

Research Article

Research barriers from the viewpoint of faculty members and students of Ardabil University of Medical Sciences, Iran, 2014

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ABSTRACT

Background: Due to its role in identifying educational, research, health problems and providing a solution to prevail upon the problems related to public health, the research in the Medical Sciences University has a special importance. The present research aims to determine the restraining factors of doing research from the viewpoint of professors and students of the Medical Sciences University of Ardabil; it was conducted in 2014.

Methods: In this descriptive cross-sectional study, 250 individuals from between the professors (50 individuals) and students (200 individuals) of the various academic disciplines of medical sciences were selected by way of completely random sampling. The data collection tool was a researcher-made questionnaire containing 3 parts: demographic information, individual barriers (10 questions) and organizational and environmental barriers (25 questions) based on the binary scale (Yes or No). By using the descriptive statistics and student t-test, data were analyzed with the significance level of 0.05, in the software SPSS19.

Results: In the area of organizational factors, the most important restraining factor of the research activities of students was the lack of access to information sources (73.2%) and in the area of individual factors the main obstacle was lack of domination in English (68.6%). Also, the administrative restrictive regulations (73.3%) as the most important organizational restraining factor and lack of time due to job preoccupation (68.9%) as the main individual barrier were recognized for doing research in view of professors. There is not any statistical significant difference between the view of students under study in all the influential individual barriers other than the being unimportant of research from my view and having the negative attitude towards the research works in the view of professors. Also, there is a significant difference between students' view in all effective organizational barriers other than lack of research in the chapter heading of courses of most of fields and the professors' view. In total the score of organizational barriers was more than that of the individual barriers.

Conclusion: Organizational barriers and personal barriers have an important role in doing the research in the Medical Sciences University of Ardabil; these barriers can be passed through. The availability of consulting forces and sufficient and necessary counseling, teaching know-how and attitude correction, compensating the lack of facilities and equipment, creating the motivation by the authorities and educating and empowering as executive working procedures are recommended for overcoming the research barriers in the universities.

Keywords: Individual barriers, Organizational barriers, Research, student, Faculty member, Medical Sciences

INTRODUCTION

The research is an attempt in order to change the ambiguous, complex and problematic situation to a clear and simple situation under which a solution is provided for the problem.¹ Also, research is the foundation of development of human societies and without the support of research no scientific and rational movement is possible.² In addition, the universities and research institutes are considered as the main institutions of the research and development of countries; because they are based on three pillars, the management of research, researcher and research tools and have a prominent role in the research and scientific development through the activities such as determining the research topics needed by the society, determining the research priorities, acceptance and implementation of needed research of society and organizations, education of the students having study skills, organizing and monitoring the research activities, classification and making applicable of the research results and so on.¹

Results of the study show that despite the growth of fifty percent of Iran in the science production in 2008, we have still distance from competing countries in the region and this distance is deeper in the field of social sciences and humanities.³

According to another study, in recent years with a population of over 1 percent of total world population, the average contribution of Iran in the basic sciences has been reported 0.7%, social sciences 0.21% and in the human sciences and arts it is trivial.⁴ According to the statistics, the total number of indexed documents of Iran in 2008 has been 13568 cases and this shows that on average we have witnessed one scientific document for every four faculty members, while this ratio in state universities in Thailand was 40 cases in year.⁵ Also in 2014, the share of research credits from GDP was on average over 2% in the European countries.⁶ While the share of research credits from GDP in Iran budget bill in 2007 was 0.32% in 2010 0.25 percent.⁷ Thus, poverty of science production in the country is a historical, political, cultural and psychological problem.³

Due to the importance that it has in the field of the identification of education, research and health problems and difficulties and providing solutions for passing through problems related to the health of society, research at the University of Medical Sciences was of the particular importance.⁸ Student research causes that the student reads carefully the relevant texts and applies the various instructions in action.⁹ In this case the professors play a motivating role in the students' research activities and by improving their academic ability the spirit of research is strengthened among the students.¹⁰ Therefore, the research as one of the strongest tools of breeding potential talents is the most important problems to which the university planners must pay attention.¹¹

Although the importance and place of research as well as the present inadequacy are approved and agreed by most of authorities, but nature and quality and quantity of obstacles and straits that directly and indirectly affect the research activities are not well understood.^{12,13} So the first step for organizing research in the society is to understand the strengths and weaknesses of the research programs and identify inadequacies. By improving the relationship between researchers and users of research results, identification of the barriers of research can facilitate the problem solving process and actually cause the use of research findings.^{11,14} Therefore, investigating barriers of research through scientific elite who associate with research and technology more than any other social stratum, will be very useful. In this regard, with the support of executive agencies and related planning the professors and students are the main groups that can apply their ability, experience and intelligence in the service of passing through the barriers of research.¹⁵

