Mentoring as an Appropriate Strategy for Medical Faculty Member Development in Higher Education: A Systematic Review

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Abstract

Introduction: Human resources development, especially faculty members who play a substantial role in education, is of great importance and can lead to enhanced competence and participation of employees in university affairs. Mentoring is one of the programs that have attracted the attention of activists in this field today. This review aims to integrate the evidence about the goals, methods, implementation steps, and consequences of the mentoring methods for faculty member development in higher education institutions.

Methods: We used a systematic review in this study. Keywords related to the mentoring program were searched in gateways and databases such as PubMed, Scopus, Web of Science, and ERIC from 2000 to 2021. In the initial search, 638 articles were found, and 16 studies were reviewed after excluding those unrelated to the research objective.

Results: The results showed that the mentoring program included three stages: "Targeting and Familiarization with the Implementation of the Mentoring Program", "Mentoring Program Implementation", and "Evaluation of the Mentoring Program". The implementation approaches included Traditional One-to-one Mentoring Program, Peer Mentoring Program, and Distance Education Mentoring Program.

Conclusion: This study identified the stages and types of mentoring programs and revealed that their employment, especially the distance education mentoring program, led to the advancement of faculty members in various fields. A mixed-method approach to program evaluation can provide more appropriate views of the effects of these programs.

Keywords: Mentorship, Mentor, Medical faculty member, Higher education

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Introduction

Human resource is one of the most critical factors in shaping an organization. It is the difference in human resources that differentiates the organizations from each other (1). Human resource development leads to the promotion of competence and enhancement of the participation of employees in the affairs of universities, which in turn affects the results obtained by the university, level of educational services provided, and scientific research (2). Although students are the priority of faculty members and educational institutions, in addition to the responsibility of teaching and training professional students, faculty members can take steps in the direction of serving the university through their development and, as a result, helping professional growth (3).

Although some of the faculty member skills are acquired in the classroom, experience transfer and programs such as mentoring can be used to achieve higher efficiency in improving skills (4). Nowadays, universities are more interested in using the mentoring program to enhance and increase the potential of their academic members. Mentoring is a relationship between at least two people that provides support and exchange of knowledge and expertise (5). According to studies, mentoring is an important component of job development, which can lead to an increase in the individual's understanding of organizational belonging, improve academic productivity, and increase faculty members retaining their positions (6).

A mentor helps mentees by facilitating development in work and becoming a professional, increasing research productivity, helping to choose a job, and guiding them towards career advancement and independence (7). Also, mentoring can be helpful for novice faculty members with little experience in university culture and the process required for career advancement in university ranks (8). In addition, it has been determined that faculty members who have participated in mentoring programs have developed their leadership skills and self-confidence (9).

As supported by many studies, if the mentoring program is performed correctly, it can have benefits such as increased productivity, job satisfaction, and student satisfaction with teachers (10, 11). Despite the progress made in the implementation of the mentoring program, their effectiveness is still unclear in many cases. The claims about the impact of mentoring on the development of faculty members in higher education are generally on descriptions and opinions (12).

Several studies have been conducted on mentoring as a human resource development method in different universities, but a systematic review that describes its goals, process, and implementation steps and measures the outcomes of this methodology has not been found so far. This review aimed to integrate the evidence about the goals, methodologies, steps, and outcomes of a mentoring method for human resource development among faculty members in higher education institutions.

Methods

This is a systematic review study based on keywords obtained from MESH and related articles, including mentor*[Mesh], human resource development, higher education, faculty member, and academic [Mesh] in PubMed, Scopus, Web of Science, and ERIC based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (13). Articles published in English from 2000 to 2021 were selected. Also, we used advanced search options and Boolean operators. For example, PubMed was searched with this strategy: (mentor [Title] AND (English [Filter])) AND ((Human resource development [Title/Abstract]) OR (higher education [Title/Abstract]) OR (Academic [Title/Abstract])). The research question posed was "What are the goals, methods, implementation stages, and consequences of the mentoring program as a human resource development approach for faculty members?". In the initial search, 638 articles were found; after excluding the studies unrelated to the research objective, 16 studies were reviewed (Figure 1).

Study Inclusion and Exclusion Criteria

To match the inclusion criteria, the titles, and abstracts of the studies were analyzed. Studies focusing on the mentoring program intended to promote faculty members in higher education were included in the review. Short communication, opinion papers, letter to the editor, commentary articles, non–English-language articles, and those unrelated to the purpose of the research or studies which evaluated the guidance program on students were excluded from the study. Also, grey literature was not reviewed.

