



## Research Paper

# Explaining the Role of Faculty Members of Medical Sciences Universities in Dealing With Epidemics: A Qualitative Study



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## ABSTRACT

**Background:** The roles of Faculty members of medical sciences universities in responding to and controlling critical situations and epidemic diseases are critical and of great importance.

**Objectives:** This study was aimed to explain the role of faculty members in dealing with epidemics and crises.

**Materials & Methods:** This qualitative study was conducted using a content analysis method at Guilan University of Medical Sciences in 2020. Thirteen faculty members (physician, Ph.D. in nursing, anesthesiologist, PhD in reproductive health, and Ph.D. in disaster and emergency health) were selected through purposive sampling method, and their viewpoints were surveyed until data saturation was reached. Data were collected through semi-structured interviews. Qualitative content analysis was used to analyze the data.

**Results:** Based on participants' experiences, several roles could be considered under 3 main categories: a public educator, a clinical therapist, and a manager. Each of these main categories included several sub-categories. Based on the participants' experiences, among faculty members' roles, the public educator, as the most central role, influences other duties of faculty members.

**Conclusion:** The results of this study showed that medical faculty members have numerous and significant roles in dealing with crises and emerging diseases. Identifying the medical faculty's roles in coping with epidemics can help better understand the capabilities of these instructors and plan a basis for their greater cooperation and participation in controlling, preventing, and managing crises and emerging diseases. The results of this study can be advantageous in planning training programs and preparing faculty members to deal with epidemics and crises.

**Keywords:** Faculty, Epidemics, Education, Qualitative Research

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## 1. Introduction

**T**he primary mission of universities and academic educational institutions is to take into account the needs and expectations of society and help analyze and resolve the fundamental problems of society [1]. The faculty members, as the main stakeholders in the university, are accountable for educating the students. In other words, the efficiency of the university is directly influenced by the way faculty members perform tasks and take roles, as well as the quality of their activities. Without an active, consistent, knowledgeable, and expert faculty member the mission of the university will not be fully accomplished [2]. Accordingly, medical universities are required to direct their activities towards education, research, and services in line with the communal, regional, and global health priorities. In this regard, in the vision document of the Islamic Republic of Iran in the 2025 and also the comprehensive scientific map of the country, the importance of being responsible and responsive to the needs of society has been accentuated. In order to develop their social accountability, faculty members have a responsibility to be efficient in the economic and social growth of their society and play various roles in this field [3].

The role of faculty members in empowering graduates who, in addition to sufficient knowledge, need to possess new skills and training to provide social services is of particular importance [4-6]. Medical faculties can play various roles in diverse situations, such as educating specific techniques in crises and war situations. The roles of education and research, and providing counseling and support techniques explain the role of faculty mobilization in dealing with crises [3, 7].

The role of faculty and health professionals in responding to and controlling critical situations and epidemic diseases is critical, and their cooperation in controlling epidemics should be employed. During the Ebola Virus Disease (EVD) in Liberia, West Africa, the successful long-term scientific collaboration of faculty and medical staff in controlling the outbreak facilitated participation and cooperation to terminate the outbreak. Faculty members and staff were involved in providing equipment, re-training supportive medical education, participation of, and coordination among staff were introduced as the effective elements in their success [8]. During the Ebola outbreak in 2015, dental professors helped strengthen the healthcare team to prevent the spread of the disease in the Indian subcontinent. The faculty members' cooperation indicated that by developing educational

programs specific for dental students and faculties to provide knowledge about Ebola and its prevention and evaluation strategies, it was possible to effectively help prevent this disease [9].

