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Exploration of the Experiences and Viewpoints of Faculty Members on Continuing Education Webinars: A Qualitative Study

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Abstract

Continuing education is necessary to improve the professional knowledge and skills of graduates of medical sciences, which may be implemented via e-learning. This qualitative study aimed to explore the experiences and viewpoints of faculty members participating in continuing education webinars. The participants consisted of 15 faculty members selected purposefully and with maximal variation regarding their sex, age, the field of specialization, academic rank, and work experience. Data were collected through semi-structured individual face-to-face interviews. Data analysis of these transcripts using a qualitative content analysis approach revealed 3 themes and 9 sub-themes. The main themes included "Moving across the boundaries of knowledge," "Virtual education challenges," and "Motivators and facilitators." These data suggest that the main prerequisites for holding successful and effective continuing education webinars are the existence of the necessary software and hardware infrastructures, high-speed and accessible Internet, purposeful educational design, as well as empowering, motivating, and encouraging faculty members to participate in such educational programs. The technical infrastructures and human elements remain critical in effective implementation of continuing education webinars.

Keywords

Computer-Assisted Instruction, Continuing Education, Faculty Members, Internet Learning, Qualitative Research

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Exploration of the Experiences and Viewpoints of Faculty Members on Continuing Education Webinars: A Qualitative Study

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Continuing education is necessary to improve the professional knowledge and skills of graduates of medical sciences, which may be implemented via e-learning. This qualitative study aimed to explore the experiences and viewpoints of faculty members participating in continuing education webinars. The participants consisted of 15 faculty members selected purposefully and with maximal variation regarding their sex, age, the field of specialization, academic rank, and work experience. Data were collected through semi-structured individual face-to-face interviews. Data analysis of these transcripts using a qualitative content analysis approach revealed 3 themes and 9 sub-themes. The main themes included “Moving across the boundaries of knowledge,” “Virtual education challenges,” and “Motivators and facilitators.” These data suggest that the main prerequisites for holding successful and effective continuing education webinars are the existence of the necessary software and hardware infrastructures, high-speed and accessible Internet, purposeful educational design, as well as empowering, motivating, and encouraging faculty members to participate in such educational programs. The technical infrastructures and human elements remain critical in effective implementation of continuing education webinars. Keywords: Computer-Assisted Instruction, Continuing Education, Faculty Members, Internet Learning, Qualitative Research

With the spread of information technologies and the advent of the Internet, education has changed and online learning has proliferated (Balanko, 2002). Webinars refer to a synchronous online education method in which people gather at a specific time to listen to, observe, and participate in the presentation of a topic. The term “webinar” was proposed by Eric R. Kolb in 1998 which is a blend of the words “web” and “seminar” (Lande, 2011). Webinar-based lessons and continuing education are conducted via the Internet where each person must be equipped with a computer or a smart phone. Video communication is available via a monitor and a webcam and each person may communicate with the teacher via the computer. In most cases, exams and certificates are also presented electronically via the Internet (Kia, 2010).

Webinar technology has many benefits in the area of online learning, allowing for real-time and synchronous communication between the speaker and the listener, covering long distances to reach the potential audience, and making it possible to archive web-based information for later use (Allred & Smallidge, 2010). Generally, the reported benefits of online learning include increased access to education and educational alternatives, access to up-to-date information, development of skills, efficient learning, and effective execution (Barbour & Reeves, 2009; Yoon, 2003). Despite these benefits, there are some challenges. For example, evidence suggests that online learning can create a sense of isolation and dissatisfaction in learners and intensify their difficulties (Hyde & Murray, 2005; Power & Morven-Gould, 2011).

Online learners should have the power to decide how to prioritize the learning goals, manage time, and find resources (Kop, 2011). As these are usually among instructors' responsibilities in traditional classes, some learners may encounter problems in such self-directed learning environments. Studies have shown that only those who are motivated and diligent and have a tendency to independent learning are successful in taking advantage of online learning (Barbour & Reeves, 2009; Childress & Overbaugh, 2001). In addition, learners need to have a certain degree of knowledge and skill, including creativity and flexibility, in order to learn independently in a complex online environment (Kop, 2011).