Quality Assessment

The studies included in our review were evaluated using a study quality assessment checklist that was purposefully prepared based on quality assessment criteria (Table 1). In this way, the checklist allowed the researchers to examine the studies in detail and determine their relevance and usefulness of the studies. For example, some of the criteria in this checklist stated that the study should provide a complete explanation of the context of the program implementation, subjects, and purpose. Also, other criteria were that the study should have explained the stages, content, and topics of the program, place of the program, and participating and beneficiary people and organizations. To increase accuracy in quality assessment, two members of the research team (first and second author) independently assessed the primary studies and discussed the issue in cases of disagreement. Finally, as an expert in educational management, another evaluator was used for further assessment to help reach the final agreement between the research team.
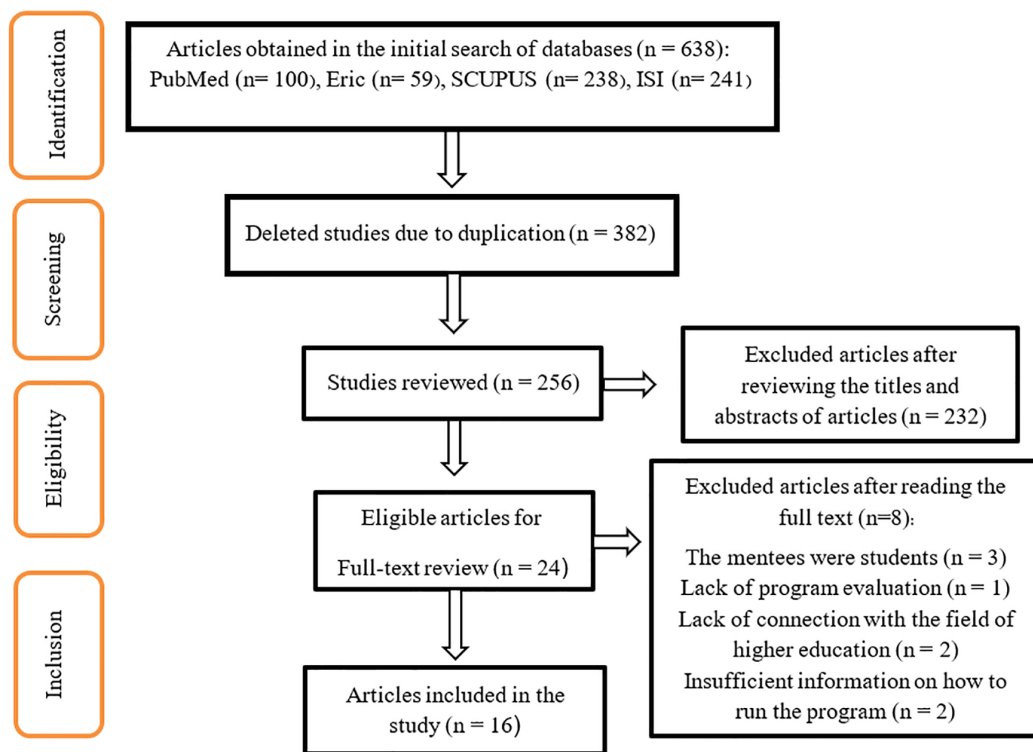
Figure 1: PRISMA flowchart for Selection of the Articles in this review

Table 1: The study Quality Assessment Checklist

NO.	Questions
1	Are the goals of the mentoring program, as set out by the researchers, clearly stated?
2	Has the study provided an explanation about the components of the implementation of the mentoring program and its steps separately?
3	Has the study explained the geographical location and the place of implementation of the mentoring program?
4	Is there a description of the program implementation and evaluation method?
5	Is there a description of the changes made by the program in the organization, people participating in the program (mentors and mentees) and other stakeholders? 8 Is there a clear description of the people or organizations that participated in the program?

Results

Of the 638 studies obtained by searching online databases, 16 met the inclusion criteria and were included in the review (Table 2). From the total of 16 studies included, 15 were performed in the US and one in Canada. Based on the information obtained from our systematic review, any mentoring program generally has three stages. The first stage consists of "targeting and familiarization with the process of implementing the mentoring program"; the second is "the process of implementing the mentoring program" and the last stage is "evaluating the mentoring program". In four studies, the mentees chose a mentor based on their interests and expertise. In the rest of the studies, the dyad was chosen based on the responsibility of the facilitators or the committee overseeing the process of implementing the mentoring program (14, 18, 24, 26, 27).