COVID-19 disease was an epidemic worldwide. A large number of medical staff and the general public became infected, and some died from this disease [10]. Regarding the rapid transmission to individuals preparation to fight the disease was essential [11]. Considering the lack of previous exposure to such crises in the province and the country, it is very important to be prepared for these crises. The role of faculty members depends on the cultural and social context in the specific community, and that the requirements of their role are preferable to be examined from their own perspective and mentality [12]. Among research methods, qualitative research examines the views of individuals who have experienced the phenomenon, encountered it, and understood the problems in its cultural and social context, and it intends to examine the interaction patterns in the natural context of participants [13-15]. Therefore, the researchers of this study decided to conduct a qualitative study using content analysis approach to explain the role of faculty members in the face of the COVID-19 pandemic.

## 2. Materials and Methods

### Design

This qualitative study was conducted from May to August 2020 using the conventional qualitative content analysis approach and purposive sampling method.

### Participants

Thirteen faculty members of the Guilan University of Medical Sciences (Nursing and midwifery faculty and medical faculty) who were willing to participate in the study, had at least two years of academic experience, and worked during the COVID-19 pandemic, were purposefully selected and interviewed. One interview conducted with each participant.

### Data collection

Semi-structured and face-to-face interviews were conducted. First participant was selected based on his experience and knowledge in this field (PhD in disaster health) and other participant were entered purposefully. The interviews were conducted at the place recommended by the participants after prior coordination with them. The researcher first introduced herself to the participants and

provided a brief explanation of the study objectives. To conduct the interviews, some general questions were first asked as a primary assumption, which led the interviewee to share his/her experiences. Questions such as: What do you think is the role of a medical faculty? What roles can faculty members play in times of epidemics and crises? What can faculty members do regarding preparation for epidemics? What factors impact faculty members' role in times of epidemics and crises? These initial questions were asked with identical statements according to the interview flow and continued with other exploratory questions. During the interview, field notes were taken. Interviews lasted between 30 - 60 minutes and continued until no new data appears and data saturation was obtained. The interviews were recorded and transcribed verbatim.

### Data analysis

Data analysis was performed simultaneously with data collection using the conventional content analysis according to the steps proposed by Graneheim and Lundman [16]. Using this qualitative method, the researcher attempted to gain a new understanding of the concept by immersing herself in the data. While refraining from imposing an opinion and using pre-determined categories, she extracted the constituent categories of the concept directly from the data extracted from the participants' experiences. In this approach, first, the main content, tendencies, and meanings were examined to find a connection between ideas and theories. Researchers can then reach key points or specific themes through these general connections [15]. By using MAXQDA 2010, the researcher (MK) read each interview thoroughly and open coded data extracts. The codes were then grouped into categories according to their similarity. The next step involved comparing similarities and differences in the analysis to reach consensus on the final identified categories. The categories were refined and negotiated among the research team until the final categories were decided.

### Rigor

To evaluate the validity of the findings, Guba and Lincoln's four criteria including; credibility, transferability, dependability, and confirmability were used [17, 18]. The interview transcripts along with the codes and emerged categories were presented to several experienced colleagues to review the data analysis process and comment on its accuracy. The prolonged engagement with the research topic and data was used to confirm credibility. The interviews, extracted codes, and subcategories were shared with some participants and experts

of the qualitative research, and their opinions were applied. The stages and decisions made during the research were accurately recorded and reported to enable others to follow up on research if needed, and also data dependability could be confirmed.

## 3. Results

Thirteen faculty members composed of three physicians and pulmonologists, two PhD in reproductive health, five Ph.D. in nursing, one anesthesiologist, and two Ph.D. in disaster and emergency health were recruited by purposive sampling method (Table 1).

Based on the participants' experiences, 143 initial codes extracted and the role of faculty members in dealing with epidemics and crises was classified into three main categories: public educator (four subcategories), a clinical therapist (two subcategories), and a manager (four subcategories) (Table 2).

### Public educator

In this study, all participants evaluated the educational role of the faculty members in crises as highly important. Since medical faculties provide services in various academic environments and clinical settings, they provide their educational services in different environments. Educating the community, medical staff, students, and patients and their families is one of their significant duties and roles, and all participants described it as one of the most critical roles of medical faculties. The public educator category consisted of 4 subcategories: educating the community, educating students, staff training, and educating patients and their families.