Currently, the universities of medical sciences are also seeking to efficiently implement these new methods through continuing education to improve the knowledge of the medical community (Khanemasjedi, Shakoornia, & Basir, 2009). Nowadays, continuing education is an inevitable necessity whose purpose is to improve the professional knowledge and skills of the medical sciences graduates and eventually, to improve the health status of the society. Continuing education programs should be implemented properly to choose appropriate teaching methods, and then, to examine learners' viewpoints in order to improve its quality (Sadeghi & Bakhshi, 2008). Continuing education is one of the areas that can be easily implemented via e-learning. The necessity of e-learning is especially felt in regard to the continuing education of the medical community whose members have a wide range of interests, experiences, and educational needs (Ebrahimi kooshk Mahdi, Asadi, Ghoddosi Moghaddam, Deldar, & Movahed, 2011). The results of a descriptive-survey study conducted by Rezai Rad and Mohammadi Atargaleh (2012) revealed that according for faculty members, learning via the World Wide Web can facilitate the teaching and learning process by up to 62%. The results of a study conducted by Saleh Sedghpour and Mirzaei (2008) indicated that those who are aware of the methods of providing e-learning, have a tendency toward this education method in order to develop their skills, while those who are not aware of it, do not show any tendency toward it because of the types of interaction in this method as well as the lack of adequate awareness. The findings of a study conducted by Buxton, Burns, and De Muth (2012) revealed that although the pharmacist participants had a positive attitude towards the quality and value of webinars, their average use of webinars was an issue of concern. The study by Liaw and Huang (2003) also demonstrated that for conducting and developing e-learning methods, it is necessary to first examine learners' readiness in terms of motivation, attitude, beliefs, and confidence. Three components including attitude, experience, and competence are effective in preparing a person for developing and implementing e-learning methods (Sadik, 2007). Indeed, those who provide continuing education need to overcome several challenges when it comes to web-based continuing education. These include ensuring that learners have the necessary skills and equipment to access the Internet, attract learners to websites, and create valid and attractive curricula (Loukzadeh, Mehrparvar, Davari, Bahaloo, & Mirzaei Alavijeh, 2014).

Given the importance of continuing education for the medical faculty members and the entire health care community, the quality and effectiveness of this form of professional development should improve. Identifying the learners' needs and considering their views and demands are a necessity which can enhance the motivation and participation of people in the programs and ultimately can improve the quality of their learning and instruction (Khanemasjedi, Shakoornia, & Basir, 2009). In developing countries such as Iran, distance learning can provide a major support for professional development. This method can complement other continuing education activities and is even an alternative to receiving vocational training in the health sector for physicians working in remote areas (Loukzadeh, Mehrparvar, Davari, Bahaloo, & Mirzaei Alavijeh, 2014).

According to our review of the existing literature and scientific resources, we did not find qualitative studies with a focus on the viewpoints of the faculty members of Iranian universities on the webinar-based continuing education. Qualitative studies have a unique

capacity to clarify various phenomena (Streubert & Carpenter, 2010) and may describe the individuals' experiences, perspectives, and opinions in accordance with their cultural and social backgrounds (Munhall, 2007; Streubert & Carpenter, 2010). Hence, the present study was conducted in an attempt to explore the experiences and viewpoints of the faculty members of Guilan University of Medical Sciences, Rasht, Iran, on continuing education webinars.

Role of the Researchers

The researchers involved in this study were F. Jafarzadeh-kenarsari, K. Abouzari-Gazafroodi, and F. Zaersabet. F. Jafarzadeh-kenarsari is an assistant professor, MSc. in Midwifery, PhD. in reproductive health, Department of Midwifery and Reproductive Health, Medical Education Research Center (MERC), Education Development Center, Faculty of Nursing and Midwifery, Guilan University of Medical Sciences, Rasht, Iran. Her areas of research include medical education, qualitative studies, and reproductive health. K. Abouzari-Gazafroodi is a lecturer, MSc. in Midwifery, Department of Midwifery, Medical Education Research Center (MERC), Education Development Center, Faculty of Nursing, Midwifery and Paramedical Sciences of Eastern Guilan (in the northern of Iran), Guilan University of Medical Sciences, Rasht, Iran. Her areas of research include medical education, midwifery and reproductive health. F. Zaersabet is an MSc. graduate in Nursing, Medical Education Research Center (MERC), Education Development Center, Guilan University of Medical Sciences, Rasht, Iran. Her areas of research are medical education and nursing. All researchers are the members of Medical Education Research Center (MERC), Education Development Center, Guilan University of Medical Sciences, Rasht, Iran. The researchers' daily observations about organizing educational webinars for faculty members and its possible challenges and executive facilities persuaded them to design and perform this qualitative study. We wanted to explore faculty members' experiences and viewpoints on continuing education webinars. In accordance with the main objective of the present study, we used qualitative content analysis, so that we could obtain a deeper and rich understanding about the issue under study especially in an Iranian social and cultural context. Also, we would be able to detect faculty members' points of view, expectations, and their actual needs and if necessary, transfer these comments to the executive authorities for holding successful and effective continuing education webinars. All three researchers were responsible for the study conception and design. We performed the data collection and data analysis. Also, three researchers were in charge for the drafting of the manuscript and making critical revisions to the paper for important intellectual contents. We declare no conflict of interest in this study.