Targeting and Familiarization with the Implementation of the Mentoring Program

In the first stage of the mentoring program, due to the need announced by the university or the new faculty members, a mentoring program was planned, and qualified individuals were called out as mentors and mentees (18, 23, 24, 27). After registration, committees are usually formed to check the mentors' qualifications and supervise the correct implementation of the mentoring program. Here, the question arises as to which faculty members need a mentoring program. In response, it should be stated that all faculty members require mentoring program (17, 25). According to the academic degree, every faculty member needs mentoring program. For example, full professors and associate professors need these programs to develop their leadership roles, and clinical faculty and assistant professors need professional development.

After the individuals are registered, the relationship between the mentor and the mentee is usually created during the initial meetings. Therefore, during these meetings, the mentor and mentee get to know themselves, and the relationship begins at this stage. Based on the nature and type of the program, during this mentoring program, the roadmap of the meetings and goals to be achieved during this program is made with the participation of the stakeholders and based on the needs of the mentees (14-16, 22, 28). Usually, the goals intended for these programs include improving skills in all educational and research fields; creating beneficial relationships, management and leadership skills; creating a balance between work and life; managing the time; and enhancing the individual's independence and career and professional development. The goals of the studies included in this review are briefly stated in Table 2.

Table 2: Description of studies included in the systematic review

Authors (Country)	Aim	Name/type of mentoring program	Topics focused on the program	Steps to perform the program	Duration of the program	Program evaluation method	Conclusion
Illes J, et al. (2000) (USA) (14)	To describe the development and implementation of a faculty mentoring program in radiology.	No name/ Traditional One-to-one Mentoring program.	Provide guidance in the areas of educational goals, research and clinical skills.	Three stages (pairing of the mentor with the mentee - formal meetings between the mentor and the mentee once every 6 months based on the topics of the program - evaluation of the program based on the mentee's comments).	Annual	Quantitative	Implementing a guidance program could be an important factor in maintaining the lives of radiology faculty members.
Pololi LH, et al. (2002) (USA) (15)	To implement and evaluate an innovative collaborative, or peer-group, mentoring program at their medical school.	Collaborative Mentoring Program/Peer Mentoring Program.	Skills development, structured career planning and scientific writing skills.	Two-stage (initial three-day sessions - monthly one-day sessions).	8 months	Mix	Collaborative mentoring offers a new approach to faculty development that overcomes the limitations of traditional approaches in a satisfactory and cost-effective manner.
Zeind CS, et al. (2005) (USA) (16)	To develop a sustainable formal faculty mentoring program to support professional development of new faculty members at the Massachusetts College of Pharmacy and Health Sciences.	No name/ Traditional One-to-one Mentoring program.	Educational topics, research skills, internet communication skills, leadership and management skills and acquiring skills in the field of statistics.	Five stages (Mentor and mentee pairing - Meetings for the need for mentees - Orientation at the beginning of the school year - Monthly seminars and workshops throughout the school year - Workshops at the end of the school year).	Annual	Quantitative	Running a mentoring program is beneficial for both mentors and mentees. It is also important to implement a mentoring program to maintain, achieve and achieve academic and organizational goals.
Thorndyke LE, et al. (2006) (USA) (17)	Promote the development and advancement of junior faculty.	Junior Faculty Development Program/ Traditional One-to-one Mentoring program.	Education, career advancement, research and clinical issues.	Two stages (30 two-hour sessions for one year + implementation of a research project).	Annual	Quantitative	Implementing mentoring programs can be a mechanism to increase organizational vitality as well as enhance the capability and individual success of faculty members. It has also been found that the implementation of this program has contributed to the career advancement of faculty members.

