

# A Survey of Barriers to Health Research Promotion

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## Abstract

**Background and Objectives:** High performance research activity in the health domain is crucial to overcoming ever-growing health-related problems. Despite the availability of data sources, only a limited number of researchers use these data to derive health-related information. Thus, the present study aimed at exploring the barriers to research promotion as perceived by the university health research experts.

**Methods:** In this cross-sectional study, 261 health experts from Kerman University of Medical Sciences (Kerman, Iran) were selected using census method. Data were collected using a questionnaire containing questions related to personal and organizational research barriers, and summarized using descriptive statistical methods.

**Findings:** The survey found lack of research advisors and sufficient facilities, lack of motivation, lack of expert librarians, limited budgets, and poor cooperation of internal executive units as the most important organizational barriers. In addition, limited time, heavy work overload, limited knowledge of statistics and research method, and family responsibilities were identified as the most important personal barriers.

**Conclusions:** The wide range of barriers to research activities in health domain calls for comprehensive revision of current policies in the area of health research to boost the research activities. The diversity of the barriers identified highlights the need for a systems and holistic approach to health research promotion.

**Keywords:** Health research, Health human resources, Policy-making

## Background and Objectives

Research is declared a type of systematic investigation, which leads to creation of different forms of knowledge [1]. Research can facilitate the process of understanding and prediction. "Understanding results from a knowledge of the process or dynamics of a theory, and prediction results from investigation of the outcomes of a theory" [2]. It can also have a problem-solving function. Research and development (R&D) have a great relationship as achieving development needs translation of knowledge into an applied form [2]. Research must be a part of every society and organization mission, and the role and

value of research and commitment to its support and development should be emphasized [3, 4]. Also promoting research activities needs research capacity development strategies, proper structures and supportive leadership that should be well organized and implemented [3,5].

The role of research in every context development including health has been proven. Health is declared a fundamental human right, which is influenced by different social, economic and political determinants [6]. Health care is also a public right, and all governments are responsible of providing this care to their people equally [7]; health contributes to development in different aspects. Healthy populations influence economic development as they live longer and perform more effectively as workers [8]. Health and medical care also enhance people's functional ability, quality of life and life expectancy [9]. In this regard, health services should be designed according to the health

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needs of each community using available and proper resources and knowledge [7].

The quality of health services has become the main concern of policy-makers in health systems [10]. For improving and achieving a high quality health system, health research is a driving force that enhances the health systems' performance and the health of populations [11]. Health researches are designed for finding best practices, eliminating barriers to care, measuring impact of actions, determining and defining indicators, and collecting health metrics. Therefore, research is critical for public health function and providing bases for policy and decision-making, planning, problem solving, and accountability [12, 13]. For this reason, over the past years, special attention has been paid to health system research, and the alliance for Health Policy and Systems Research (HPSR) is an example. This alliance as initiative of the Global Forum for Health Research (GFHR) in collaboration with the World Health Organization (WHO) was established in 2000 to promote the creation, dissemination and utilization of knowledge with the goal of improving health system performance in the developing countries [11].

Since research findings and application of developed countries cannot always provide the proper solution to the problems of developing countries, these countries should design applied researches to meet their needs and solve their problems [14]. Nevertheless, in the developing countries, health research projects are not performed at accepted level, and as opposed to the developed countries, there are limited human and financial resources and facilities devoted to research. It is calculated that health systems' research funding is at most 0.02% of the health expenditure in these countries, which is far too low to have any impact on health system development [11]. Also different studies show that there are many obstacles in performing research projects in health systems like lack of sufficient skills for writing research proposal, limited supportive services, lack of cooperation of organizations, unavailability of scientific sources, lack of time, lack of financial budgets, low research fees, etc. [3, 14-18]. Some of these are major barriers of development and some others can be removed. Identification and removing research obstacles promote research activities and improve the quality and quantity of researches, which can support research evidence utilization, and facilitate problem solving. Ignoring this issue stops research activities, and it is likely to bring harms that are not compensable, resulting in failure of research activities and research evidence utilization. There-

fore, increasing on the awareness of research barriers seems to be necessary.

