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RESEARCH ARTICLE

Barriers that prevent implementation of research in medical education

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Abstract

Introduction: The first step to organize the research in community to achieve an understanding of the capabilities and facilities and understanding the strengths and weaknesses of research programs in universities. They were also aware of the high barriers to research in order to improve the quantity and quality of research in universities is essential. This study aimed to identify the barriers of research in field of medical education in Shiraz University of Medical Sciences staff.

Materials and Methods: This is a mix method study which was contained 2 phase of expert panel and focus group. The method used in this study was identifying research barriers in focus groups of experts from the university in 6 sessions for two months, followed by practical suggestions presented by members.

Results: In this study, 24 barriers in 6 domains (individual, organizational, strategic, educational, financial and cultural barriers) were identified by experts; the organizational and strategic aspects were mentioned as the maximum number of barriers while personal and cultural areas were the minimum number of blocks mentioned, respectively. Some proposals to eliminate the research barriers in various fields were presented by experts in the sessions.

Conclusion: Considering the important role of research which is one of the main characteristics of planning for the future, organizations should pay special attention to the Universities. Regarding the results, removing the mentioned research barriers and using the recommendations are recommended in order to achieve better future in research.

Keywords: barriers, research, research proposals.

Introduction

The word "research" means thinking deeply and investigating in a special field, resulting in data collection, comparison and criticism, which helps the researcher finds the truth. So, the aim of this study was to reach the truth on a given topic. Research activities in each country lead to development, improvement, freedom and independency [1].

In fact, research is considered as one of the main basics of sustainable cultural, social and economical development in developing countries, and the assumption of developing in long term without the creation of an integrated research system is impossible [2]. The main gap between developed and underdeveloped countries is rooted in different contexts of their research [3]. While investment in research is an important factor in economic, social and cultural development in developing countries, the improvement in research is not built in underdeveloped and developed countries, and unlike developed countries, a small amount of human resources, budget and facilities is spent on research [4].

Now, there is a huge gap between our scientific achievements and those of many countries of the world. For example, in 1997 in the United States one international article was published per thousand individuals, per six thousand people in South Korea and in Iran per 120 thousand individuals. However, the quality of Iranian international articles was lower than the global average [6 and 5].

Production and distribution of science, as one of the most important duties of an academic unit, make up the scientific state of each country [7] and universities are the most important settings for producing science in every country, having the most intellectual and spiritual capacities [8].

Recently, there has been more attention to the issue of the country's research. So, in the twenty-year program of the country development, as the most important program, achieving the first rank in economy, science and technology in Southwest Asia puts a strong emphasis on producing science and technology and it is now an urgent need for survival and independence. What's more, achieving national sustainable development needs a level of production that is much higher than the current level of science production in Iran [9].

The faculty members of the university are the most

important resources of producing science in a university. In order to take advantage of these human resources, the barriers of development and promotion should be removed and measures should be taken to achieve the highest level of science and research leading to scientific improvements [10].

The first step to organize research in the community is having an understanding of the existing capabilities and facilities as well as recognizing the strengths and weaknesses of research programs at universities. To explain more, understanding the study obstacles can improve the relationship between researchers and users of research results, and facilitate the problem-solving process, using the research findings. Awareness about the barriers of research is important to resolve them and it is necessary to improve the quantity and quality of research in universities [10].

Majmador in a research entitled "Research issues and priorities of medical education in Asia" examines the major barriers of medical education research in Asia (such as the weak socio-economic status of the society, cultural problems, management problems and poor intelligence) [11].

Karimian et al. in their study entitled "Evaluation of the barriers and challenges of scientific research and science production of medical universities" came to the conclusion that most of the barriers are due to the lack of human relationships and attitudes. So, removing research barriers at the University is mostly affected by empowerment in education and science, culture and attitudes reforms [12].

As a conclusion, it seems important to determine the barriers of research in universities as knowing the research strengths and weaknesses and barriers facilitates implementation of research priorities at the university. Therefore, this study aimed to investigate the barriers of research as expressed by experts in Shiraz University of Medical Sciences.