Thorn-dyke LE, et al. (2008) (USA) (18)	To advance the framework of functional mentoring combined with measurement of outcomes at multiple levels.	No name/ Traditional One-to-one Mentoring program.	Career development, research, clinical practice and education.	Three steps (creating a specialized team to monitor the work of the participants under the name of the leadership team - pairing the mentor and mentee and holding meetings based on the topics focused on the program - monitoring the progress and performance of the work by the leadership team).	9 months	Quantitative	Implementing a mentoring program is an effective strategy for structured training programs. The collaboration and pairing of the mentor and the mentee, and indeed the mentoring program, not only provides tangible results from the promotion of both but also makes the institution more valuable.
Barczyk, C., et al. (2011) (USA) (19)	To assessment results from Distance Education Mentoring Program (DEMP) at Purdue University Calumet, Indiana, USA.	No name/ Distance Education Mentoring Program.	Developing skills and problem-solving skills are important quality criteria for the successful development of an online training course.	Four steps: 1- Learning (two-day session on the exchange of knowledge about quality criteria for evaluating the success of the online course) 2- Teaching (running an online program) 3- Evaluation (two groups of three mentors evaluated the online programs run by the mentees) 4- Closing (during a conference, certificates were awarded to people who had successfully completed the course).	Annual	Quantitative	The implementation of this program will continuously improve the training and improve the understanding of the mentees in the training. The Mentees also believed that mentors provided them with more psychological and social support than career development.
Feldman MD, et al. (2012) (USA) (20)	Evaluation of the long-term impact of a mentor training program for clinical and translational (CT) science researchers.	MDP (Mentor Development Program)/ Peer Mentoring Program.	Relationships, strengthening independence, communication challenges, the role of the mentor in the work-life balance and methods of mentoring.	One-step (half-day monthly meetings)	Five months	Quantitative	Implementing this program boosted the mentors' confidence in mentoring skills. The role of the mentor in job satisfaction is also important, so that the implementation of this program caused the mentors to be successful in their training programs and mentoring skills in the future and increase their productivity.
Haines SL, et al. (2014) (USA) (21)	To evaluate the non-traditional external faculty mentor program.	No name/ Traditional One-to-one Mentoring program.	Research project management, publications and grants, successful strategies, clinical skills development and work-life balance.	Two-stage (monthly sessions (including pairing of mentors with mentees during the initial session and the rest of the monthly sessions focusing on required topics) - two summer sessions).	Annual	Quantitative	This study showed that the use of an experienced mentor outside the faculty environment is effective for the development of young faculty. The implementation of this program also increased the satisfaction of faculty members.

Jackevicius CA, et al. (2014) (USA) (22)	To describe the development, implementation, and evaluation of a formal mentorship help program at a college of pharmacy.	Formal Mentorship Program/ Traditional One-to-one Mentoring program.	Assisting mentees in networking and connecting with other trainers, helping to find grants and grants needed for research, and guiding mentees to appropriate training courses and workshops that can help mentees achieve their goals.	Three stages (an introductory session with the aim of signing the contract between the mentor and Menti and discussing the objectives - meetings at least once every three months based on the topics focused on the program - end-of-year evaluation session).	Annual	Quantitative	Based on the participants' opinions, the results of this program showed that this mentoring program could be used as an essential component of the young faculty development program.
Pololi LH, et al. (2015) (USA) (23)	Implemented and evaluated a novel collaborative group Peer Mentoring Program in a large academic department of medicine.	No name/Peer Mentoring Program.	Key factors in job development, basics of adult learning, relationship building, mindfulness and culture change.	Two-stage (two-day group meeting aimed at consulting participating faculty members and sharing views and expertise - not a monthly meeting based on the focus of the program).	Annual	Mix	The results showed that faculty members need to build deep relationships with their peers to rejuvenate and promote career success. It was also found that professionalism, relationships, humanity, vitality, understanding of diversity and creativity are essential for faculty members, and these relationships can help faculty members achieve these issues.
Chen MM, et al. (2016) (USA) (24)	To develop, implement, and evaluate a multifaceted pediatric mentoring program to promote retention and satisfaction of junior faculty.	Pediatric mentoring program/ Traditional One-to-one Mentoring program and Peer Mentoring Program.	Interpersonal competencies, career development and field-related knowledge.	Four steps (mentor and mentee mating process - quarterly workshops - peer mentoring group meetings for trainers - giving mentors and financial facilities by mentors and sharing them among mentees).	Annual	Quantitative	The implementation of the mentoring program increased the satisfaction and longevity of the faculty members and they mentioned the program as a positive experience.
Linda S. Behar-Horenstein, et al. (2019) (USA) (12)	To assess how an academic health center (AHC) mentor academy program affected mentor competence and optimized the mentor–mentee relationship.	Mentor Academy Program/ Traditional One-to-one Mentoring program.	Understanding research ethics, mentoring development philosophy, and achieving six characteristics (maintaining effective communication, aligning expectations, evaluating understanding, recognizing differences, increasing independence, and promoting professional development).	One-step (eight group sessions with the aim of optimizing the relationship between mentors and mentors and also increasing the honesty in their research).	16 weeks	Mix	In the quantitative part of the data, there is an improvement in the competencies of the participants, but the qualitative part of the study rejected some of the results of the quantitative data, so this study suggests emphasizing the use of the mixed method in evaluating mentoring programs.