Given that the research is the foundation for sustainable development and fundamental pillar of the progress of societies and since the need to improve the research knowledge and passing through the existing barriers is felt in line with the development of research targets and science production for the future in universities, the present study was conducted with the aim of investigating and identifying the restraining factors of implementation of research from the viewpoints of professors and students of Medical Sciences University of Ardabil in 2015.¹⁶

METHODS

In this descriptive cross-sectional study that was conducted in 2014, the research population was consisted of all students and professors of Medical Sciences University of Ardabil. 250 individuals (50 professors and 200 students) were selected randomly as research sample from between the professors and students of different fields of health, medicine, paramedical skills, nursing and midwifery, pharmacy and dentistry at the Medical Sciences University of Ardabil, Iran.

The data collection tool was a researcher-made questionnaire containing 3 parts: demographic information (age, gender, college name, work experience and the type of research activity), individual barriers (10 questions) and organizational and environmental barriers (25 questions). The last two part questions were set by using the scientific reliable sources and based on the scale of two degrees (yes - no).

The content validity of the questionnaire was confirmed by the opinions of experts and faculty members of university. Also, for determining the reliability of the tool Cronbach's alpha coefficient was used; after distributing questionnaire among 20 students and professors and collecting responses, Cronbach's alpha coefficient was obtained 0.81. After obtaining informed consent for

participation in research and observing other ethical points, the views of students and professors of research on research barriers were collected by using questionnaire. For analyzing information beside the descriptive statistics (frequency tables of response to the items and prioritizing the items), the inferential statistics (Student T-test) in order to decide whether there exists a significant difference between the score of students' view and that of professors' in each of the personal and organizational barriers subgroups. All calculations were done by using SPSS 19 software and in the significance level of 0.05.

RESULTS

194 students (81.2%) and 45 professors (18.8%) completed the questionnaire and in total 239 questionnaires were investigated. The age mean of students was 24.8 years, the age mean of professors was 38.2 years and the work experience mean of professors was 12.2 years. The demographic information of the research samples has been shown in Table 1.

Table 1: Demographic information of students and professors.

Demographic information		Students		Professors	
		Number	Percent	Number	Percent
Sex	Female	95	48.9	17	37.7
	Male	99	51.1	28	62.3
Name of faculty	Health	44	22.6	12	26.6
	Pharmaceutical	33	17.01	6	13.3
	Dentistry	33	17.01	6	13.3
	Nursing and Midwifery	44	22.6	12	26.6
	Medicine and paramedical skills	40	20.6	9	20
History of doing research	Yes	105	54.1	45	100
	No	89	45.8	0	0

Table 2: Effective individual barriers of doing research from the view of professors and students.

Individual barriers	Degree of agreement				p-value
	Students		Professors		
	Number	Percentage	Number	Percentage	
Not having the enough skill	132	68	11	24.4	0.001
Inadequate knowledge of research methodology and statistical principles	128	66	14	31.1	0.001
Lack of time (because of job preoccupation)	102	52.6	31	68.9	0.047
Lack of awareness of the topics of research	116	59.8	9	20	0.001
Lack of sense of responsibility	94	48.5	9	20	0.001
lack of tendency to do research work	85	43.8	7	15.6	0.001
Having a negative attitude towards research work	75	38.7	8	17.8	0.008
Being unimportant of research in my opinion	73	37.6	11	24.4	0.095
Non-domination in English	133	68.6	9	20	0.001
inability to use the internet and computer	86	44.3	9	20	0.003

Mean percentage frequency of organizational and environmental barriers in students was 62.9% and among professors 44.9%. For the students the first and second priorities of organizational barriers for doing research activities were recognized as the lack of access to information sources (73.2%) and lack of encouragement for the selected researchers (72.7%) and for professors the administrative restrictive regulations (73.3%) and low cost dedicated to the research (71.1%). The distribution of students and professors in terms of the degree of

agreement with each of the individual inhibiting factors for doing research activities has been shown in Table 2.

Also the mean percentage frequency of the individual barriers among the students was 52.7% and among professors 26.2%. In view of students the first and second priorities of individual barriers to conducting research activities were non-dominating English language (68.6%) and lack of sufficient skill (68%) and in view of professors they were the lack of time due to job preoccupation (68.9%) and inadequate knowledge of

research methodology and statistical principles (31.1%). Students and professors distribution in terms to the degree of agreement to each of the organizational and

environmental restraining factors of doing the research activities is represented in Table 3.

Table 3: effective organizational and environmental barriers of doing research from the view of professors and students.