Methods

Design

This qualitative study was conducted through content analysis approach. Qualitative study helps understand the human condition in different contexts and a perceived situation. In qualitative research, several analysis methods can be used such as phenomenology, hermeneutics, grounded theory, ethnography, phenomenographics, and content analysis (Bengtsson, 2016). Content analysis has several specific aspects making it a useful approach for nursing research, education, and practice (Waltz, Strickland, & Lenz, 2010). Content analysis is a research method for making replicable and valid inferences from data to their context, for providing knowledge, new insights, a representation of facts, and a practical guide to action (Elo & Kyngas, 2008). Content analysis has found extensive applications in health studies in recent years; it is also a flexible method for analyzing text data (Hsieh & Shannon,

2005). This method yields introductory concepts as well as a categorization method and systematic coding system for the subject under study. Indeed, the objective of content analysis is achieving a better understating of the phenomenon under study (Grbich, 2013; Hsieh & Shannon, 2005).

Participants

The participants included 15 faculty members eligible for this study. All participants had the following characteristics: They were willing to share their viewpoints and experiences on the subject under study, faculty members of Guilan University of Medical Sciences, Rasht, Iran, and had participated in educational-research webinars at least once. They were selected purposefully considering the maximum variation in terms of sex, age, the field of specialization, academic rank, and work experience. Many qualitative studies use a purposeful sampling method, which is selecting participants that will most benefit the study. Several purposive sampling methods have been introduced. Maximum variation sampling is probably the most widely used approach in this regard. In this method, the participants are selected purposefully with diverse backgrounds and perspectives to achieve enrichments of conceptualizations (Polit & Beck, 2012). In this study, the participants were 6 women and 9 men, with an average age of 45.4 years (range 32- 55). Regarding their fields of specialization, the samples consisted of 2 anatomy specialists, 2 dentistry specialists, 1 specialist of biological statistics, 2 nursing specialists, 1 midwifery specialist, 1 specialist of medical education, 2 physiology specialists, 1 biotechnology specialist, 1 anesthesiology specialist, 1 clinical microbiology specialist, and 1 histology-embryology specialist. All the participants were faculty members with an average of 15.8 years of service. In terms of academic rank, the samples consisted of 2 instructors, 8 assistant professors, 4 associate professors, and 1 full professor.

Data Collection

This study was conducted in 2017-2018. We performed semistructured individual face-to-face interviews using an interview guide where open-ended questions were guided by the main study question (What are faculty members' experiences and viewpoints about continuing education webinars?). The selection of data collection method can affect the profundity of the analysis. For example, open-ended, written questions cannot provide the same depth an interview can provide, as the researcher has the opportunity to deepen the discussion with the participants (Bengtsson, 2016). We started each interview using some oral open-ended questions such as: Would you mind talking about your experiences with continuing education webinars?, What do you think are the problems of and obstacles to holding educational webinars?, and What facilities do you think should be available in order to hold better educational webinars? Also, the interviews continued with some exploratory questions: "Would you please explain more about this?"; "What do you mean exactly by what you just said?"; and "Is there anything else that you consider necessary to talk about?" After notifying the participants, the interviews were conducted in the Faculty of Nursing, Midwifery and Paramedical Sciences of Eastern Guilan (in the northern of Iran) and the Center for Medical Researches and Education Development of Guilan University of Medical Sciences. Each interview session lasted 30 to 60 minutes on average. All interviews were recorded by a digital recorder and transcribed verbatim and then analyzed concurrently (Elo & Kyngas, 2008; Graneheim & Landman, 2004). Data collection continued until data saturation; this means that the data became repetitious and yielded no more new information (Polit & Beck, 2012).

Data Analysis

Data analysis and data collection were performed concurrently. We used the method suggested by Graneheim and Lundman (2004) for data analysis as described below:

- 1- Transcribing the whole interview immediately after conducting it;
- 2- Reading the whole text for an overall understanding of its content;
- 3- Determining the meaning units, condensed meaning units, and codes;
- 4- Comparing the various codes based on differences and similarities and sorting them into categories;
- 5- Comparing the categories with each other and formulating the latent content into a theme.

In Table 1, we provide examples of meaning units, condensed meaning units, codes, sub-themes, and a theme.

Table 1: Examples of meaning units, condensed meaning units, codes, sub-themes, and a theme from content analysis of narratives about continuing webinars.

Meaning unit	Condensed meaning unit	Code	Sub-theme	Theme
In webinars, educators cannot have the necessary and sufficient control of the education environment and the learners.	Lack of sufficient control over education environment and the learners	Lack of adequate control over learners' participation	Executive difficulties	Virtual education challenges
Theoretical materials can be taught via webinars, but practical skills cannot be taught via webinars	Inability of the webinars to provide practical skills	Inefficiency in developing skills training		
In education, many interactions are non-verbal, but in webinars, it is not possible to receive responses, exchange emotions, and react non-verbally.	Inability of the webinars to provide non-verbal interactions	Lack of exchanging non-verbal feedback		
Among the main obstacles to holding webinars are the interruption of the Internet connection and the fluctuation of its speed.	Lack of high-speed Internet	Lack of required software and hardware infrastructures	Structural deficiencies	
One of the challenges of holding webinars is experienced faculty members' insufficient familiarity and awareness about this technology which can be attributed to their inability to deal with it.	Experienced faculty members' unfamiliarity with modern technology	Experienced faculty members' resistance	Human-related obstacles	
One of the challenges is that webinars are not usually taken seriously. Many faculty members will not usually be willing to participate in webinars.	Faculty members' lack of interest in participating in webinars	Lack of motivation and reluctance of faculty members		