Blanco, M. A. and D. M. Qualters (2020) (USA) (25)	To adapt, implement, and examine an interschool/ interprofessional Mutual Mentoring Program.	Mutual Mentoring Program/Peer Mentoring Program.	Familiarity with the institute, promotion in the field of education and research, leadership, balancing work and life and developing a professional network.	Four stages (two-hour workshop for opening- three group review sessions with program executives-monthly report of the contacts made between the mentor and mentee-presentation of the final report on the achievement of goals).	Annual	Mix	This type of mentoring program provides a multifaceted support for faculty members to achieve career goals and create a platform for interdisciplinary communication.
McDaniel CE, et al. (2020) (USA) (6)	To test and refine a program theory for an institutional mentorship program for junior clinically focused faculty and to understand the facilitators and barriers of sustained participation.	No name/Peer Mentoring Program.	Integration between work and life, tips for successful publishing studies and time management.	Two-stage (lecture by an experienced person on mentoring and leadership - the second stage includes 45 minutes of group work based on the topics focused on the program).	Annual	Qualitative	The mentoring program provides opportunities for faculty members to communicate, share ideas and strategies, and can help nurture the academic community, enhance faculty members' skills, and enhance their perspectives.
Nearing KA, et al. (2020) (USA) (26)	To evaluate The Colorado Mentoring Training Program.	Colorado Mentoring Training Program (CO-Mentor)/Peer Mentoring Program.	Self-awareness and goal setting, communication and guidance skills, management skills and targeted development of mentorship support network.	Four stages (four one-day sessions including workshops based on practical theory issues between the mentor and the mentee).	Annual	Quantitative	CO-Mentor is a new approach to developing the outstanding skills of mentors and mentors and leads to professional development, increased perseverance and achievement of scientific and research achievements in participants.
Croke J, et al. (2021) (Canada) (27)	Evaluate and explore the impact of a junior faculty mentorship program within an academic radiation oncology department.	No name/ Traditional One-to-one Mentoring program.	Career development, job satisfaction improvement, academic productivity and promotion.	Three stages (one-hour training course and a half-day workshop on mentorship, need-based meetings at least twice a year, one-hour annual meeting as closing ceremony).	Annual	Mix	The implementation of the mentoring program has a positive effect on personal development and professional development, and the participants in the program expressed satisfaction with most of the formal components of the program.

Sometimes, during the mentoring program, the two faculty members not only cooperated, but also used networking to promote job needs. Novice faculty members can work with other members for personal and skills development and solve their problems in the mentoring program inside and outside the university to obtain their assistance to improve themselves and the organization (25).

Mentoring Program Implementation

After setting the goals and revealing the path of the mentoring program through programs such as meetings, workshops, and initial seminars, the mentor and mentee usually plan for the continuation of the work. Seminars, workshops, regular meetings between the mentor and the mentee, or in some cases, research projects by the mentee and their supervision by the mentor are usually used. These programs take place once a month in a regular manner (17, 25). The educational content in these sessions is based on the goal setting of the previous stage. In communication between the mentor and mentee, the transfer of knowledge and review of experiences are discussed (14, 16, 22). There

are different approaches to implementing these programs. According to the present review, the mentoring programs are almost similar, as described below.

A)Traditional One-to-one Mentoring Program:
    In this type of mentoring program, participants meet with a mentor through a formal program for a period. The participants in the program can determine the topics related to the meeting, such as the place of the meeting, number of meetings, and what they want to discuss during the meeting (12, 24, 27). This type of relationship is mostly focused on building relationships and individual skills, such as career advancement and work-life balance problems (21). Usually, to guide the mentoring program, the university provides the participants with a guide designed by members specialized in mentoring (14, 22). Usually, this document is to show how the people and mentors can have a proper plan to implement it according to various academic job requirements, including teaching, research, and management. It also directs the mentors on what to discuss in their meetings (16, 17).