Methods

This is a mix method study which was contained 2 phase of expert panel and focus group. The statistical population of the study consisted of a group of experts in medical education in Shiraz University of Medical Sciences. Sampling in this study, due to its qualitative method, was targeted to elicit the maximum number of expert's ideas. Thus, the sample size was not predetermined and collecting data continued up to saturation. In these studies, data saturation also occurs when the content or the nature of other new participants is not derived [12-14]. The exclusion criterion was the participants' willingness to enter this study and exclusion criterion was their unwillingness to continue attending the meetings.

Since there was no similar study on the barriers of research by experts, we chose the qualitative method and focus group discussion; most of the studies available had been done quantitatively using a questionnaire.

In first phase of this study, an expert panel was held in medical education development center with key members of Medical Education department (teachers, physicians and experts), for determining the scope of the main barriers of research in the area of education. Based on the previous studies and expert group ideas gathered during the meeting, 6 main areas of research in identifying the barriers were determined [Table 1].

Table 1: The main research barriers in medical education.

Row	Main areas of research barriers in medical education
1	Personal barriers of research in medical education
2	Organizational barriers of research in medical education
3	Strategic and policy making of medical education research barriers
4	Research and educational barriers
5	Financial Research barriers in medical education
6	Cultural Research barriers in medical education

The method was used in the second phase of this study, as noted above, was focus group discussion [15]. Because of the time constraints of teachers and subject matter, seemed that way (focus group) due to the interaction between the participants is reasonable cause.

12 university professors in medical education were selected based on work experience and areas of specialization. The chief of university heads of departments and all the different schools' vice deans for educational affairs were selected as the second working groups.

After selecting the members, we started group meetings. A total of 6 sessions of group discussion for 2 consecutive months was held in the Medical Education Development Center. The number of sessions was determined depending on the subject. Location of these study group meetings was a conference room with enough light and ventilation in the Medical Education Development Center. Each session, on average, lasted about 3-5 hours in the morning or evening; after each 1.5 hour talk, they had 30 minutes of rest. To the successful holding of these meetings, one person was selected as an interviewer. This person was the supervisor who was selected according to the expertise and experience in this respect and the trust and respect of all the members in this part of the study. To organize better and more effective group discussion, we selected a secretary for the group. In this study, the researcher was elected as the secretary of the group and she was introduced at the beginning of the meetings to all members.

The secretary reminded the members of the date of meetings. To hold the focus group sessions, we sent invitation to members the day before the meeting. The

focus group meeting was started by a warm greeting from the interviewer and after that the group leader introduced himself and the secretary to the members and gave a brief explanation of the discussion topic, research goals, the rules and meeting time. Moreover, the leader explained how and in what order the meeting was recorded, why and who had access to information; she asked everyone to cooperate and ensured them that all comments would remain confidential and anonymous. After that, the leader asked the group members to introduce themselves. This was helped to a start communication in the group.

As the issue is very important and due to lack of time and busy members, 5 main research areas that are a major concern in the university's research were selected by the researcher and presented as a list to all members of the meetings. Thus, in the first 5 meetings, each of the key areas of research was proposed by the leader and all the members participating in the meeting were asked to identify the obstacles to implementing each of the priorities which were introduced by the researcher through brain storming.

After 30 minutes, the members were given the opportunity to have a break. Then, in each session (the next 3 hours), the members were asked to suggest the ways to implement the barriers in the university which were written by researchers on board during the break.

At the end, a final question was asked for free comment of the participants, for example "Is there anything else you think it is? Such questions indicated that the session was going to be finished and their responses included the important points that were not mentioned during the meeting. Thus, the participants ensured that their views and experiences were important and no response was unimportant in the subject. Then, a list of effective barriers in any research priority at the University was prepared and the participants were confirmed content validity.

With the presence of the 2nd expert groups among group meetings, which includes deputies of the university and colleges, their views on barriers of research in education was collected by Delphi method. To comply with ethical standards and principles of Delphi, the second group comments were collected only by the researcher and in the following meetings, the main group was informed of them without mentioning any names or profiles.