The data analysis ultimately led to the development of 3 themes and 9 sub-themes as follows (Table 2):

- o Moving across the boundaries of knowledge;
- o Virtual education challenges;
- o Motivators and facilitators

Table 2: Sub-themes and themes extracted from analyzing the faculty members' experiences on continuing education webinars

Sub-themes	Themes
Up-to-date scientific interaction Flexible and responsive education Beyond time and place	Moving across the boundaries of knowledge
Executive difficulties Structural deficiencies Human-related obstacles	Virtual education challenges
Modernizing the infrastructures Appropriate educational design Empowering the learners	Motivators and facilitators

Trustworthiness

Lincoln and Guba (1985; as cited in Polit & Beck, 2012; Strubert, Alen, & Carpenter, 2003) suggested four criteria for developing trustworthiness of a qualitative study: credibility, dependability, transferability, and confirmability. These criteria are in line with four criteria of a quantitative inquiry: internal validity, reliability, external validity, and objectivity, respectively. In this study to establish credibility, the following measures were taken: prolonged engagement of the researchers with the study data (the researchers spent enough time about two months to collect data to reach an in-depth understanding of the participants under study, to assess misinformation, and to ensure data saturation), gathering valid and authentic data (recording interview data accurately), and reaffirming the gathered data through member check (asking participants to review and check the study data and emerging codes, sub-themes, and themes randomly). The supplementary views and confirmation of two of our faculty experts (external review or peer review) who were experienced in the qualitative studies increased the confirmability of the data. In the peer review sessions, we presented written summaries of the data, emerging sub-themes, and themes to reviewers to read. The regular and careful documentation of all aspects of the study, member checking, and inquiry audit (two researchers with expertise in qualitative studies independently reviewed all study documents and found the interpretations to be in line with the data) enhanced the dependability of the data. Finally, an attempt was made to provide an accurate and detailed information and descriptive report of the research process, study participants, and their verbatim quotes to ensure its transferability (Polit & Beck, 2012).

Ethical Considerations

The research project was approved in the Ethics Committee of Guilan University of Medical Sciences, Rasht, Iran, under the number IR.GUMS.REC.1395.40. In this study, all the

ethical considerations related to studies in the humanities and qualitative studies were observed. The oral and written consents of the participants were taken for voice recording and participating in the study. The subjects were also assured about maintaining the confidentiality of all gathered information. They were also informed that they could leave the study at any stage if they were no longer willing to continue.

Findings

During the data analysis, three themes emerged including “Moving across the boundaries of knowledge,” “Virtual education challenges,” and “Motivators and facilitators.” The meaning of each theme is presented using the participants’ direct quotations below.

Moving Across the Boundaries of Knowledge

One of the emerged themes was movement across the boundaries of knowledge. Based on the viewpoints of the Iranian faculty members participating in this study, the establishment of scientific interactions to keep faculty members scientifically updated as well as flexible education in accordance with learners’ needs and education independent of time and space are among the benefits of holding educational webinars. All these lay the groundwork for moving across the boundaries of knowledge for Iranian universities.

Up-to-date scientific interaction. The participants in the study unanimously believed that holding scientific webinars is one of the modern educational practices which can play an effective role in sharing up-to-date scientific materials and establishing scientific interactions among faculty members. One of the faculty members who was an assistant professor, said: “Anyway, webinar-based education is very good, especially with respect to the opportunity provided for the establishment of scientific links and interactions among faculty members and experts at home or abroad.” Another participant, an associate professor, said:

The use of scientific webinars in the area of education is, in fact, part of the transition to the third-generation universities. By the way, one of the inherent duties of the universities is to use modern and up-to-date methods in order to move across the boundaries of knowledge and to provide faculty members with important and up-to-date materials.

Another participant who was an instructor argued that: “I strongly agree that faculty members’ continuing education should be webinar-based. Webinar is really a pleasant experience as you can easily use the scientific experiences of others.”

Flexible and responsive education. Other benefits repeatedly pointed out by the participants in the present study included the flexibility of webinar-based education, the ease of conveying educational messages, non-interference with the faculty members’ work schedules, being economical (reasonable price), the possibility of sharing viewpoints and comments in audio or in written forms, access to educational content in an off-line mode, feeling relaxed while learning, and meeting learners’ needs. On this matter, one of the instructors stated: “Webinar-based education should be expanded in Iranian Universities of Medical Sciences since it is a very good and simple method of using educational materials, providing relevant education at a lower cost compared to other methods.” Another instructor pointed out that:

Webinars do not have the difficulties of attending seminars. In fact, in webinars, you can receive education in a very comfortable and relaxed way regardless of your state and conditions. In today's life, sometimes, we may have to take care of some matters simultaneously, one of which can be a webinar.

