

## Restrictions in the implementation of research from the perspective of researcher students against students non-researcher

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### Abstract:

**Background and purpose of study:** Today, the important role of research in the development of societies is known to all. In fact, research stimulates societies to grow. Universities are the birthplace of novelties. Therefore, developing countries attempt to pay heed to the role of universities in national progress. Unfortunately, insufficient attention has been paid to students' potential in research. Academic realm is more education-based than research-based. However, due to the significance of research at university level, the present research aims to determine Restrictions in the implementation of research from the perspective of researcher students against students non-researcher in Hormozgan University of Medical Sciences in 2014. **Materials and methods:** In this descriptive and Analytic research in 2014, 457 students (non-researcher) at Hormozgan University of Medical Sciences were selected through stratified sampling. 87 students (researcher) whose names were recorded in the research council of the university (due to limitations) were included through a census. Two standardized questionnaires were used to collect the data. These questionnaires were comprised of three sections: demographic, organizational and personal. Their reliability and validity have been established. The data were analyzed via Chi-squared test and Mann-Whitney U-test in SPSS (v.16). **Results:** In this research, 72 participants (82.8%) in the researcher group were female and 15 (17.2%) were male. In the non-researcher group, 225 participants (60.8%) were female while 141 (38.1%) were male. The mean score of research obstacles in the organizational and personal domains as perceived by researcher students were respectively (3.02±.44) and (3.05±.61). The same scores gained by non-researcher students were (3.25±.44) and (3.26±.55). In personal domain, the difference between the two groups was statistically significant (p<.05). The most frequent obstacles belonged to the intensive and demanding courses, motivation for research, access to the net and professors' cooperation. **Conclusion:** The results of this study indicate that the greatest weakness of students in research activities related to their own personal skills. Therefore, it's suggested that with holding training courses such as proposal writing and statistical analysis, improve students' personal skills. The ways to motivate and encourage students' orientation towards research activities could be fruitful as well.

Key terms: research obstacles, attitude, research activities, student

### Introduction:

The significant role of research in societies is known to everyone today. Success of developed countries depends to a great extent on extensive research (1). Undoubtedly, industrial, economic and social development of a society requires research in all domains (2, 3). In modern era, theoretical knowledge is traded better than goods. Many scientific centers

have a policy of commercializing research findings. Therefore, developing countries attempt to pay a central attention to the role of universities in national development (4). Considering their mental and moral social status, universities are the birthplace of novel ideas and play a key role in national development (5). Research activities help to promote group work, students' capabilities of

evaluating studies and critical mental skills. They also help students learn how to link scientific data from multiple health-related disciplines. Unfortunately, less attention has been paid to students' capabilities. Universities are observed to be mainly obsessed with students' education and far less with their research capabilities. The first step in creating an efficient research system is motivating academics and students to do research, providing them with research instrumentation, training proficient researchers and finally establishing the status of research within the country by removing its obstacles (6). In another research, Zeinalou et al. found financial/official problems, facilities and personal motivation as the main obstacles of university research. Among the other obstacles mentioned by Jafari et al. were academics' financial problems, absence of a central database at university, official bureaucracy to approve research projects, insufficient academic budget, inherent research difficulties and limited access to research consultants (7). Hoferin et al. investigated the following research factors: interpretation, no use of the results, statistical analysis problems, no support of research activities, lack of time and money and demotivation (8). To promote the dominance of domains which directly or indirectly influence healthcare activities, developing the spirits of research in individuals seems to be essential. Knowledge of research obstacles can improve researcher-user communications and problem-solving and can help to use research findings. Among personal obstacles of research, mention can be made of insufficient skill in proposal writing, research conduction, data

analysis and essay writing (9). The present research was conducted due to the importance of student research in university and limited actual research conducted by students at university. Moreover, the essentiality of authorities' awareness of students' problems motivated the present research. There is also a need for a better management of student research. The aim of this research is to determine Restrictions in the implementation of research from the perspective of researcher students against students non-researcher in Hormozgan University of Medical Sciences in 2014..

### Methodology:

The present research was descriptive and Analytic in type. The research population consisted of the students of the University of Medical Sciences (such majors as nursing, midwifery, para-medicine, healthcare, medicine and dentistry). It was conducted in 2014. The minimum number of participants required was estimated by NCSS software using this formula:

$$n = \frac{z_{1-\frac{\alpha}{2}}^2 \times p(1-p)}{d^2}$$

. In this formula, n is the sample size, z is confidence coefficient estimated from the standard normal distribution table and p is an estimate of the proportion of population having the target feature and d is the acceptable estimated error of the population. In this study,  $\alpha=0/05$ . Then,  $z_{1-\frac{\alpha}{2}}^2 = (1/96)^2 = 3/8416$ . According to the reports of student research committee concerning the proportion of researchers at university, p-value was set at  $p=.05$ ; d was set at 2%, that is  $d=.02$ . Insertion of these values