### Educating the community

"The educational role can be taken as the public education; we formed a center in the vice-chancellor for education and dedicated it to educating people. A lot of people called and asked questions, and we provided them with the necessary training. Right now, with the COVID-19 outbreak, we're teaching everywhere, whether in the alleys, at home, or even in social or online media..." (p1).

"Training they give to people and the educational content they provide can be very useful and play a role in raising public awareness." (p5)

“This is one of the suitable opportunities for professors to play their role. Another role in which the faculty contribute is that it has formed committees in the formal context. There’s a public education committee for pregnant mothers or public health and infection control, which are also good. The content they create is being used in various online media.” (p2)

### Educating students

During the pandemic, student education is altered from face-to-face training to online education. Therefore, student education can be continued, and professors are required to use alternative methods to continue their education process. Some universities used combined techniques to educate students, and sometimes face-to-face training was continued using health protocols with limited number of students. Regarding this, faculty members’ activities during epidemics and practical techniques to continue student education are fundamental and of importance.

“Online student education continues in the time of pandemic, and we should prepare the curriculum virtually to transfer the content perfectly so that learning occurs. For example, I’m always online and in touch with my students, ask questions, or they send me voice messages; I listen to see if they’ve understood correctly or not .....” (p9)

“The professor should provide useful training to increase students’ knowledge and awareness through novel teaching methods and upload them in the systems. Because the classes aren’t held in-person, professors should plan in such a way that they can convey the content accurately and the knowledge can be transferred.” (p8)

### Staff training

During the pandemic, the medical faculties cooperate in training the medical staff to implement new health care measures. Participants mentioned the role of faculty members in training new staff and considered it one of their key roles.

“A group of inexperienced nurses was recruited under a contract. We were supposed to train them quickly and in a very short period of time. The focus was on intensive care unit training. The faculty members were asked to train new nurses well. This is one of the professors’ roles that can be very helpful.” (p1)

### Educating patients and their families

According to the participants, considering the therapeutic and caring role of medical faculty in the clinical setting, they constantly educate patients and their families both in the clinical setting and in the community. Therefore, this aspect of education can be one of the essential roles of faculty members.

“The faculty provided this opportunity. Some SIM cards were given to people who were ill, hospitalized, or discharged, so they could ask their specific questions at the numbers they had previously been informed about. This way, they helped the discharged patient to go through the course of the disease healthily or prevent the infection of the people who were in contact with them.” (p1)

“In the case of pregnant women, my senior students and I were constantly educating pregnant women, and they’re constantly in touch with me, and I give them training and advice.” (p12)

### A clinical therapist

In addition to education, medical faculty provide therapeutic and care services in the clinical setting. Therefore, this role was one of the most significant and key roles from the participants’ perspective. This category consisted of two subcategories: therapeutic service provider and care provider.

### Therapeutic service provider

“A medical faculty member should provide clinical services in the clinical setting.... Some professors visited patients at the bedside in the absence of other professors.” (p1)

### Care provider

“Some nursing and midwifery professors play caring roles along with students during their internship and training courses. All of these are among the professors’ main roles that continue during the COVID-19 pandemic.” (p8)

### A manager

In view of faculty members, Management was the important role of the professors in dealing with epidemics. Therefore, this role was one of the significant roles from the participants’ perspective. This category consisted of four subcategories: an advocator and supporter, a crisis Manager, a role model and a permanent researcher.

### An advocator and supporter

According to the participants, faculty members play a supportive role for students and medical staff. They are permanently prepared to assist their students and medical staff when required.

