Organizational hierarchy
109	For example, regarding this same corona or our budget, we have a committee in which decisions are made to prevent people from contracting this disease or the budget deficit; this is one of the examples of decisions that the university administrator must make	Technical knowledge, related education
106	The university director must have good decision-making power and emotional intelligence; here decisions must be made quickly	Decision making skills
105	The manager must have a set of factors, he must always be on the scene, he must be on the job, I mean he must be among the employees and be present in the area and understand the problems closely.	Decision making, emotional intelligence
109	I believe that everyone has a potential capacity and there is a manager in the workplace who must identify these capacities and use them effectively.	The power of understanding, being in the crowd
105	Managers in the university should have the power to make decisions in moments, especially in critical moments, that is, they should have the strength of crisis management	Employee talent management
104	An efficient manager must be familiar with decision-making, extra-organizational, supervisory and extra-organizational departments.	Crisis management, decision making
109	The university may face a crisis and problem every day, so correct decisions should be made in critical cases.	Knowledge of changes outside the organization, ability to make decisions

of senior managers Universities of medical sciences were extracted with five overarching themes including managerial competencies, perceptual competencies, communication competencies, attitudes and values, personality (individual) characteristics, and thirty main themes.

In this study, the interviewees believe that due to the importance of medical sciences universities in the health and strengthening of the country's health personnel, the creation of fluency and facilitation of the senior managers of the universities in the work processes increases the speed of action and agility of

Table 3: Dimensions and components in the order of priority in the manager's competency model

Components in order of priority (from right to left)	Dimensions
Performance management - Change management - Planning and organization - Resource management - Specialized knowledge and skills - Participatory management - Crisis management	Management competence
problem solving and decision making - strategic thinking - initiative - creativity and innovation - systemic thinking - mental analysis ability	Perceptual competence
Effective communication - trust - negotiation - settlement - mutual respect and understanding - acceptability in the work environment	Communication competence
Customer orientation - Professional ethics - Work commitment and conscientiousness - Law orientation	Moral competencies
Flexibility-risk-taking-responsibility-persistence and seriousness-openness and decisiveness-positivity-criticism and self-reliance	Personal characteristics (individual)

**Figure 1:** Model of Core Competence of senior health managers in Iranian universities of medical sciences

the processes and in the characteristics of Individuals such as attitude and behavior are examined. Also, in the model of Babashahi *et al.*,^[35] personality (individual) competencies are included as one of the principles in the competency model. Therefore, it is consistent with the current model.

Among the famous competency models is the Similer model,^[36] which expresses the interactions and communications of senior managers, which play an important role in maintaining and maintaining employees and their motivation, and patients' satisfaction with the quality of health services. Therefore, one of the dimensions of this current model is communication skills, which refers to the extra-organizational interactions of senior managers with the approach of social responsibilities, and their accountability to external organizations and society. and the application of a teamwork approach by senior managers leads to synergy in the work and activities and efficiency of the health system and increases its productivity.

The research of Dianat *et al.*,^[37] refers to management competencies in managers' core competencies. In the present study, the biggest concern in the discussion of human resources is attention to the expertise and mastery of managers in the technical issues of the university, which has a high ability and understanding of human resources management. It is one of the cases that requires the development of the competence of managers in this field so that they can interact effectively with colleagues and handle their expectations and requests, which is related to the sub-components of general knowledge, knowledge expertise, and organizational knowledge.

In this study, cognitive competence includes the main themes of crisis management and strategic thinking and action. This topic includes two sub-components strategic thinking and strategic management. The interviewees believe that the managers' strategic attitude towards organizational issues is important and can determine the success or failure of the organization. Considering the strategic orientation of universities of medical sciences, the strategies and strategic goals of the group must be identified and formulated by the managers, and then all units and employees are required to formulate their operational plans to realize these strategies. To move and grow towards excellence. The organization will realize the company's vision of operational excellence and global competitiveness. Also, the component of strategic thinking and action in strategic competence is consistent with the competence of Dari *et al.*'s model.^[38] Compared to previous research, the merit of the model presented in this research is more comprehensive and complete than the results of Seyedi *et al.*,^[39] Khashoui *et al.*,^[40] and Niromand *et al.*^[41]

Ethical competencies, this competency includes the main themes of client management (patient-centered), professional ethics, paying attention to the charter of patients' rights, work commitment and conscientiousness, and law-abiding. Present research by presenting the competency model of senior managers tries to identify the components needed by senior managers in a scientific way and by designing the model as the basis of the human resource management system, the fields of evaluation and selection, promotion, performance

management, career path planning, To provide talent management and succession and finally, promote and develop the competencies of senior managers of medical sciences universities.