in the formula above yields a sample size of 457. 87 of them were researcher students selected through a census. The higher the  $d$  value, the higher the estimated error and accordingly the smaller the sample size. Male and female medical students comprised the subjects of this research. The required inclusion criteria of researcher students (conference participation, research co-authorship, presentation, book authorship and translation) were obtained from the university research management unit as well as student research committee. Student names were obtained from the centers just mentioned. Those students whose names were not in the list were considered as non-researchers. The required information about student participants was obtained from the faculty office. The inclusion criterion for both researcher and non-researcher students was studying at the 3<sup>rd</sup> semester or higher. And the exclusion criteria of this study was all student who had spent less than 3 semesters or who were sponsor or moved at other universities, during the research. They also were excluded in case of incomplete and distorted questionnaire. In case the questionnaires were deficiently filled out, they were also excluded. Clustered sample selection was used for all faculties including nursing, midwifery & paramedicine, healthcare, and dentistry, as well as all majors including health IT, operation room, radiology, lab sciences, anesthesia, medical documents, medical emergency, public health, professional health, environment health, medical entomology, medicine and dentistry. Each major was considered as a separate stratum. Subsequently, students entering university in 2011-13, as well as

those studying medicine and dentistry since 2008 were stratified. From each stratum, several were randomly selected. Therefore, students were randomly selected from the list of names. 87 were researcher students having been selected through a census. Questionnaires were distributed among them and once completed were retrieved. Testees were aware of the topic of the research. The instrument used in this study was a Two standardized questionnaires were used to collect the data which were formerly used in another research in 2012 (6) In this questionnaire, research problems faced by researcher and non-researcher students were: academic paper writing and doing research projects from two perspectives: a) organizational problems and b) personal problems. The former pertained mainly to official, financial and managerial problems students encountered in research activities. The latter was concerned with student-related limitations which impeded his/her activities.

The data collection instruments were two standardized questionnaires including research activity obstacles. One questionnaire was particular to the researcher students while the other belonged to non-researcher students. Responses were to be made in a likert type: 1. Very little, 2. A little 3. To some extent 4. A lot 5. To a great extent. The first part of the questionnaire consisted of students' background information including student's average score, gender, semester and major. The second part consisted of researcher students' (exclusively) research activities including their publication background, national and international conference attendance as well as

writing or translating books. The third part concerned research obstacles (personal or organizational obstacles). The questionnaires ended with an open-ended item which inquired any further mention of obstacles not incorporated within the questionnaire. The questionnaire to be submitted to the researcher student group consisted of 29 closed-ended items comprised of 9 personal questions (45 scores) and 20 organizational questions (100 scores). The questionnaire designed for non-researcher students consisted of 18 closed-ended items comprised of 9 personal questions (45 scores) and 9 organizational questions (45 scores) as well as 2 open-ended questions at the end (6). The data obtained from the questionnaires were analyzed through ANOVA test in SPSS (ver. 16). ANOVA was used to check the difference between the characteristics of students and the obstacles. T-test

was used to examine the difference between personal and organizational obstacles between researcher and non-researcher groups. Confidence level was set at ( $p < 0/05$ ).

### Results:

The results of the present research revealed that from among 457 participants, 4 from the non-researcher group exited from the study due to incomplete questionnaires. In this research, 72 participants (82.8%) in the researcher group were female and 15 (17.2%) were male. In the non-researcher group, 225 participants (60.8%) were female while 141 (38.1%) were male.