Organizational barriers	Degree of agreement				p-value
	Students		Professors		
	Number	Percentage	Number	Percentage	
Lack of access to information sources	142	73.2	8	17.8	>0.05
Lack of the required source of information on the subject of research	127	65.5	9	20	>0.05
Lack of consultation in place	133	68.6	18	40	>0.05
Lack of facilities and equipment of doing research	118	60.8	29	64.4	>0.05
Time limit for doing research	112	57.7	25	55.6	>0.05
Insufficient research privileges on upgrading and full time	126	64.9	14	31.1	>0.05
Lack of motivation from the authorities and professors	131	67.5	28	62.2	>0.05
Administrative restrictive regulations	122	62.9	33	73.3	>0.05
Ethical limits in doing research	104	53.6	11	24.4	>0.05
Insufficient income from research	117	60.3	28	62.2	>0.05
Low cost allocation for the research	142	73.2	32	71.1	>0.05
Lack of appropriate publicity for doing research	121	62.4	22	48.9	>0.05
Not caring research in the organization	130	67	24	53.3	>0.05
Lack of incentive for the selected researchers	141	72.7	23	51.1	>0.05
Scientific stagnation caused by spending time for doing research	118	60.8	9	20	>0.05
Lack of chapter heading of the research method across the courses	120	61.9	24	53.3	0.031
The weakness of the Committee research members of university and faculty	110	56.7	20	44.4	>0.05
Giving importance to the quantitative production of research (instead of the quality of research)	131	67.5	27	60	0.34
Not caring the research activities of students by professors	110	56.7	23	51.1	>0.05
Discouraging students interested in research by professors and organization	125	64.4	18	40	>0.05
inequality in the approval and implementation of research projects	118	60.8	24	53.3	>0.05
Lack of specialist librarian for guidance on using electronic resources	126	64.9	15	33.3	>0.05
The impossibility of publishing essays	107	55.2	14	31.1	>0.05
Inability to write an essay	100	51.5	13	28.9	>0.05
The lack of holding the specialized workshops of the research method	123	63.4	15	33.3	>0.05

Generally speaking, there was not any statistically significant difference between the view of students under study in all influential individuals' barriers other than being unimportant of the research in my idea and having a negative attitude towards the research work and the view of professors ($P<0.005$) (Table 2). Also, there is a significant difference between the opinion of the students

in all effective organizational barriers other than lack of research in courses chapter heading of most of fields and the view of professors ($P<0.005$) (Table 3). In total, the score of organizational barriers in students and professors is more than that of the individual barriers.

DISCUSSION

The importance and the place of researches and their fundamental role in growth and development of country are vital. Thus, in order to improve the quality and quantity of research, identifying the barriers to doing research and passing through them is very necessary. Therefore, this study has been conducted with the aim of investigating the research barriers from the point of view of professors and students of Medical Sciences University of Ardabil in 2015.

In this study, in terms of individual barriers, non-dominating English language and lack of adequate skills have the highest frequency in view of students; this is consistent with results of the study of Somatipila A et al, Nickrooz L et al and Memarpour M et al. While in the study of Abedini S et al, not having adequate skills and sufficient knowledge of research methodology has been mentioned as a least deterrent factor from the perspective of professors.^{11,17-19} This difference is resulting from the difference between the population and research sample in this study and Abedini's study, because in Abedini's study the members of the faculty only were the sample research. In general, this individual barrier can be resulted from a lack of research centers in the faculty, emphasis of universities on orientation to teaching, weakness in writing proposals and article and lack of awareness of the scientific principles of research performance for the students. For passing through this problem, holding workshops of teaching research method, data analysis, article writing, the writing guidelines according to student need, strategies and specific goals about how to do research, more attention to the unit of research method and forming research centers in faculties in order to improve the quality of research are essential.

According to the results of present research, in terms of the individual restraining factors, lack of time due to job preoccupation has had the highest frequency in view of professors; this is consistent with results of the study of Tan M et al, Hemsley-Brown J et al and Roxburgh M.²⁰⁻²² This individual barrier can be caused by the multiple responsibilities of professors in the training, consulting, and executive and administrative areas in university environments. Engaging in executive and administrative activities, in addition to take a lot of valuable time of faculty members who can be spent on research and science production, has also this threat as a consequence that being continuous of staying in such posts creates gradually a kind of administrative tendency and routine in these individuals. So for adjusting this environmental and organizational barrier, doing research work as a team and partnership between professors and students in order to cover the lack of time of professors and also reduce the workload of professors in the field of research are necessary for their increasing involvement in the research.