In every health system, various participants can play role in doing research, which leads to discovery of new sciences, methodologies or reasons of major problems. Research activities of health staff in medical science universities have significant importance in identifying educational, research and health care service problems and consequently, in suggesting solutions for removing the mentioned problems. Health staff working in different units, especially in the counties directly facing the health related problems (in different fields), can pose useful research ideas. Nevertheless, review of published articles in Iran and other countries shows that most of the studies about research barriers have focused on the viewpoints of academic faculties, clinicians, nurses and midwives [12, 14-15, 19-20]. Therefore, the present study was designed to survey research obstacles from the viewpoints of health staff.

## Methods

### Setting and sample

This cross-sectional, descriptive-analytic study was performed on 261 expert health staff working in the main center of the Vice Chancellor for Research and Health Centers of Kerman University of Medical Sciences. All staff with Medical Doctor, master and bachelorette degrees, who were not among the academic members of the university, were selected by census method, and enrolled into the study.

### Study instruments and data collection

Data collection was performed using a researcher-made questionnaire previously used in another study in Iran [22]. After small modifications, the content validity of the questionnaire was approved by in-field experts, and the stability was confirmed after being filled out by 20 experts (Cronbach's  $\alpha = 0.9$ ). The questionnaire consisted of four parts of demographic features (age, sex, marital status, number of children, job tenure, job position, employment status, place of work, educational degree, and field of educational degree), research related activities and questions related to personal and organizational research barriers (n=35) based on 5-degree Likert scale. Also two open questions in relation to other probable research obstacles and suggestions for facilitating research activities were mentioned.

## Ethics

The study obtained its approval from the Vice Chancellor for Research and Technology of Kerman University of Medical Sciences. The participants assured of the confidentiality of their responses.

## Data analysis

Data were analyzed through SPSS 19 and using descriptive and referential statistics such as Pearson's coefficient of correlations, t-test and ANOVA. Statistical significance was defined at  $P < 0.05$ .

## Results

About 62% of the participants were women. Most of the participants (41.76%) were between 41-50 years with the mean age of  $39.11 \pm 7.3$  years and mean job experience of was  $14.49 \pm 7.7$  years. 85.82% were married and 57.47% had more than one child. Concerning the place of work, 29% were working in the central office of Vice Chancellor for Health. Regarding the educational degree, the most (72.8%) had B.Sc. degree. Concerning job position, 72.41% were expert health staff, 19.54% were head of the unit, and 8.05% were executive managers of various centers. The most educational field of participants was General Health (42.1%) followed by Occupational and Environmental Health (16.1%). 67.82% were official, 23.37% were contractual, and 8.81% were temporary employers, and 11.2% had a second job (Table 1).

Mean number of performed research projects by the studied subjects was  $0.5 \pm 1.4$ , and 44.4% had participated in research projects as the main project fellow or executive. Concerning the number of performed research projects, one project had the highest frequency (10.6%).

Overall, 57.1% of the participants had participated in introductory workshop of Research Methodology, 28.7% in Statistics workshop and 48.7% in Internet workshop. Sixty seven percent of the participants had access to Internet, digital library and other on-line sources. Concerning publishing the results of research projects, 15.7% had presented their results in national conferences and seminars, while only 2.7% had presentations in international seminars. 10.3% of the participants had published their papers in research-scientific journals (Table 2).