Table 1-Demographic information of research participants

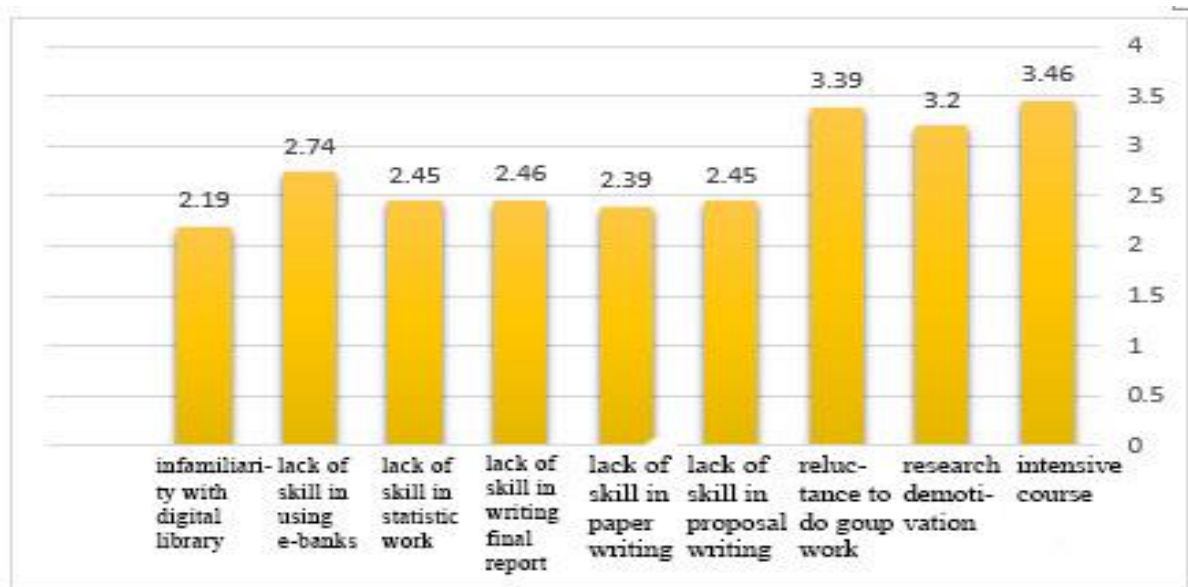
variable	Level	Percentage of participants	
		researcher	Non-researcher
gender	male	17.2	38.1
	female	82.8	60.8
	Total	100	100
education	Associate degree	4.6	3.8
	B.S.	64.4	68.9
	M.S.	4.6	2.7

	GP	26.4	.5
	assistance	0	22.7
faculty	medicine	28.7	24.1
	dentistry	0	2.4
	Para-medicine	41.4	39.7
	Nursing & midwifery	26.4	20.8
	healthcare	3.4	12.2

Findings revealed that 85% of the researcher students lacked any academic paper; 10% had at least 1 paper; 75% had at least 1 research project; 18.4% had 2 research projects and 1.1% had none. 44.8% of the researcher students had taken part in an essay writing workshop and 73.6% in the proposal writing workshop. 19.5% of the non-researcher group had participated in the proposal writing workshop and 9.7% in the paper writing workshop. The mean score of personal obstacles in the researcher group and non-researcher group showed a significant difference ( $p=.004$ ). The most frequent personal obstacles were intensive course content, students' demotivation for research and reluctance to do group-work. Researcher students in all faculties

faced the most problems buying research equipment, getting their research project approved (due to insufficient time) and attracting professors' cooperation. These were found to be the most serious obstacles across faculties too. The most prevalent obstacles reported by non-researcher students were lack of a supportive and motivating mechanism for conducting research, insufficient familiarity with the clinical research development database, insufficient cooperation on the part of professors, lack of skill in paper or proposal writing, lack of skill in writing the final report and statistical work (figures 1)

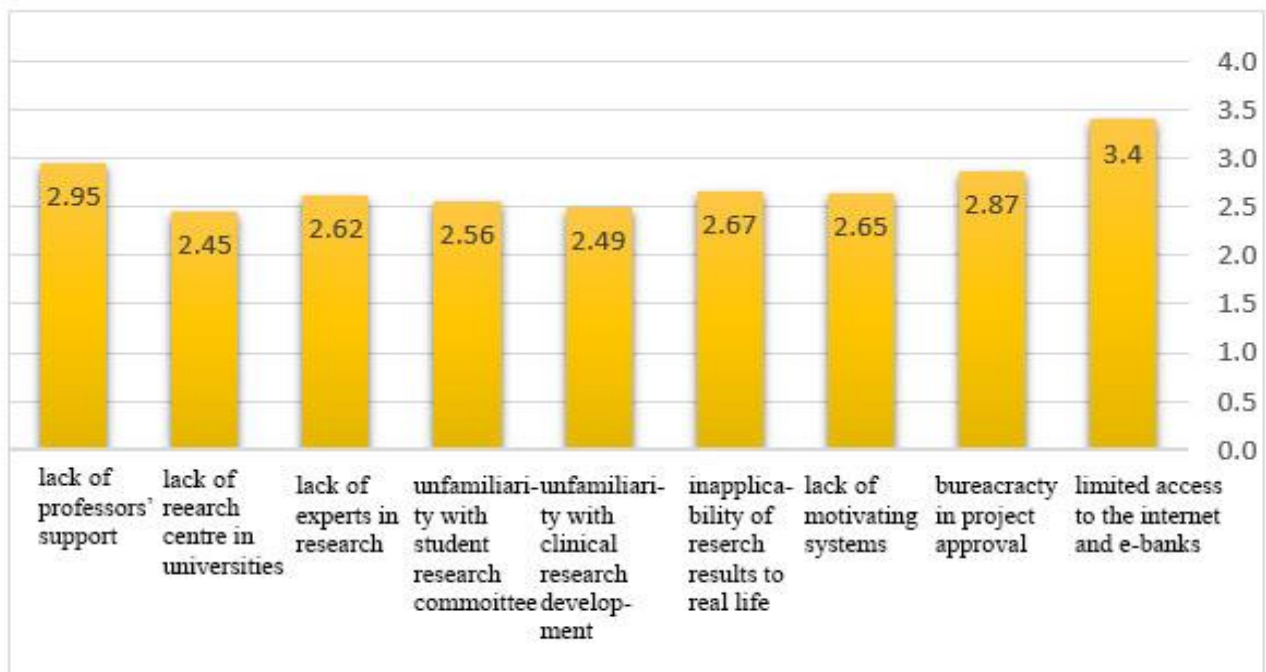
**Figure 1**-Personal obstacles in the non-researcher group