B) Peer Mentoring Program:
    According to the studies in this review, peer mentoring was also one of the methods to develop human resources among faculty members. In this way, people with the same positions can guide each other. Due to their similar conditions, these people may take turns being mentors or mentees (15, 23). After mating these individuals, they can guide each other on skills enhancement or career advancement. Each faculty member has skills and can share them with others for better learning (6, 26). Also, in this program, more than one mentor can mate with one mentee, known as group mentoring (23). In the group mentoring program, group members can help each other and meet with their mentors as a group and receive the necessary guidance on personal and career development issues. Interprofessional and interdisciplinary collaborations have shown that these programs have resulted in much better results, including financial cooperation and the use of resources for institutions participating in the program (16, 24, 25). Usually, in this type of program, a committee of experienced faculty members is formed to supervise the work of mentors and mentees, as well as follow-up meetings and goals recognized by both parties (25). In this type of program, first qualified people are registered, and then people are randomly divided into pairs or groups (15, 23-25).

C) Distance Education Mentoring Program:
    It is a mentoring relationship in which the two parties (groups) are located in different places and far from each other, and the mentor and the mentee mate together using a virtual method toward the specified goals to help each other promote career and personal development (19, 29, 30). In this type of program, faculty members with higher experience in online education are recruited as mentors. Usually, a faculty member with a low level of experience mates with one of the mentors, either inside or outside of the relevant college. In fact, in this type of program, by using the best available technology, an attempt is made to learn and improve the knowledge and skills of faculty members (30). In this program, since the physical presence of the members is not required, the need to find a place to hold the meeting and sort similar problems is eliminated (19, 30).

Evaluation of the Mentoring Program
    The final stage of the mentoring program is separation between the mentor and mentee, which allows the participants to gain more independence (22, 25). This review showed that different quantitative, qualitative, and mixed-method approaches were used to evaluate the program outcomes. The studies that used the mixed method approach to evaluate the mentoring program, considering that this method examines the results of the implementation of these programs through both quantitative and qualitative data, provide a more accurate insight into the effectiveness of these programs. In some programs, it has been observed that indicators such as the promotion of faculty members, increased research rate, and increased satisfaction and potential of professors in areas such as education and research were used to measure the usefulness of the program (12, 21, 23, 26). The reduced rate of job burnout of academic staff members shows the program to be effective (24).
    Another advantageous issue in the evaluation of the program was the feedback given by mentees on the implementation of the program. Also, during this stage, all the participants were invited to the closing meeting to obtain the course-relevant certificates. The participants were also invited to share their unique experiences during the program, so that experiences could be examined during future programs (14, 16, 21, 22). The participants' criticisms and feedback were used to improve the implemented methods. Sometimes, evaluations were made during the program, so that corrections such as changing the types of mentors and mentees, duration of the program, and changes in implementation processes are carried out, if necessary (17, 25).

Discussion

In this systematic review, the evidence related to the purpose, process, and implementation steps and measurement of the outcome of the mentoring program were reviewed and integrated. Since faculty members are the most substantial factor in the success of educational systems, the mission of educational institutions should be development of faculty members (20). According to the results, there are different models for implementing mentoring. What is clear, however, is that it has been shown that the mentoring program has a positive effect on the professional and personal growth of people in higher education (31). Various studies have been conducted to track the benefits of mentoring and find out whether it is effective. Most of them focus on job experiences and many indicators such as satisfaction, competence, and research skills have improved in these people (8, 25, 32).

Each mentoring program method has advantages for educational institutions and faculty members. One of these methods is peer mentoring, in which faculty members of the same rank mate to cooperate and guide each other. Due to the equality of the participants in this type of mentoring program, they are often in the same stages of life. For this reason, the members participating in the program can easily discuss professional and non-professional issues such as the work-family balance (6, 23, 25). It has also been mentioned in the studies that this mentoring promotes support cooperation between people, and ease of access to resources (4, 33). Some studies state that mentoring programs can be more beneficial if implemented in an interdisciplinary platform. For example, in the qualitative studies examined in this study, the participants stated that mentoring relationships with mentors from other educational institutions and interprofessional mentors provided valuable experiences for mentees (6, 25, 27). Mentoring program based on research can also lead to financial grants provided from faculty members and institutions participating in the program (24, 25). In a qualitative content analysis by Sabeghi et al. (2020) in the cultural context of Iranian faculty members, it was found that the peer mentoring program could be a practical intervention to improve the personal life, professional interaction, and job satisfaction of faculty members (34). Given the benefits of a mentoring program in various aspects of the professional lives of faculty members and organizations, it is suggested that these programs should be designed and implemented in different universities in Iran (35).