Beyond time and place. Some other benefits of webinar-based education pointed out by most of Iranian faculty members participating in this study were no dependence on time and space, non-attendance-based education, the possibility of holding them on holidays and non-office hours, saving time, eliminating educational discrimination (in terms of geographical access), and safety in education, all reflecting webinar-based education's independence of the dimensions of time and space. In this respect, one of the participants who was an assistant professor said:

Webinars have noteworthy benefits; for example, we can receive the educational materials anywhere in the world regardless of the distance and without experiencing the difficulties of physical participation, provided that we have access to the Internet and a computer and install a program. In my opinion, this means eliminating educational discrimination.

Another participant, an assistant professor, stated:

I very much agree with continuing education webinars. Currently, due to my busy work schedule and my being pressed for time, I cannot attend many education sessions and workshops. However, you can participate in education sessions on holidays and in non-office hours if these sessions are held in the form of webinars.

One of the faculty members who was a full professor argued that: "Webinars save you time and energy. Especially, taking our rather non-standard road and transportation systems into account, problems such as being stuck in traffic and road accidents can be avoided."

Virtual Education Challenges

The second theme derived from the analysis of the viewpoints expressed by the participants in the study was virtual education challenges. The participants' viewpoints indicated that despite the numerous benefits of webinar-based education, there are several obstacles (general and local or specific) to optimal webinar-based education including human-related obstacles, executive difficulties, and structural deficiencies.

Executive difficulties. Among the executive difficulties of educational webinars pointed out by some of the participants in the study were: impossibility of obtaining sufficient and appropriate feedback from learners, one-way education and the educator being the sole speaker, lack of adequate control over learners' participation in webinars, the lack of the necessary interpersonal interactions, time pressure and the bulk of presented materials, inefficiency in terms of developing practical skills, lack of mechanisms for obtaining non-verbal feedback from learners, and inefficiency in regard to codified education. In this regard, one of the participants, an assistant professor, said:

In my opinion, when attending continuing education sessions, all learners try to focus on the educator and pay attention to him/her. However, it may not be necessarily the case with webinars, and educators may not have the essential

and sufficient control of the education environment and the learners. Further, in webinars, there is much less interaction between the educator and the learner, and education would be useless without interaction.

Another faculty member who was a full professor, said: “Theoretical materials can be taught via webinars, but practical skills cannot be taught in this way.” Another participant, an assistant professor stated: “Codified materials cannot be taught via webinars, because codified education has a clear definition and must necessarily be conducted practically; it cannot be conducted virtually via webinar due to its limitations.” Also, a participant who was an assistant professor said:

In education, many interactions are non-verbal; that is, you can receive feedback from facial expressions. In webinars, it’s not possible to receive responses, exchange emotions, and react non-verbally, especially if the learner is unwilling to turn his/her webcam on to let the educator and the other participants see him/her.

On the other hand, another participant who was an assistant professor stated that: “In my opinion, continuing education can be performed in the form of webinars, but webinar is not enough; combined methods should be used in education.”

Structural deficiencies. The analysis of the participants’ experiences and viewpoints showed that currently, the obstacles to holding continuing education webinars in Iranian Universities include: lack of required software and hardware infrastructures and the lack of high-speed Internet. In this respect, an assistant professor said:

Among the main obstacles to holding webinars are the interruption of the Internet connection and the fluctuations in its speed. This causes the video and audio to be constantly interrupted during the webinar, thus distracting the participants and compromising the quality of education.

Another participant who was an assistant professor, argued that: “As a modern technology, webinars are very good, but if the infrastructures are deficient, the computer equipment is insufficient, the Internet connection is malfunctioning, low-speed, or constantly interrupted, you cannot hope to take full advantage of webinars.”

Human-related obstacles. From the perspective of the participants in this study, resistance on the part of the experienced faculty members; lack of necessary awareness of and insufficient familiarity with the web-based technologies; lack of interest in and motivation for taking advantage of webinars, and not taking webinars seriously were considered as the human-related obstacles to holding continuing education webinars in Iranian Universities. One of the faculty members, an associate professor, said:

One of the challenges of holding webinars is experienced faculty members’ resistance to this technology which can be attributed to their inability to deal with it. For example, the professors who graduated 20 years ago and are not familiar enough with computers and the Internet, will be certainly unwilling to participate in webinars.