“For example, observing them is a kind of support. Students think that a person is supporting them because they worry for themselves and their families in this pandemic. Sometimes they need their professor, as a supporter, to give them some advice. For example, in the ward, if they feel that the student can be infected, they make the right decision...” (p 8)

“One senior student who works at Ghaem ICU said: “dear professor, don’t forget us; visit us; we need your support at this time.” Well, if the medical professor is with them when needed, supports them if it’s necessary; when there’s not adequate equipment, asks the relevant organizations, pays attention to the staff in the media and scientific and governmental forums, and support them; It’s very important...” (p1)

### A crisis manager

Collaboration in the management of crises and epidemics was one of the significant roles of the faculty members from the participants’ point of view. Medical faculty can play an important role in controlling crises through consultation with managers and health planners of the country.

According to the participants, medical faculty play a critical role in crisis management. Their vital views on controlling, preventing, and treating patients can lead to the control of epidemics.

“Faculty members can manage the crisis by forming a think tank in various fields of medical sciences.” (p3)

“A medical faculty member can be present in the health committees so that they can help in further control of the crisis.” (p4)

### A role model

Furthermore, being a role model was one of the medical faculty’s important roles mentioned by most participants. The instructor’s readiness to control challenging and critical situations and guide and train students and staff in crises introduce them as exemplary role models.

“When a student sees his/her instructor’s providing services in a crisis, or advises, educates, and supports pregnant mothers who are stressed during this period, he/she becomes a role model for them to be responsible to society.” (p13)

“Everyone follows their instructors at such moments to see what they’re doing, or seeks advice from them, and usually admits them as a role model ...” (p3)

### A permanent researcher

From the participants’ point of view, conducting research was one of the leading roles of medical faculty since these professors constantly investigate and carry out research to solve health problems. Likewise, in the time of epidemics, in order to clarify the causes of the epidemic and the treatment and prevention methods, there is a need for research in this field, in which medical faculty are highly active.

“In addition to treatment, the University of Medical Sciences should conduct research during diseases and epidemics to determine the causes of diseases, treatment methods, prevention, and unknowns so that it can help control the spread of the disease as soon as possible. Our faculty formed a research group and committee in the COVID-19 pandemic, and all professors presented a series of topics and wrote a proposal, which were approved by the Vice Chancellor for Research. The research is still in progress.” (p10)

## 4. Discussion

The medical faculties play an imperative role in the prevention and control of critical conditions and epidemic diseases, and their cooperation and participation in the management and control of epidemics can be utilized. In order to more accurately determine the role of faculty members in crises and epidemics and to employ their knowledge and skills, further studies in this field are required. Therefore, this study was conducted qualitatively to explain the role of the medical faculty of Guilan University of Medical Sciences in dealing with epidemics from the faculty’s perspective, and three main categories, including public educator, a clinical therapist, and a manager (four subcategories) . In the study by Adib et al. in explaining the role of faculty members in evidence-based education, four main themes were extracted: research in education, interpersonal relationships, mastery in teaching, and role models for students [19]. The results of this study included some categories extracted in the present study, including research, teaching, and

**Table 1.** Demographic characteristics of study participants

Participant Number	Gender	Age	Duration of Interview (Minutes)	Job
1	Male	53	55	PhD. in disaster health
2	Male	51	45	PhD. in disaster health
3	Male	55	35	Pulmonologist
4	Male	49	30	Pulmonologist
5	Female	47	40	Pulmonologist
6	Female	50	35	Anesthesiologist
7	Female	41	35	PhD. in nursing
8	Female	42	40	PhD. in nursing
9	Female	40	45	PhD. in nursing
10	Female	58	40	PhD. in nursing
11	Female	32	45	PhD. in nursing
12	Female	45	43	PhD. in reproductive health
13	Female	51	40	PhD. in reproductive health



role model; however, since the mentioned study refers to the role of faculty members in the field of research in education, considers faculty's other roles influenced by the research role and is more focused on evidence-based education.