According to the results of present study, inadequate knowledge of research methodology and statistical principles was reported as another effective restraining deterrent in the perspective of professors; this is similar to the results of the study of Karimian Z et al.²³ For passing through this individual barrier, it is essential to promote the professors' capacities in the fields of various research methods, preparing a questionnaire and doing the statistical tests.

Based on the results of the present study, the highest mean score of environmental and organizational barriers from the students' perspective was related to the lack of access to information sources; this is coordinated with results of the study of Sotodeh Asl N et al.¹⁶ The results of investigation of Sotodeh Asl N et al at the Medical Sciences University of Semnan showed that in providing research service the most important barrier includes the lack of scientific and research publications and specialized reference resources in the academic field at the University. Also in his study Hemsley-Brown J has reported the lack of databases as one of the strategic restraining factors in order to carry out research.²¹ To adjust this barrier, the preparation of research possibilities and facilities, providing the valid scientific resources, the creation of internally information databases relating to conducted or running researches are essential.

Also according to the results of the present research, lack of the incentive for the selected researchers was reported another environmental and organizational restraining factor in the view of students; this is consistent with the results of the investigation of Sotodeh Asl N et al and Mahmodabad MS et al.^{16,24} To pass through this barrier, in addition to creating sufficient incentive in students for the research and highlight the efforts and research activities of students it should be taught a specific and relevant thinking and insight about the importance of research to students.

In the study of Hosseinpour M, the weakness of management and research policy, limiting regulations and bureaucracy and economic problems were recognized as some of the restraining factors of research activities from the perspective of faculty members of human sciences fields in Ahwaz University of Medical Sciences; this is similar with the results of present study in terms of most common organizational and environmental restraining factor in view of professors.¹ Also Majumder M has mentioned the economic and financial barriers as the most important difficulty in developing Asian countries.²⁵ The cause of this organizational barrier may be due to the fact that most of researches in the universities of Medical Sciences are the experimental and interventional researches and the costs of further research and consequently the budget approval process are longer. Also excessive bureaucracy in budgeting the research projects and share of research credits and lack of timely allocation of research credits are from other causes of this barrier.

Therefore, compiling transparent research policy in universities and faculties, shortening the route of approval of research projects, increasing the research budget and powers of research centers in the financial decisions are essential for passing through this barrier. Based on the results of present research, in total the score of organizational barriers in students and professors was more than that of individual barriers; this is consistent with results of the study of Sereshti M et al, Nikrooz L et al, Farmanbar R et al and Somkin CP et al. But the results of the study of Sotodeh Asl N et al and Fazlelahi SA et al showed that the personal barriers are more effective than those of the organizational ones in deterring the implementation of the student research projects.^{11,14,16,26-28} The probable reason for the differences could be caused by different research community as well as the difference among universities in terms of research possibilities and facilities for professors and students. The results of this study can be generalized only for Medical Sciences University of Ardabil and in other universities may be other barriers were in priority. Also from other limitations of this study is that the researcher-made questionnaire whose design and validity and reliability have been estimated using the similar studies, was used for data collection. It is suggested that in the future studies the questionnaire validation is determined through other methods such as factor analysis. Finally, in this research we have dealt only with inner-organizational barriers, while may-be a lot of the researchers' problems are influenced by the obstacles and difficulties out of university.

CONCLUSION

Today, the presence of universities in the knowledge market and their place in economy based on knowledge and comprehensive and sustainable development is a known thing. For this purpose, it must be formed this thought among researchers and academics what makes the endurance and scientific, cultural, economic and even political progress of a society, is the research, production and knowledge management. Therefore, we must realistically investigate the situation of the country's scientific research and search to and identify the existing obstacles in the way of our basic researches. In this study, organizational barriers and personal obstacles for researching in the Medical Sciences University of Ardabil have a role; they can be passed through and controlled. Conducting research spaces for participation, availability of consultation forces and sufficient and necessary consultation, organizing research budget, creation of active research centers in colleges, equipping libraries and information resources needed for researchers, teaching public culture and attitude correction, reduction of teaching hours and creating opportunities for research, developing facilities and equipment, using research management software to facilitate the approval of research projects, the removal of administrative bureaucracy, giving significant research points to research activities and educating and

empowering students and professors for application as executive working procedures to overcome obstacles at universities are suggested.

Finally, given that the research is considered as one of pillars of development in present societies, orientation and prioritization of research projects based on need of society and Country's supply and demand market, increasing research share and review of the structure of universities' research sections and research centers are effective for increasing scientific research productivity and preventing scientific deceleration. Realizing this ideal requires a comprehensive, broad and all-encompassing vision; it makes necessary the more flexible and more practical attention of managers and moderators of universities, not to mention, senior managers and officials of the Ministry of Sciences, Research and Technology and the Medical Sciences Universities.

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