Another instructor said:

I think one of the challenges is that webinars are not usually taken seriously. The reasons for the lack of motivation of the faculty members are completely unclear to me. At first, it should be mandatory for faculty members to participate in such programs through which it is possible to convince others to participate as well. If such policies are not implemented, many people will not usually be willing to participate in webinars.

Motivators and Facilitators

The third theme derived from the analysis of the participants' statements and experiences was the category of motivators and facilitators which consisted of some sub-themes including modernizing the infrastructures, appropriate educational design, and empowering the learners.

Modernizing the infrastructures. All the participants in this study believed that in order to hold continuing education webinars and to move towards modern education methods in Iranian universities, it is first necessary to change the traditional educational equipment and infrastructures and to renew and modernize them. In this regard, one of the faculty members, an associate professor, stated:

Iranian universities need to change their old and traditional equipment and facilities and to provide more advanced and equipped educational infrastructures based on the new technologies. Although it may have a huge financial burden, it is cost-effective in the long run.

One of the instructors pointed out that:

In the current situation, with the lack of equipment and the low-speed Internet, faculty members' continuing education cannot be fulfilled via webinars. This situation should be dealt with and network infrastructures and high-speed Internet should be provided.

Appropriate educational design. The following are factors derived from the analysis of some of the participants' viewpoints and statements which were recognized as facilitating the holding of continuing education webinars: coherent and structured educational planning; choosing appropriate educational topics, objectives, and content; audience-centered education (learner-centeredness); limiting the number of participants in webinar-based education; and developing appropriate educational evaluation methods. In this regard, an associate professor said:

We should pay attention to the quality of webinar-based education. These programs should be purposeful and follow educational objectives. They should have the necessary flexibility to fit faculty members' work schedule in terms of both time and space. Unfortunately, there are cases where the intention of the organizations holding the continuing education event is mainly advertisement of a product whereby the educational aspect may lose its significance to some extent.

Also, an assistant professor stated:

Choosing the topic, objectives, educational content; and organizing the webinar sessions are important. I think webinars can merely be useful for developing the cognitive domain and increasing the knowledge of the learners. Furthermore, the length of continuing education webinar sessions, the bulk of instructional materials, and the number of participants should be limited.

Empowering the learners. According to the viewpoints of most participants in the study, another factor facilitating the organization of continuing education webinars in Iranian universities was empowering faculty members. This factor consisted of other components such as preparing the learners with preliminary tutorials, familiarizing the learners with the importance of virtual education, and motivating the learners. In this respect, one of the faculty members, an instructor, stated:

People should be familiarized with the importance of this educational method. Familiarizing people with this method can be a big step. In order to prepare people, workshops should be held for them. In order to prepare the learners mentally, it is even advisable to provide them with handouts containing some brief information on the topic to be discussed.

Another instructor stated:

In addition to preparing and informing people, they should be motivated and encouraged to participate in webinars. For example, it is possible to give some privileges to the faculty members who participate in webinars in order to motivate them.

Discussion

In the present study, Iranian faculty members' viewpoints and experiences regarding continuing education webinars in Iranian universities of medical sciences were explained under three main themes: 1- moving across the boundaries of knowledge, 2- virtual education challenges, and 3- motivators and facilitators.

The first main theme emerging from the analysis of the participants' statements and viewpoints was movement across the boundaries of knowledge. It was indicative of the importance of holding webinar-based continuing education and depicted the educational benefits of this method from the perspective of Iranian faculty members participating in this study. This theme was based on three sub-themes of up-to-date scientific interaction, flexible and responsive education, and beyond time and place. Electronic systems can be a means for continuing education in medicine and basic sciences; their utilization can also be considered as an important educational strategy for the universities of medical sciences (Emami, Aghdasi, & Asousheh, 2009). Four significant e-learning benefits to the audience of continuing education include: being interactive, the possibility of sharing the resources, flexibility, and the accessibility of the learning environment to all (Ebrahimi kooshk Mahdi, & Asadi, 2012). Internet-based education is a useful and practicable method of distance continuing medical education, providing opportunities for interacting at an international level and sharing experiences and educational materials. Computers, with their high capacity for managing information and communication, are the most powerful tools for processing information and revealing new methods of education. The Internet can facilitate free education in universities and inaccessible places (Emami, Aghdasi, & Asousheh, 2009; Reid, Flam, & Tsiouris, 2012).