Faculty members have various roles and responsibilities; however, they have the two primary duties in common: first, educating students, which has long been recognized as professors' major task and has been of the greatest importance, and second, the research and knowledge production. Research and science production is an extremely significant duty of the faculty. Scientific production as the outputs and products of scientific conferences is one of the main features of scientific development in societies, and increasing its quantitative and qualitative level is the primary goal of scientific communities [2]. In the study by Hashemian et al. conducted qualitatively to determine a role model for effective teaching, twelve components were obtained, including "orientation", "love for the profession", "professional guidance", "proficiency", "resource developer", "professional assessment", "monitoring and organization", "coaching", "classroom management", "learning facilitation", "inclusivism", and "accessibility" [12]. According to studies, faculty members can play numerous roles in different situations such as crises, diseases, and wars [7, 19, 20]. Based on Shahin's study, the educational, research, and counseling roles indicate

the faculty members' roles in dealing with the crisis [7]. Mohammadi Mehr likewise revealed the faculty members' roles, including a role-model, a facilitator and mentorship, and a master of specialized knowledge and experience in teaching military medical courses [20]. Some of the roles expressed in these studies are in line with the results of the present study.

Based on the participants' experiences, among faculty members' roles, 'a public educator' was extracted as the most pivotal role of faculty and the first category of this study. A study by McQuilkin et al. during the Ebola virus outbreak in West Africa found that most faculty members, employees, and interns at U.S. medical centers and affiliated teaching hospitals were willing to participate in dealing with the Ebola outbreak, and the scientific-educational cooperation and successful long-term participation of medical faculty and staff in controlling the spread of the disease in this country have been highly effective. The faculty's training support to work safely during Ebola was similarly very efficient. The mentioned study evaluates the roles that faculty and health professionals can play in responding to and controlling critical conditions and epidemic diseases as vital and critical and suggests that their cooperation be used widely to control epidemics [8]. In the study by Jain et al., which discussed primary prevention training provided by faculty for students to prepare them for the fight against Ebola,

**Table 2.** Categories, subcategories and codes of the study

Category	Subcategory	Codes
A public educator	Educating the community	Educating people virtually
		Public education through answering system to questions on COVID-19
	Educating students	Education through virtual systems
		Training in the clinical settings
	Staff training	Short-term education for nurses employed during the crisis
	Educating patients and their families	Educating while providing clinical care
		Educating patients and families in the clinical setting and in the media
A clinical therapist	Therapeutic service provider	Providing therapeutic service in the clinical setting
	Care provider in the clinical setting	Presence in the clinical setting together with students to provide care services
A crisis manager		Planning preventive protocols
		Implementer of preventive protocols
		Supporting medical staff in the front line
An advocator and supporter		Presence in the clinical setting to encourage medical staff
		Presence in the clinical setting to encourage students
A manager	A role model	Supporting students during crises
		Charismatic role-model for staff and students
A permanent researcher		A guide for students and healthcare professionals in providing services in crisis
		Research in the field of preventive factors and vaccination
		Research in the field of novel treatment methods
		Research in the field of novel care methods

it was concluded that the training in this field improved students' knowledge; consequently, such educational programs should be planned and implemented by faculty to promote students' scientific knowledge, increase their awareness to prevent, and make them prepared for epidemics [9]. This study results are in line with the present study, as most participants in the present study referred to the professors' role in public education and considered the education of students, staff, and patients and their families as one of the medical professors' primary and significant roles.

Another important category extracted in this study is the medical faculty's role as the clinical therapist. Since medical faculty, in addition to providing education to

students and assistants in various fields of medical sciences at the university and clinical settings, are responsible for providing medical services to patients, their therapeutic role in epidemics is among their critical roles. In the present study likewise, this role was of importance and fundamental from the faculty's perspective, and these professors have always been active and enthusiastic in providing services on the front lines of the fight against epidemic diseases. In the study by McQuilkin et al., faculty's long-term therapeutic cooperation with health workers was extremely effective in controlling the disease outbreak in this country, and faculty members played a vital role in controlling Ebola through training and taking safe therapeutic measures [8].