According to the presented model, it is suggested that this model be evaluated in different universities in order to determine the gap between the current competencies and the desired competencies of senior managers and develop individual development programs for senior managers of the health system in this direction.^[36]

Also, it is suggested to use the present model in the implementation of various human resource systems of the health system and universities of medical sciences, including the process of selection, development and promotion, performance evaluation, reward and compensation system, and succession of managers.

Karimi *et al.*'s^[32] study was based on the model of three dimensions: Individual, technical and interactive. The individual dimension has 7 components, the technical dimension has 25 components and the interactive dimension has 4 components. Individual dimension is one of the most important factors of success and progress in work. Because they can influence the perception, motivation and work behaviors and of course decisions and behaviors and reduces the need for supervision and increases productivity. Some consistent studies that have mentioned the individual dimension and its components.^[42]

Diant *et al.*'s^[37] study showed intellectual skills (problem solving skills, decision making, critical thinking and creation and conceptualization). Social and communication intelligence competencies (extra-organizational interaction and intra-organizational interaction); Individual competencies (knowledge and awareness, personality traits and values); Executive competencies (result orientation and executive ability, management of employee performance and guidance and leadership) are important competencies for the characteristics of managers.

Abdollahi *et al.*'s^[43] study regarding the identification and validation of the components and dimensions of ethical leadership of the managers of educational groups of Mashhad University of Medical Sciences was based on the competence approach, which examined ethics in individuals. In this study, the purposeful method and interview to theoretical saturation were chosen. And showed that the moral leadership of managers consists of four important dimensions: Individual, social and individual. The findings of the research showed that the three dimensions of moral competence, technical competence, and leadership behaviors are among the

most important dimensions of moral leadership in educational managers at the University of Medical Sciences.

The strength of this study was a review of previous studies and research and their integration in the form of a holistic model. Therefore, taking into account the difference between the health sector and other organizations, as well as the difference between Iran's health system and other countries, it is felt necessary to have a specific and practical model for the core competence of senior managers in the field of health and health, especially in universities of medical sciences. Therefore, it seems that the most important innovation in the current research is paying attention to different managerial levels and trying to design a specific model as well as localizing the core competencies of managers and using it in the evaluation and development center of health system managers, as a basis for the specialized identification of the relevant competencies. It is the need of human resources managers and in line with the harmonization of different evaluation indicators in the country's health and treatment system. Therefore, based on competency models and using assessment centers, it is possible to provide a framework for the identification and optimal selection of health managers, so that with the correct selection of managers, the efficiency and effectiveness of health-oriented organizations and the control and prevention of diseases can be improved.^[44]

Limitation and recommendation

Also, this research, like many other research, had limitations, which include the most important limitations below

1. Lack of access to expert and knowledgeable people
2. The interview process is time-consuming
3. The unwillingness of the participants to conduct the interview, which is necessary
4. Lack of access to participants to collect information.

It is suggested that the presented model be implemented as a pilot among the senior managers of the health system. Also, this model should be implemented and compared in similar organizations.

Considering that the current research is only qualitative, it is suggested that the designed model be tested in future research.

Conclusion

By presenting a model of identifying the core competencies of health system managers of different countries and localizing it for Iran, this research will help health-oriented organizations in selecting and appointing the most competent managers.

The existence of a specific and practical model for the core competence of health managers is felt necessary. Therefore, it seems that the most important innovation in the current research is paying attention to different managerial levels and trying to design a special model as well as localizing the core competencies of managers and using it in the evaluation and development center of senior managers. Universities of medical sciences as a basis for specialized identification of relevant qualifications. It is the need of human resources managers and in line with the coordination of different evaluation indicators in the country's health system. Also, since it is very important to pay attention to the core competencies of managers who are at the top of decision-making in universities of medical sciences, it is necessary for the officials to put and adopt these competencies as the basis for the selection of health system managers. Appropriate health policies in this field should take steps to improve the level of health and hygiene, the efficiency of the health system, and the quality effectiveness of the management of universities of medical sciences.

Considering the difference between the health sector and other organizations, as well as the difference between Iran's health system and other countries, the need to have a specific and practical model for the core competency of senior managers in the health sector, especially in medical sciences universities, is felt. Therefore, it seems that the most important innovation in the current research is paying attention to different managerial levels and trying to design a specific model as well as localizing the core competencies of managers and using it in the evaluation and development center of health system managers, as a basis for the specialized identification of the relevant competencies. It is the need of human resources managers and in line with the harmonization of different evaluation indicators in the country's health and treatment system.

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Conflicts of interest

There are no conflicts of interest.

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