Mean score of personal and organizational barriers was  $36.37 \pm 7.81$  and  $87.36 \pm 12.99$ , respectively. Lack of time and work overload, lack of knowledge in statistics and research methodology, and family duties were

**Table 1 Demographic characteristics of the respondents (total 261)**

Variables	N	%
Gender ( <i>n</i> =261)		
Male	100	38.31
Female	161	61.69
Age ( <i>n</i> =261)		
20-30	46	17.63
31-40	96	36.78
41-50	109	41.76
51-60	10	3.83
Marital status ( <i>n</i> =261)		
Single	37	14.18
Married	224	85.82
Having children ( <i>n</i> =261)		
no	56	21.46
1	55	21.07
> 1	150	57.47
Job tenure ( <i>n</i> =261)		
1-10	84	32.18
11-20	109	41.76
20-30	68	26.06
Job position ( <i>n</i> =261)		
Officer	189	72.41
Supervisor	51	19.54
manager	21	8.05
Employment status( <i>n</i> =261)		
Officially employed	177	67.82
Contractual employed	61	23.37
Temporary employed	23	8.81

respectively the most, and lack of interest was the least affective personal factors preventing research activities (Table 3). The most important organizational barriers were respectively unavailability of research advisors, lack of research facilities, managers' neglect in arousing motivation in researchers, lack of expert librarians, lack of sufficient research budgets, and lack of cooperation of internal executive units and other organizations' managers. Ethical limitation was the least affective organizational obstacle (Table 4).

Twenty-four subjects had answered the two open questions related to other research obstacles and suggestions for facilitating research activities. The most important mentioned points were absence of research-oriented organizations, lack of required facilities and instrument for performing research projects, and being forced to involve individuals who are not so related to research affairs in the project.

The most mentioned suggestions were holding workshops on research methodology, statistical software, data analysis, removing organizational barriers, considering research activities in job promotions for motivating employees, considering special hours in work time for research activities, providing statistical advi-

**Table 2** Subjects' research activities history

Research activities	Yes (%)	No (%)
I participated in Research Methodology workshop.	57.1	42.9
I participated in Statistics workshop.	28.7	71.3
I participated in Internet workshop.	48.7	51.3
I have access to the Internet, digital library and other on-line sources.	67	33
I have helped my colleagues in gathering data for their research projects.	54.4	45.6
I have experience of being main fellow in research projects.	26.8	73.2
I have experience of being main executive in research projects.	17.6	82.4
I have experience of presenting paper in local seminars.	15.7	84.3
I have experience of presenting paper in international seminars.	2.7	97.3
I have published paper(s) in research journals.	10.3	89.7

sors and experienced experts, removing obstacles related to publishing articles in research-scientific journals, and giving information about national seminars.

According to statistical analysis, there was a significant relationship between the mean scores of personal and organizational barriers ( $p < 0.000$ ). Mean scores of personal and organizational barriers showed no significant relationship with the variables of age, sex, marital status, number of children, job position, employment status, place of work, field of educational and job experience ( $p > 0.05$ ). Although Educational level showed significant relationship with the mean scores of personal barriers ( $p = 0.05$ ) and organizational barriers ( $p = 0.018$ ); that is higher educational level was associated with lower mean scores of barriers but the mean score of barriers showed increase for doctoral degree.

Those subjects with no history of performing research obtained higher mean score of organizational barriers compared to those with history of participat-

ing in research projects; also the participants' history of performing a research had a significant relationship with organizational and personal barriers ( $p = 0.009$ ). In addition, there was a significant relationship between participating in research related workshops and organizational and personal barriers ( $p = 0.003$ ).

## Discussion

In the present study, the most important organizational barriers of performing research were lack of research advisors and insufficient facilities, managers' neglect in arousing motivation for doing research, lack of expert librarians, financial budgets and poor cooperation of internal executive units and other organizations' managers. In Smeby and Brodin *et al.*' study, organizational factors were significantly effective in the research activities of academic members, and this effect has been even more than the time spent for research [3, 22].