The results showed that some had used distance education mentoring programs, which have been effective and, in many cases, positive results have been achieved (19, 26, 30, 36). Most educational experts with experience in implementing the mentoring program are scattered worldwide. However, their physical presence is not possible due to high accommodation costs and problems caused by lack of time (37). In a systematic review by Mohammadi Tabar et al. (2018) entitled "the components of the development of faculty members in Iran and the world", it was determined that none of these programs was used for the promotion of faculty members, and only traditional classes are being held. It has also been shown that the methods used in many institutions to develop faculty members in the past few decades are not compatible with the current needs and challenges of faculty members and are mainly focused on educational development. The way to achieve growth in these views has been introduced by holding workshops and seminars (31). Also, given that with the emergence of the Covid-19 pandemic, suitable infrastructures have been created for educational programs, the distance education mentoring program can be used easily to assist in the promotion of faculty members (37-39).

On the other hand, the literature has shown that Traditional One-to-one Mentoring Program is not always practical in the academic community (27). In fact, distance or virtual education is now an alternative to traditional methods to eliminate the obstacles in traditional education programs (28, 40). Given that faculty members are almost at a high level of knowledge and information, promoting these members is a much more complicated task and goes beyond holding training classes. It is predicted that implementing mentoring programs at higher education in Iranian universities will not only improve educational features such as the development of research, management, communication, and many other things, but also can be an influential step in improving these individuals (41-43).

According to our study, it was shown by reviewing various studies that the implementation of the mentoring program has many benefits, including enhanced self-confidence; increased awareness of the culture, policy, and philosophy of the organization; increased job satisfaction, growth, and personal and professional development; career promotion; increased organizational vitality; developed communication, use of more research grants; benefits of social support; and, finally, increased satisfaction of academic staff members (10, 12, 19, 23-26, 44).

Using new ideas and programs in education may not always be effective and fruitful, and people's preparation is required. Thus, for the mentoring program to be effective, it is suggested that firstly, at the beginning of the implementation of these programs, experts and trained people should be used, so that the first experience does not fail. Secondly, an appropriate platform such as facilities, budget, and the required official and institutional support should be provided before the implementation (25). In addition, effective implementation of mentoring requires the active participation of both mentor and mentee, and it has been suggested that mentoring programs are held based on mutual interests (45). Also, based on the present review, it was found that valid results were obtained in the studies using the mixed-method evaluation of the mentoring program considering the broad perspective of this method for the researcher (12, 15, 23, 25, 27).

Hubbard et al. (2021) also used a mixed-method approach to audit the mentoring program in their study. The study showed the mixed-method approach was suitable for evaluating mentoring programs. Also, they stated that the combination of quantitative data with individual views of mentoring in faculty members provided better results in implementing the mentoring program; this is in line with the results of our study (46). Probably, the mixed method approach has provided a more valuable perspective due to the review of different aspects of the program.

Despite efforts accomplished for comprehensive searching, like any other systematic review, it is possible that we have not found all the available studies, which is the limitation of our study. Part of this can be due to the sanctions that have limited our access to all databases.

Conclusion

There are different methods for implementing the mentoring program, and each method should be selected according to the existing context. Implementation of the mentoring program based on the goals of the university and the needs of faculty members can play a good role in the faculty members' development. Based on the results of this review, for the promotion of faculty members, it is better to use the mentoring program and reduce traditional and time-consuming methods such as training classes, seminars, and workshops. Due to the extensive growth of education using digital technologies, more use of Distance Education Mentoring Program is recommended in future. To improve and promote the mentoring program as much as possible, it is suggested that future research should evaluate the mentoring program by using a mixed-method approach.

Authors' Contribution

F.H.N and M.A designed the study, then F.H.N wrote the search strategy and M.A performed the literature search. Data acquisition and analysis were done by M.A and then reviewed by F.H.N. The authors finally categorized the articles and prepared the manuscript. All authors contributed to the discussion, read, and approved the manuscript and agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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