Another case in most other studies in this area had been neglected in the discussion of research proposals and solutions to eliminate the barriers of research in medical education; so in this study with regard to this issue, we identify barriers of research in medical education based on these areas and make recommendations for the implementation of priorities.

In the last session, a final list of 5 main areas of priority as well as obstacles and solutions raised by both groups were presented to all of the members and they were asked to weight each of the obstacles and solutions individually according to the index priority. Researcher indicators to rank each of the obstacles and solutions, including the planning abilities, effectiveness (solution effectiveness and planned costs), the urgency of the solutions (the way things are done quickly) and the implementation of solutions at the university (practical solutions); that these measures, along with the final list, were given to the members in order to ranking. After scoring based on these indicators, the most important barriers and ways to improve them based on the views of the group members were identified.

Ethical considerations

Since this was a qualitative study, there was no threat for participants and its results were only used to improve future planning and promotion of research projects; so there is no need to obtain informed consent. It should also be noted that in this study, we avoided mentioning any names, titles or characteristics that cause the loss of privacy of the participants, and the participants were clearly informed of the possible uses of the results.

Results

The study was discussed the research barriers of medical education in 6 different areas in focus groups sessions with university experts [Table 1]. At each meeting, members discussed any areas of barriers and the obstacles which were raised at the University and their solutions.

Concentrated focus group meetings, attended by experts in medical education at the University (deputy and vice president of education, dean of the Faculty of Medicine, and deputy director of the Development Center and faculty members), was held. The demographic information of the participants in the study shows that most of them aged between 40-50 years, male with 10-20 years of experience, with academic rank of associate and most were in the field of medical education.

At this step, the major barriers to implementation of research priorities in the field of medical education and practical solutions from their perspective were identified.

As Table 2 shows a set of 24 barriers from experts viewpoints, as barriers to implementing the priorities of research in medical education, have been identified and prioritized based on their importance. Also, according to the previous studies and similar materials and after removing the repeated barriers, they were grouped in related fields.

Table 2: Barriers of implementing the priorities of research in medical education by experts in focus groups (in terms of importance in the area).

Areas	(Barriers of research priorities implementation (in order of importance
Personal barriers of research in medical education	The lack of knowledge of the teachers' for the researchable issues in medical education. Lack of sufficient incentives to carry out research priorities at the university. Inadequate skills and knowledge of statistics and research methodology. family and social problems of researchers in this field. No need to do research at the university.
Organizational barriers of research in medical education	Lack of appropriate equipment and facilities of doing research at the University. The long process of research projects approval at the University. Importance of clinical services to the faculty of the University. Failure to allocate credits for research activities. Unwillingness of organizations to use the academic results. Lack of monitoring and evaluation of the impact studies Research Department.
Strategic and policy barriers n medical education	Lack of the comprehensive and transparent planning of Medical Sciences in Iran. Lack of a comprehensive database of Medical Sciences in Iran. Low budget allocations in University of Medical Sciences. The absence of active cores in different parts of educational research. Constant changes in programs and research projects.
Educational barriers	Lack of preparation and training of research morale in the educational system before university. Lack of coordination and coherence of activities in the field of education and research at the University. Insufficient communication and cooperation between teachers and students in research projects and dissertations.
Financial barriers in medical education	Lack of adequate and equitable distribution of funds and resources in different parts of the university. Inadequate funding of scientific-research work at the university. The lack of research salaries in university.
Cultural barriers in medical education	Research moral weakness and lack of motivation to work in groups on research. The importance of research efforts and results in organizational culture.

Also, some suggestions and solutions to overcome the barriers of research in the field of medical education by the viewpoint of the experts who participated in focus groups are shown in the below table [Table 3].

Table 3: Removing research barriers strategies in education produced by experts who participated in focus groups.