**Table 3** The frequency distribution of responses to personal research barriers

Questions	Strongly agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly disagree (%)
Lack of time and work overload	36	38.7	10	13	2.3
Lack of knowledge on statistics	23.4	42.5	11.9	17.2	5
Insufficient knowledge of research methodology	19.5	43.3	11.1	22.7	3.4
Family duties	20.7	39.5	15.3	20.3	4.2
Social responsibilities	15.3	38.7	21.1	22.6	2.3
Inability in using computer	10.3	24.9	6.9	42.1	15.8
Inability in recognizing topics for research	18.4	39.5	13	24.1	5
Lack of information about research topics	16.9	33.7	13	31.8	4.6
Lack of skill for doing research	13.9	35.2	8.8	35.6	6.5
Lack of motivation	18	33.3	9.2	29.5	10
Lack of interest in research	8	19.5	13.5	42.5	16.5

**Table 4** The frequency distribution of responses to organizational research barriers

Questions	Strongly agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly disagreed (%)
Unavailability of research advisors	32.6	45.2	12.6	8.9	0.8
Lack of research facilities	27.1	47.1	10.7	13.9	2.3
Managers' neglect in motivating researchers	26.4	46.8	18	6.9	1.9
Lack of expert librarians	28.7	42.9	20.8	6.5	1.1
Insufficient research budgets	26.8	42.1	22.6	7.3	1.2
Lack of cooperation of internal executive units and other organizations' managers	21.9	44.8	28.7	4.2	0.4
Troublesome formalities for doing research	23.4	42.9	23.4	8	2.3
No utilization of research results	18.8	49.4	19.9	10.7	1.2
Lack of concreteness of previous researches application	19.9	45.2	23.4	10	1.5
Weakness of research advisors	20.3	39.5	29.5	9.2	1.5
Lack of access to information sources like libraries	21.8	41.8	15.4	19.5	1.5
Lack of access to electronic sources (Medline, Internet, journals)	22.6	30.3	14.9	29.9	2.3
Lack of cooperation of managers	18.4	36.8	33.3	10.7	0.8
Lack of cooperation of personnel	14.6	39.5	30.5	14.6	0.8
Unfair promotion scores for researchers	23.8	31.8	31.8	11.1	1.5
Data gathering and statistics problems	22.6	47.1	21.8	7.3	1.2
Time limitation for doing research	13.4	44.4	28	13.4	0.8
Compulsion in using a fixed method or outline for research	11.9	34.5	34.5	18	1.1
Unavailability of necessary sample for research	15.7	34.9	27.2	21.1	1.1
Bias in the process of reviewing and approving research proposals	14.1	39.5	36	9.6	0.8
Inability in scientific writing	12.3	34.8	21.5	29.5	1.9
Problems or delays in publishing papers	11.9	41.4	34.8	11.1	0.8
Lack of access to full text articles	13	45.2	28.4	11.5	1.9
Ethical limitations in doing research	8.4	21.8	44.1	23	2.7

Similar to the AlGhamdi study on medical students, in the present study, unavailability of professional research advisors was the most important organizational research obstacle [18]. According to our results, more than half of the participants were working in the province counties where many facilities are not present; therefore, in order to encourage the health staff in doing research, giving priority to the improvement of education and research methodology is necessary. Since lack of expertise in research skills influence the quality of research [23], establishing educational centers and consultation offices in the health centers of counties, in order to provide adequate training and information about research priorities in the job fields of staff, seems to be essential.

Similar to some other studies, lack of motivation and managers' neglect in arousing staff's motivation

for doing research was mentioned as another research barrier [24-25]. Also some studies determined that managers' behaviors and leadership style affect on employees' quality of work life, empowerment, job satisfaction, job involvement, and organizational commitment [26-27]. Motivation for doing research can result from great desire for scientific explorations, but in some cases, gaining research fee, job promotions and social prestige are motivations of doing more research. Utilization of research results can also improve researchers' motivation for more scientific activities. Therefore, by modifying the present criteria of job promotions and annual evaluations of staff, the optimal benefit from motivation factor can be achieved.

Lack of expert librarians who can guide the staff in using information sources is among the important or-

ganizational obstacles mentioned in the present study. Since most of the participants of this study had access to the Internet, digital library and other on-line sources and with regard to the rapid development of automation system in the offices and complete availability of the Internet in near future, widespread measures in holding educational workshops on using electronic sources, digital library and searching the Internet and Medline databases are highly recommended.