Regarding faculty's role as a researcher, due to the unexpected prevalence of such diseases and lack of knowledge and awareness about emerging diseases, conducting research in this field during the outbreak of unknown diseases was one of the faculty members' important roles from the study participants' perspective. Therefore, as the front line staff in the fight against common diseases, medical faculty constantly consider research in this field to control, prevent, and treat the disease as their priorities. In the study by Adib et al., research in education was considered as the most pivotal role in evidence-based education and influenced other duties of faculty members, and improving research in education facilitated evidence-based education in the field of medicine [19].

Another role referred to the faculty member's support and counseling role. The faculty members stated that in the current COVID-19 crisis, their supportive role had become much more conspicuous, and the majority of staff, students, and patients enjoyed the faculty members' support. The reason is that in crises, professors can play a critical role in controlling and managing the disease with the help of their comprehensive support. This category can be in line with the supportive role of faculty in the study by McQuilkin et al. [8].

Among other mentioned roles, the role of crisis management was mentioned by most professors as one of the critical roles in crises since the medical staff is at the forefront of fighting epidemic diseases, having the duty of controlling, preventing, and treating such diseases, and caring for patients; therefore, they can play an essential role in the management of these diseases. In numerous studies, the role of faculty members in controlling diseases such as Ebola and other crises has been mentioned [7, 8, 19, 20].

Finally, being a role model was considered as another critical role of faculty members. By seeing their professors at the forefront of the fight against epidemic diseases, students will recognize them as role models and charismatic personalities. This role was mentioned in the study by Adib et al. in explaining medical faculty's and students' experiences and views of the faculty role in evidence-based education [19]. Furthermore, in the study by Mohammadimehr et al., the role of faculty in educating military medical courses was mentioned [20]. Likewise, in the study by Salarvand et al., faculty members' role modeling and observance of professional ethics have been mentioned [21]. In order to introduce a model of a competent Iranian professor in the university, Bonakdari et al., in their study and through a qualitative approach showed that the role model included three main components, namely cognitive, behavioral, and emotional dimensions. Components of

cognitive dimension included content mastery, organized content, up-to-dateness, research skills, initiative and creativity, and a combination of theory and practice. Behavioral components included eloquence, positive interaction with students, activeness and enthusiasm, predictability, flexibility, encouragement, and fair evaluation. Finally, the components of the emotional dimension included warmth and intimacy, interest in the field of specialization, commitment and responsibility, high expectations of students, optimism, and positive thinking [22].

## 5. Conclusions

In addition to professional competence, medical universities and their faculty are required to possess the capability to respond to the challenges and complications caused by emerging crises and diseases. Identifying the role of medical faculty in dealing with epidemics can help better understand their abilities and better plan to use their greater cooperation and participation in controlling, preventing, and managing crises and emerging diseases. The results of this study can be provided to educational planners to be used in educational planning and the preparation of faculty in the face of epidemics and crises. To better identify these roles, further studies in this field can be beneficial.

## Limitations

The limitation of this study was the specific limitation of qualitative research, the most important point of which is the transferability of the research findings. Using the purposive sampling method and recruiting a variety of participants, an attempt was made to provide the transferability of the findings for evaluation and judgment by others.

## Ethical Considerations

### Compliance with ethical guidelines

Ethics approval for the original research project was granted by the Ethical Committee of the [Guilan University of Medical Sciences](#) (Code: IR.GUMS.REC.1399.018). Prior to each interview, signed informed consent was obtained. The participants were also advised that their participation was anonymous and voluntary and that they could withdraw at any stage. Authors followed the COREQ guideline to conduct qualitative research.



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## Authors' contributions

All authors equally contributed to preparing this article.

## Conflict of interest

The authors declared no conflict of interest

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