Row	Solutions provided by experts in focus groups	Related areas
1 2 3 4 5 6	Paying more attention to the ideas and research topics proposed by faculties. Developing and strengthening of the research cores and team work projects among colleges. Establishing the research consulting office in each school. Organizing research management system at the University. Reforming the education system in line with research-based education at the universities. Developing strategic planning and research to improve research activities.	Strategic and policy areas
7 8 9 10 11	Reducing the teaching hours and increasing research opportunities for professors to do research. Shortening the review and approval of research projects at the University. Optimal use of the results of applied research at the University. Sufficient informing of relevant research priorities of medical education at the University. Developing valid domestic scientific journals for publishing scientific and research works of teachers in the field of education.	Organizational areas
12 13	Havingaccess to information networks and the Internet for free. Availability of appropriate facilities and equipment (typing, printing and reproduction.)	Facilities areas
14 15 16	Increasing research salaries. Adequate and equitable funding for research activities in different parts of the university. Building and strengthening direct financial support of researchers through funds.	Financial aspects
17 18	Set up training workshops in various academic research and writing skills. Encouraging teamwork and interdisciplinary approaches in research activities.	Educational aspects
19	Creating incentive systems and appropriate financial incentives for faculty researchers.	Individual domains
20	Reconstruction of attitudes, subjective and research culture in the university faculties.	Cultural domains

As you can see, the number of suggestions by the focus group experts participated in the areas of "organization" and "strategic and policy" shows the importance of these areas in the focus groups and the scope of "personal" and "cultural" with the lowest proposed solutions, indicates the lower importance of these barriers.

Discussion

The importance of research and its fundamental role in the growth and development of the country is an undeniable

fact. Therefore, identification of research priorities and their influential barriers in each field is very important and crucial in order to resolve them [16]. Thus, identifying research obstacles is needed in order to overcoming them and improving the quality and quantity of research [17]. Therefore, this study aimed to identify barriers (deterrents) of research in education from the university education experts' viewpoint and provide recommendations and solutions to resolve them.

As the results show, 24 barriers were identified as the implementation barriers by the experts' viewpoint and after changing and adjusting items; they were classified in 6 areas (based on similar studies). The main areas of administrative barriers in this study were (individual, organization, strategy and macro politics, educational, financial and cultural barriers). Karimian (1388), divided the underlying barriers affecting research activities in four main areas in his study (strategy and policies, educational, cultural, political and social) [12], which is consistent with the results of this part of the study. Also, Majmador believes that there are 6 categories of effective barriers of research in Asia (social, cultural-religious, communications, relationships, educational administration, faculties, and information weakness and the short-term invisible results of research) [11] which do not match with the results of this part of the study.

personal barriers of research domain with 5 items:

In a study by Hicks (1996), the most important obstacle has been described as individual barriers by the viewpoint of the nurses in the implementation of research activities [18]. In Berguest and Blond study (1997), individual characteristics such as sociability and working habits have been effective in research productivity [19]. Also, in Haji Saleh et al. study, about half of the teachers have been considered to have lack of interest and motivation for research activities as a major obstacle as personal barriers of research [16]. Sereshti etal. has named lack of motivation from the authorities, consulting personnel, and statistical capabilities as major personal barriers in their study [20].

Some researchers have shown that groupwork is one of the factors that increases the efficiency of research, development and access to the research core. In other words, enjoy working in a dynamic group, intellectual participation in group work and the sense of being valuable in a group of active students with the guidance of instructors, increases motivation. It has recently been running with the implementation of specialized cells in Shiraz University of Medical Sciences.

In Zohouri [21], Alamdary [22] and Sabzevari [23] studies, the same results have been achieved. Also, in Raksburg's study, the lack of time, the lack of support systems and insufficient knowledge and skills in research methodology has been introduced as the most important barriers of research [24]. Estentaj in his study knew the inability of language translation of research projects to English and lack of skillful statistical consultants as the most important research barriers in the university [25]. Also, Hamilton etal. have considered some factors such as lack of time, lack of expertise in research, high volume and lack of interest and motivation to study as the personal barriers that are not consistent with the results of this study [26].

It should be noted that some universities (eg, University of California, School of Medicine), some services such as study development and statistical and linguistic consults for research articles is given to researchers to carry out their activities despite the lack of time [27]. Lloyd et al in their paper have noted the teachers' family responsibilities that are consistent with the results of this study [28].