The most frequent organizational obstacles among researcher students were unfamiliarity with the research committee, lack of cooperation on the part of the research unit, lengthened proposal review, inefficiency in project reviews and disordered approval of projects. The most prevalent organizational obstacles mentioned by non-

researcher students were limited access to the internet and e-banks, lack of cooperation on the part of professors and official bureaucracy involved in getting one's project approved (figure 2).

Figure 3- Organizational obstacles in the non-researcher group



## Discussion:

In this research, researcher and non-researcher university students' problems were investigated. The results indicated a significance difference between the two groups in terms of personal obstacles ( $P < 0/05$ ). Intensive course content was found as the key obstacle to research. The present findings are consistent with Ashtiani, Pournaseri and Anbari's research (6, 10-11). It is certain that students, due to limited time and course content overload have little time doing anything other than studying or apprenticeship. Assigning appropriate points to students and using encouraging ways to trend researchers to research activities can be helpful in this regard.

The other obstacle was their lack of motivation to do research. In Haj Salehi's study, 25% of the participants agreed with a lack of interest in research. Moreover, our findings were similar to those of Badrizadeh, Salem Safi, Zahedi, Kaplomaki and Tiomi, and Hosseini (12, 17). Another investigation found lack of interest as the least important obstacle which is contrary to the present study (9, 13). It is suggested that, instead of more encouragement and motivation, more attention be paid to the development of education and research. Flexitime research is recommended and financial support systems need to be expanded. Lack of interest in group work was found to be a common research obstacle in both groups. In their investigation, Karimi et al. (1) concluded that individualism, antisocialism and lack of interest in multidisciplinary research had

the highest mean (87.3). This finding is consistent with that of ours. Another key personal obstacle was lack of skill in proposal writing. This finding was consistent with that of Sabzavari, Hashemi & Mortazavi, Sereshti et al. that attested to the lack of required knowledge of scientific research methodology and lack of personal skill in research (9, 18-20). According to the results obtained by Badrizadeh, limited skill in paper and proposal writing was the least personal obstacle to research. This was not in agreement with the present research (13). It seems that students' unfamiliarity with the correct way of research disabled a number of universities to benefit from this valuable potential and promote research activities. Therefore, in order to make up for these weaknesses, basic and advanced research methodology workshops can be held so that researchers can acquire the skills. It is also suggested that the research course be incorporated in all university fields of study. As perceived by researcher students, among the key organizational obstacles to research is lack of cooperation on the part of the research center. Hersli's investigation revealed that such factors as a lack of proper research atmosphere can be considered a key obstacle. Lack of support by the research deputy was mentioned as another key factor in Sereshti's study (9). Some other inherent obstacles pinpointed in Yaghubi et al.'s investigation were: lack of cooperation with

researchers in selecting research questions and limited access to research advisors (21).

Delayed approval of research projects was an organizational obstacle which was consistent to a body of research (12, 13, 9, 22). Among the most important organizational obstacles as perceived by researcher students was lack of student-professor cooperation.

The results of the present research were also consistent with other similar investigations which drew attention to lack of access to experts and advisors in research. Official bureaucracy involved in getting one's project approved was another obstacle pinpointed (6, 19, 22-24). The latter factor was mentioned in similar research as the impeding factor in approving student research projects (6, 11, 1, 12, 9, 25, 26). Another obstacle can be interpersonal contacts in getting one's project approved. Inapplicability of research findings was mentioned as another organizational obstacle which was in agreement with the findings of other similar research (1, 11, 28, 29). It seems that inadequate attention to the research line and university's inability to guide students to do research related to their field of study make departments negligent of a need analysis meeting social needs. Therefore, we have seen a body of research which do not satisfy social health-related needs.

### Conclusion:

The results of this study indicate that the greatest weakness of students in research activities related to

their own personal skills. Therefore, it's suggested that with holding training courses such as proposal writing and statistical analysis, improve students' personal skills. The ways to motivate and encourage students' orientation towards research activities could be fruitful as well.

The present research suggests using expert research assistants, training research assistants, creating active research centers in faculties, dynamic research courses in all domains as well as using a research management software to facilitate the process of research approval.

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