Lack of sufficient budget for research activities was reported as one of the most important organizational research barrier. The same issue has been reported in other similar studies [3, 16-18]. Also according to some studies, financial incentives are important for involvement in research activity [14,20]. Sometimes, research fees for researchers are not fair, and the process of paying them is very prolonged so that to remove this problem, some revisions in the payment processes of financial-administrative offices in the universities' research centers and vice Chancellor for Research are required.

In agreement to several similar studies, poor cooperation of internal executive units and other organizations' managers for facilitating the implementation of some researches, especially in multi-organizational projects has been mentioned as among the organizational barriers of doing research [28]. Managers' support is one of the key factors influencing goal achievement in organizations [29]. Insufficient support of researchers by managers and lack of research infrastructure have been reported as the most important obstacles for doing research and utilizing the results of research [3, 16, 30]. Considering research importance within organization, constructing needed structures and supporting researchers, managers can provide the condition that is conducive to research activity [3].

Lack of time and work overload were mentioned as among other most important personal barriers in the present study. Since most subjects were health staff whose main duties are inspecting, controlling and evaluating health care centers and training of their personnel, they have no time for participating in research activities. This problem has been relatively confirmed in other studies [18- 20, 31- 32]. It seems that allocating specific hours to research activities during work hours can solve this problem.

Lack of knowledge about statistics and research methodologies was among the personal barriers mentioned by our subjects. According to Salsali & Roxburg, lack of skill in doing research, receiving no training in relation to performing scientific researches, and using the results of researches are examples of major barriers for performing research among nurses [31, 33].

By providing the chance of training with the aim of developing skills managers can help staff to increase their productivity and feel more helpful and valuable [34]. The evidence also showed that training in different aspects of research increases the staffs' research activity, encourages them to search, and promotes the usages of research findings in practice [18, 30, 32, 35]. In this study, most of the subjects had no knowledge on statistics bases. Therefore, holding practical educational workshops on research methodology, scientific writing, statistical data analysis and searching the Internet sources seem to be necessary.

Burden of family duties was the other research obstacle found in the present study. Bickel has shown that one of the reasons of women's failure in participating in research activities is related to their family duties [36]. Since, in the present study, most of the participants were females who have less time for research activities due to their family responsibilities, a multi-dimensional supportive measure by the society heads is necessary to solve the economic, social and cultural problems of families in order to pave the way for women's more participation in research activities.

Similar to Sabzwari *et al.*'s study, in the present study, most of the expert health staff had no research activity, and mean score of organizational obstacles was higher in this group. In the case of performing more research activities and achieving more experience in research, many of the obstacles mentioned by the participants of this study can be diagnosed at early stages, and attempts might be done to relieve them in a way that they lose their importance gradually and are not considered as research barrier anymore. The same results have been asserted by Young *et al.* in their study on physicians [37]. Also organization's strategies and plans for solving organizational obstacles lead to facilitate the research steps and help the staff to do more and qualified researches.

Among different demographic variables, only educational level had a significant relationship with personal and organizational obstacles, in a way that higher educational level was associated with lower mean scores of personal and organizational obstacles. However, the subjects with doctoral degree, who had been more involved in research activities due to the nature of their work providing them with more research topics and data, asserted more research obstacles. The history of performing research and participating in research related workshops had a significant relationship with organizational and personal barriers.

## Conclusions

In order to motivate health personnel in participating in research activities and improve the quality and quantity of research projects, the following points are suggested:

Considering scores for research activities in job promotion process

Rewarding researchers for their research activities

Holding practical training programs on research methodology and scientific writing

Holding practical training programs on using the Internet and digital libraries

Holding workshops on statistics

Modifying the process of evaluating research proposals

Devoting more financial budget to research and increasing research fees

Devoting specific hours during the work day to research activities

Considering research experience as a criterion in selection of managers

Establishing offices for research consultation in the health centers of counties in order to provide information about research priorities in the job field of health staff

Providing facilities for participating in national and international scientific seminars.

## Authors' contributions

FBM: study design, study supervision, statistical analysis, MMZ: data collection, MH: data collection, MR: manuscript writing.

## Competing Interests

The authors declare no competing interests.

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