Organizational barriers with 6 items:

The major organizational barrier in this study (as mentioned above) was lack of proper facilities and equipment that can be explained this way: since most of the medical sciences research are clinical and experimental and the required equipment, and laboratory tests materials are expensive, research costs are higher and consequently the budget approval process is longer. In Dunn et al study (1998), the greatest obstacle has been raised from the nurses' perspective in the area of organizational barriers that are consistent with the results of this study [29].

The scope of strategic and policy barriers with 4 items:

The results of Jafari (1383) and Hmsly Brown (2004) study confirmed lack of research focus on coordination and lack of a comprehensive investigations database [31 and 30]. Also, Corwin and Karen (1982) considered lack of coordination in research programs and national development as a kind of shortcoming at the macro level policy making [32]. Henriquez and Astyfnsvn (2004) also believed that lack of a comprehensive database of results and lack of communication between researchers and policy-makers are the major problem in the field of research [33].

Providing funding and research facilities, the elimination of administrative barriers, developing information systems to accelerate and facilitate the process of research are necessary. The review of the university research structure and research centers seems useful. Undoubtedly, the leadership power of the University and research centers is one of the most important factors in increasing the efficiency of a research collection.

Educational barriers with 3 items:

Tajari's study (1382) showed that being education-centered and not paying attention to research at the University is the main problem of the education system in the field of

research [34]. Ldei and Lovejoy (1993) conducted a study on pediatricians, shows that the ones who received further training in the field of research capability have been more involved with the research and have had higher research productivity [35]. Karimian in his study considered lack of preparation and paying attention to research activities in the educational system before university research as a major obstacle that is consistent with the results of this study [12].

It seems that in our schools, they usually just talk on the concepts and previous scientific findings and they insist on content and teacher-centered model more than different models of educational planning and curriculum. The result of such an educational system is the accumulation of a large amount of unproductive information. However, the strategic goals of our educational programs should lead to how to learn, creative thinking and science production, not collecting and storing it. Some experts exemplify the vital status of research and innovation in education as heart rate, which should pass a new life to all tissues and cells. In fact, research at universities differs universities from other educational centers as secondary and elementary educational schools (36).

Financial barriers with 3 items:

Zynalu et al and Tajari considered financial barriers as the first obstacle from the teachers' perspective. Majmador mentions financial barriers as the most important problem in Asian developing countries (38 and 37). In fact, most of the experts agree on problems and lack of financial resources in research activities as the most research trouble.

Low fees of research projects is one of the barriers of research which Karimian [12], Shamsi [2] and Dadkhah [38] study's findings are confirmed this issue. In other words, the limited financial resources are the main cause for identification of research priorities. In fact, many developing countries due to limited resources cannot make extensive investments in research and are not able to meet the needs of research; so, their planning should be in a way that defines research priorities to have the maximum efficiency [11].

According to the research results, the process of paying research salaries by experts is long; to remove this barrier, it seems better to decrease the amount of the bureaucracy in research.

Cultural barriers with 2 items:

Shamay and Keynes (2002) mentioned the cultural barriers as one of the research problems in Palestinian university [39]. Svmatyla et al (2004) in a comparative study of the production of medical articles in different countries considered cultural barriers as one of the main barriers of research caused low science production in Asian countries that the results are consistent with this study. They also found that the participative management style and culture of teamwork have had an increasing effect on the level of faculty research productivity [40].

Reducing the willingness to study in the universities of medical sciences and physicians is not allocated to Iran; in a similar survey was conducted at the Medical College of Pennsylvania have been reported the lack of teamwork culture as the most important factor in reducing the number of research and medical research scientists in the United States [2]. In this regard, public media have had a significant role in strengthening and promoting scientific and public work in the community. Reflecting research activities and scientific achievements is useful in the society and can help the society believe itself.