If designing and conducting continuing medical education programs are in line with the actual needs of the participants, the efficiency of these programs will increase. The results of a qualitative study suggested that if continuing medical education is not in line with learners' needs, it will be usually impractical and inefficient (Faghihi et al., 2017). In a qualitative study carried out in Iran in 2015 entitled "explaining the problems of continuing education programs of general practitioners from the perspective of faculty members," inappropriate timing of implementation of the programs and neglecting the needs and conditions of the general practitioners liable for these educational programs, were among the reasons for their lack of motivation to participate (Hakak, Allami, Derakhshan, & Abbasi, 2017). E-learning and webinar-based education provide learning opportunities for learners with great flexibility and without temporal, geographical, physical, and social limitations (Ebrahimi kooshk Mahdi & Asadi, 2012; Rashidtorabi, Ahanchian, & Saeedi Rezvani, 2008). It seems logical that Internet-based continuing education programs are more advantageous than attendance-based programs since Internet-based programs save time and cost, do not need physical movement, are accessible at any time and from any computer connected to the Internet (Ebrahimi kooshk Mahdi & Asadi, 2012). The results of a descriptive cross-sectional study on general practitioners also revealed that most of the participants in the study (57.1%) preferred electronic continuing education programs to similar attendance-based programs (Mirzaei, Mehrparvar, Bahaloo, Davari, & Owlia, 2012).

The second theme derived from the analysis of the participants' statements and experiences presented another aspect of virtual continuing education which was somewhat different from the first theme just mentioned. The second theme was the virtual education challenges. The foundations of this category were factors such as executive difficulties, structural deficiencies, and human-related obstacles, all of which represented the obstacles to and problems of holding webinar-based continuing education in the university under study. The growing e-learning system has given rise to concerns and challenges in regard to the usefulness and effectiveness of this type of education (Momeni Rad & Aliabadi, 2010). In general, online methods and programs have more attrition rates compared to face-to-face methods and programs (Angelino, Williams, & Natvig, 2007; Boston, Ice, & Gibson, 2011). The study conducted by Lee and Robert (2006) revealed that computer-based learning is less effective in enhancing learning experience compared to traditional methods and that one of the most important negative consequences of using computer-based learning is the absence of face-to-face education which is of particular importance in medical education. The physical and psychological distance between the instructor and the learner in online methods can give rise to the feelings of isolation and disconnectedness (Hart, 2012; Ivankova & Stick, 2005). Feelings of isolation and disconnectedness are the main reasons behind the high learners' dropout rate in online methods (Bolinger & Inan, 2012; Rovai & Wighting, 2005; Tello, 2007). In the study conducted by Rashidtorabi, Ahanchian, and Saeedi Rezvani (2008), one of the reasons for the failure of the Internet in medical education was the separation between the learner and the teacher; in particular, those who considered this physical proximity as a significant factor did not accept online education. The study conducted by Ebrahimi kooshk Mahdi and Asadi (2012) indicated that the shorter the length of the Internet-based continuing education is, the more it will be welcomed. Definitely, in attendance-based programs the learners also request that the length of the continuing education sessions be kept short. The results of a qualitative study showed that if attendance-based continuing education programs take too long, faculty members will grow weary of them (Pourghane, Emamy Sigaroudy, & Salary, 2018). The results of the study conducted by Loukzadeh, Mehrparvar, Davari, Bahaloo, and Mirzaei Alavijeh (2014) also suggested that according to the majority of faculty members, the proper length of time for electronic programs is 30 to 45 minutes per week.

Among the interesting findings of this study found as the executive difficulties of holding continuing education webinars, was the inadequacy of webinar-based continuing education and recommendations for holding combined education programs. In the field of medical education, education through purely electronic methods is not useful (Emami, Aghdasi, & Asousheh, 2009). Teaching practical skills which are learned through practice and experience is not feasible via the Internet (Rashidtorabi, Ahanchian, & Saeedi Rezvani, 2008). Further, a dramatic change in the direct and face-to-face education method with its long history in Iran's academic education will be doomed to failure. It seems that the use of the combined education method can lead to the gradual success of e-learning in Iran's academic education. A proper combination of attendance-based and online education is a flexible approach to learning (Mirzamohammadi, 2017).

The lack of infrastructures was one of the main challenges presented in this study, posing problems in conducting webinar-based continuing education programs. In the study conducted by Ebrahimi kooshk Mahdi and Asadi (2012), one of the reasons for the decline in participation in online education programs was the lack of access to computers or high-speed Internet both at work and at home. In more than 60% of the Iranian universities of medical sciences, the necessary software and hardware infrastructures are not provided for conducting electronic education programs (Zare Bidaki, 2014). The results of the studies conducted in other educational institutes indicate that the indices of human resources, funds, as well as technological and psychological readiness, are among the determining factors in designing e-learning courses (Bazm, 2014). According to the results of a study conducted by Saberi, Kazempour and Porkar (2018), software and hardware equipment play a pivotal role in virtual education, and the lack of any of the necessary components will seriously damage the proper execution of this new method.