Conclusion

The important role of research is one of the main characteristics of the future plans, and the government and organizations should have a better understanding of changing and looking to the future. Given the importance of this issue in the World Health Organization report in 2004 that have asked countries to seriously try to use the knowledge gained from research; this is also considered in twenty-year plan for developing the country as one of the most important tasks of the university.

Systematization of the academic research is one of the most important tasks of the universities; as promoting the research and creating incentives and rewarding faculty members and researchers is related to a coherent system in research system. The first step to organize research at the University is understanding the shortages and awareness of the amount of reaching to the goals of research programs for decision-makers and policy-makers of research to make necessary decisions to achieve the objectives, improve methods and increase efficiency.

At the end, it is recommended that research policy practitioners of the university use the results of this study in order to eliminate barriers of research at the University and to reach a productive research future and take firmer steps.

Conflicts of Interest

There are no conflicts to declare.

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References

1. Azizi F. Medical researches horizon. Rahyaft. 1996; 5 (11): 75-83. [Persian].
2. Miri Ghaffarzadeh S, Nazari H, Motazakker M. Obstacles to research activities: a study of faculty members' view at Urmea University of Medical Sciences in 2010. Journal of faculty Nursing and Midwifery of Urmea University of Medical Sciences. 2013; 10 (6): 858-66. [Persian].
3. Saburi A. Study of Iran's research in bulletin. Rahyaft. 2002; 28: 87-95. [Persian].
4. Ayazi M, Qadiryan HA. Introducing a simple and applicable model for decision making in research and development centers. Rahyaft. 2005; 36: 39-44. [Persian].
5. Mohammadi A. Facts and opportunities. Rahyaft. 2008; 20: 96-102. [Persian].
6. Mohammadi A. Research status in Iran. Rahyaft. 2008; 78: 22-6. [Persian].
7. Koorki M, Mahjob h, Sheikh N. Study of academic members attitude about main factors of not approaching to scientific writing in Hamedan University of Medical Sciences. SJH. 2008; 14 (4): 59-63. [Persian].
8. Sabouri AA. Review on sciences in 2003. Rahyaft. 2005; 31: 20-3. [Persian].
9. Abd al-Salam M. Flourish of science in the Islamic world barriers and strategies. Eftekhari A, Khajeh Sarvi GR. Tehran. Emam Sadegh Institute of social and cultural studies; 2008. [Persian].
10. Badrizadeh A, Gholami Y, Birjandi M, Beiranvand GR, Mahooti F. Research barriers from viewpoints of faculties in Lorestan University of Medical Sciences. Lorestan Journal University of Medical Sciences. 2009; 11 (3): 93-100. [Persian].
11. Majumder M. Issues and priorities of medical education research in Asia. Annals-academy of medicine Singapore. 2004; 33 (2): 257-63.
12. Karimian Z, Sabaghian Z, Saleh Sadeghpour B. Research barriers and challenges and knowledge producing in Medical Universities. Journal of Higher Education in Iran. 2011; 3 (4): 36-40. [Persian].
13. Powell C. The Delphi technique: myths and realities. Journal of advanced nursing. 2003; 41 (4):376-82.
14. Van de Ven AH, Delbecq AL. The nominal group as a research instrument for exploratory health studies. American Journal of Public Health. 1972; 62 (3): 337-42.
15. Amini M, Kojuri J, Rezaei R, Serajzadeh MK, Keshtkar V, Azizi K, Nabeiei P. The necessary activities for the development of health scientific map in medical education field: a study in Shiraz University of Medical Sciences, 2011. Strides in development of medical education. 2012; 9 (1): 46- 57. [Persian].
16. Haji Salehi A, Soltani R, Sharifi Rad GR. Research barriers from view points of Isfahan University of Medical Sciences. Journal of Research in Health System. 2014; 10(1): 98-102. [Persian].
17. Nabeiei P, Amini M, Ghanavati Sh, Marhamati S. What are important priorities in medical education at Shiraz University of Medical Sciences? Categories and sub categories from Iranian context. JAMP. 2016; 4 (1): 23. [Persian].
18. Hicks CBA. Study of nurses' attitude toward research: a factor analytic approach. Journal of advance nursing. 1996; 23: 376-9.
19. Berquist W, Bland C. The validity of senior faculty members; snow on the roof fire in the finance, ASHE-ERIC. Higher education repot, Geoge Washington University. 1996; 25 (7): 1-3.
20. Sereshti M, Kazemian AM Daris F. Research barriers from the viewpoint of faculty member and employees of Shahrekord University of Medical Sciences. Bimonthly Educ Strateg Med Sci. 2010; 3 (2): 51-7. [Persian].
21. Zohur AR, Fekri AR. Research barriers from viewpoint of faculty members in Iran University of Medical Sciences. Payesh. 2003; 2 (2): 113-20. [Persian].
22. Alamdari AK, Afshoun A. Research barriers in research activities from viewpoint of faculty members in Yasuj University of Medical Sciences. Yasuj University of Medical Sciences. 2003; 8 (29): 27-33. [Persian].
23. Sabzervari S, Alizadeh M, Azizizadeh S, Firouzi M. Faculty members' viewpoint about research barriers in Kerman University of Medical Sciences. Kerman University of Medical Sciences. 2000; 4 (14): 18-27. [Persian].
24. Roxburg M. An exploration of factors which constrain nurses from research participation. J Nurs. 2006; 15 (5): 535-45.
25. Stange KC. Primary care research: barriers and opportunities. J fam Pract. 1996; 42 (2): 192-8.
26. Hamilton GA. Two faces of nurse faculty and researcher. J adv Nurs. 1986; 11 (2): 217-23.
27. Derish PA, Maa J, Ascher NL, Harris HW. Enhancing the mission of academic surgery by promoting scientific writing skills. J Surg Res. 2007; 140 (2): 177-83.
28. Lioyd T, Phillips BR, Aber RC. Factors that influence doctors, paticipaton in clinical research. Med Educ. 2004; 38 (8): 848-51.
29. Dunn V, Crichton N, Roe B, Seers K, Williams K. Using research for practice: a UK experience of the barriers scale. Journal of Advance Nursing. 1998; 27: 1203-10.
30. Jafari H. Faculty members view points about research

barrier in and out of organization about researches of faculty members. Shakiba. 2004; 6: 13-20. [Persian].

31. Hemsley-Brown J, Oplatka I. Bridging the research-practice gap: barriers and facilitators to research use among school principals from England and Israel. International Journal of Public Sector Management. 2005; 18 (5): 424-46.
32. Corwin R, Karen L. Organizational barriers to the utilization of research. Administrative Science Quarterly. 1982; 27 (4): 18.
33. Hennink M, Stephenson R. Using research to inform health policy: barriers and strategies in developing countries, opportunity and choices working paper. 2004; 9: 1-37.
34. Tajri M. Research barriers of research activities in Tehran University of Medical Sciences. MS Thesis. Shahid Beheshti University; 2004. [Persian].
35. Ledley FD, Lovejoy FH. Factors Influencing the Interests, Career Paths, and Research Activities of Recent Graduates from an Academic, Pediatric Residency Program. PEDIATRICS. 1993; 92 (3): 436-41.
36. Margalef LG, Roblin NP. Innovation, research and professional development in higher education: Learning from our own experience, teaching & teacher education", university of Alcala, Spain, 2007; 3 (7):1.
37. Zeinaloo A. Viewpoint of research in Tehran University of Medical Sciences. Journal of Education in Medical Sciences. 2001; 7: 68-70. [Persian].
38. Dadkhah B, Mohammadi MA, Pour Naseri Sh, Mozafari N, Adham D. Viewpoints of faculty members about research and research barriers in University. Ardabil Journal of Medical Sciences. 2010; 8 (1): 37-44. [Persian].
39. Shamai S, Kefir D. Research activity and research culture in academic teacher' college in Israel. Teaching in Higher education. 2002; 7 (4): 397-410.
40. Sumathipala A. Under -representation of developing countries in research literature: Ethical issues arising from a survey of five leading medical journal. BMC Medical Ethics. 2004, 93: 6.