In the present study, other obstacles to holding continuing education webinars derived from the analysis of the participants' statements included human-related obstacles such as experienced faculty members' resistance, the lack of necessary knowledge, the lack of sufficient familiarity with web-based technologies, and the lack of motivation and interest. E-learning has limitations including learners' probable lack of precise understanding of cyberspaces, their incomplete acquaintance with its capabilities and functions, and the dependence of their success on technical skills in using computers (Shuster, Learn, & Duncan, 2003). Also, the learners' lack of motivation, interest, and their negative attitudes are serious obstacles to using e-learning (Mirzamohammadi, 2017). University faculty members' negative attitudes to the Internet can be attributed to the fact that they have to receive much training and to change their particular methods and styles in order to adapt themselves to the new situation (Myers, Bennett, Brown, & Henderson, 2004). The study conducted by Mehraram, Bahadorani, and Baghersad (2016) suggested that the learners in continuing medical education programs do not have the necessary knowledge of receiving information electronically despite having the proper attitude and readiness in this regard. Also, the low level of computer knowledge is one of the key factors in the lack of acceptance and feasibility of e-learning courses for learners (Folorunso, Ogunseye, & Sharma 2006). In the study conducted by Godin et al. (1999), the lack of computer skills was the major factor in physicians' avoidance of using computer-based methods. Further, more experienced physicians used computer-based technologies less than other physicians do. However, according to the results of a study conducted on 74 Iranian faculty members participating in a continuing education program revealed that more experienced participants had more tendency to participate in online continuing education programs (Loukzadeh, Mehrparvar, Davari, Bahaloo, & Mirzaei Alavijeh, 2014).

The third main category derived from the analysis of the participants' statements and experiences was motivators and facilitators. This theme was derived from sub-themes such as modernizing the infrastructures, appropriate educational design, and empowering the learners.

The success of conducting e-learning in Iranian medical universities is bound to the establishment of the necessary infrastructures and standards prior to the implementation and continuation of the programs. When these infrastructures and standards are neglected, e-learning cannot achieve its goals (Dargahi, Ghazi Saeidi, & Ghasemi, 2008). To have an efficient virtual education system, the facilitators of this system need to be in a desirable condition (Saberri, Kazempour & Porkar, 2018). The organizational structure of the universities of medical sciences should be transformed. In this regard, it is necessary to provide some conditions including strong infrastructures, necessary educational standards, proper culture-building, and change in the society's cultural attitude to education, investment and the participation of the state as well as the private sector in this area (Emami, Aghdasi, & Asousheh, 2009). By providing incentives and educational requirements for educational interactions via cyberspace, we can reduce learners' resistance to e-learning and enhance their interest (Zare-Bidaki, 2014). Producing appropriate educational content, developing technical and communication infrastructures, promoting general literacy, teaching necessary skills to educators and learners along with encouraging them in this regard, and creating appropriate structures and platforms for necessary interactions, are among the factors required to promote e-learning in the Iranian universities of medical sciences (Emami, Aghdasi, & Asousheh, 2009). The results of a qualitative study conducted in Iran suggested that virtual empowerment, ICT skills, and general literacy are among the key factors in learners' success in e-learning (Khorasani, Alami, & Razavizade, 2017). In order to take advantage of e-learning methods, educational environments require skilled and competent human resources in technical, administrative, educational, and user-related areas (Mehrram, Bahadorani, & Baghersad, 2016). The results of a descriptive study conducted by Asghari et al. (2012) also indicated that not only teachers should learn how to use the new technology, they should also focus on the quality of the content of e-learning packages. They also admitted that it is not feasible to evolve Iranian universities by merely providing the necessary infrastructures of e-learning. They also concluded that the important points are preparing learners for virtual education and enhancing the organizational efficiency of backup systems. In line with the findings of the present study, the results of a descriptive study conducted by Ebrahimi Kooshk Mahdi and Asadi (2012) also showed that producing high-quality educational content, shorter duration of the course, properly supporting learners during the learning process, holding attendance-based training courses on how to use e-learning programs, and simplifying the application of e-learning systems, are among the factors facilitating the efficient use of Internet-based continuing education.

As in other similar qualitative studies, one of the limitations of this study is the generalizability of its findings. In this study, the viewpoints of faculty members eligible to participate in this study were explained. It is suggested that similar qualitative studies be conducted in other Iranian universities of medical sciences in order to obtain richer data in this regard. Also, by conducting qualitative studies on the viewpoints and experiences of the officials and authorities responsible for planning and organizing continuing education programs for faculty members, more comprehensive results can be obtained.

The present qualitative study provided an opportunity to explore the viewpoints and experiences of Iranian faculty members. The analysis of the interviews with the participants in the study made it possible to determine three main themes on holding continuing education webinars including moving across the boundaries of knowledge, virtual education challenges, and motivators and facilitators. According to the results, although the participants described the benefits of webinar-based continuing education from different aspects and expressed their viewpoints and positive experiences in this regard, the analysis of their statements revealed that the main prerequisites for holding successful and effective continuing education webinars include the existence of the necessary software and hardware infrastructures, high-speed and

accessible Internet, purposeful educational design, and empowering, motivating, and encouraging faculty members to participate in such educational programs. The technical infrastructures and human elements remain critical in effective continuing education webinars implementation.

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