

### Investigating the Effective Factors on Strengthening the Incentive of Conducting Research Projects in Training Faculty Members of Birjand University of Medical Sciences

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**Background:** One of the main duties of a faculty member is to research in the field of medical education. The aim of this study was to investigate the effective factors on strengthening of research incentive in professors' training.

**Methods:** This study is cross-sectional (analytical descriptive study). The Target population was all teachers in Birjand University of Medical Sciences. *Krejcie & Morgan* table was used to determine the sample size which the sample of 100 people was determined and selected by Stratified random method. A 31-point Questionnaire, which had 5 subscales, was used to collect information. Content Validity of the questionnaire was confirmed by experts and questionnaire reliability based on *Cronbach's alpha* method was 84%. For data analysis, descriptive statistics (mean, standard deviation, frequency) and inferential statistics (t single sample, t-test) was used at a significance level of 05/0.

**Results:** Among the professors surveyed, 42 people (42%) were male. The results showed that ordinary, the factors of personal and career aspect of professors ( $41/4 \pm 675/0$ ), structural & administrative of University ( $24/4 \pm 42/1$ ), Finance and Facilities ( $23/4 \pm 708/0$ ) cultural backgrounds ( $04/4 \pm 892/0$ ) and management & research policy play ( $89/3 \pm 835/0$ ) play major role on strengthening the research incentive. Also, the role of each factors among professors were different based on the gender.

**Conclusions:** Due to the personal and career aspects of professors on strengthening research incentive, by holding training fellowship and workshops in the field of education, it can interest professors to research in the field of education.

**Keywords:** Incentives, Research project, Research in education, Professors

### بررسی عوامل موثر بر تقویت انگیزه انجام طرح های تحقیقاتی پژوهش در آموزش اساتید هیات علمی دانشگاه علوم پزشکی بیرجند

**هدف:** یکی از وظایف اصلی یک استاد، پژوهش در حوزه آموزش پزشکی است. هدف این مطالعه، بررسی عوامل موثر بر تقویت انگیزه پژوهش در آموزش اساتید بود. **روش:** این مطالعه توصیفی تحلیلی است. جامعه هدف تمام اساتید دانشگاه علوم پزشکی بیرجند بودند. برای تعیین حجم نمونه از جدول کرجسی و مورگان استفاده شد که نمونه مورد بررسی ۱۰۰ نفر تعیین و به روش تصادفی - طبقه ای انتخاب شدند. برای جمع آوری اطلاعات از پرسشنامه محقق ساخته ۳۱ ماده ای که دارای ۵ خرده مقیاس بود، استفاده شد. روایی محتوایی پرسشنامه به تائید افراد صاحب و پایایی بر اساس شیوه آلفای کرونباخ ۰/۸۴ بدست آمد. برای تجزیه و تحلیل داده ها از آمار توصیفی (میانگین، انحراف معیار، فراوانی) و آمار استنباطی (t تک نمونه ای، t مستقل و تحلیل واریانس) در سطح معنی داری ۰/۰۵ استفاده شد.

**یافته ها:** از بین اساتید مورد مطالعه ۴۲ نفر (۴۲٪) مرد بودند. نتایج نشان داد که به ترتیب عامل جنبه های شخصی و حرفه ای اساتید ( $41/4 \pm 675/0$ ) عامل ساختاری و اداری دانشگاه ( $24/4 \pm 42/1$ ) عامل مالی و امکانات ( $23/4 \pm 708/0$ ) عامل زمینه های فرهنگی ( $04/4 \pm 892/0$ ) و عامل مدیریت و سیاستگذاری پژوهشی ( $89/3 \pm 835/0$ ) بر تقویت انگیزه پژوهشی اساتید نقش دارد. همچنین نقش هر کدام از عوامل موثر بر تقویت پژوهشی در بین اساتید بر اساس جنس متفاوت بود ( $p < 0/05$ ).

**نتیجه گیری:** با توجه به نقش جنبه های شخصی و حرفه ای اساتید بر تقویت انگیزه پژوهش، می توان با گذاشتن فلو شپ آموزش و همچنین کارگاه هایی در زمینه عناصر آموزشی، اساتید را به پژوهش در زمینه آموزش علاقمند کرد.

**واژه های کلیدی:** طرح تحقیقاتی، پژوهش در آموزش، اساتید

### مطالعه عوامل موثره علی تقویت معافان در اجرای البحوث في تعليم أمانته البحثية العلمية في جامعة بیرجند للعلوم الطبية

**التمهيد و الهدف:** إن إحدى الوظائف الأساسية لأعضاء الهيئة العلمية في الجامعة هي إجراء بحوث في مجال التعليم الطبي. الهدف من هذه الدراسة هو تعيين العوامل المؤثرة على تقوية الحافز البحثي في تعليم الأمانته.

**الطريقة:** إن هذه الدراسة التوضيحية التحليلية إنترتك فيها جميع أمانته بيرجند للعلوم الطبية. لتعيين حجم العينة تم استخدام جدول كرجسي و مرجان. التي تم من خلالها تعيين عدد المشتركين بشكل عشوائي 100 شخص. تم تجميع المعلومات عبر استمارات مؤبده من قبل أخصائين إنتملت على 31 مادة تم تأييد مستوى الإستمارات من خلال أسلوب الفا كرون باغ 84٪. تم استخدام المعيار التوصيف (المعدل، انحراف المعيار، التكرار) والإحصاء الإستنباطي (T ذو نونوع واحد، T المستقل) لتحليل المعلومات في مستوى 05/0.

**النتائج:** هناك 42 شخص من الأمانته أي 42٪ كانوا من الذكور و كانت النتائج كالتالي:

- النتائج العوامل الحرفية و الشخصية عند الأمانته ( $41.4 \pm 675.0$ )
- العامل الهيكلية الجامعي ( $24.4 \pm 42.1$ )
- العامل المالي والإمكانات ( $23.4 \pm 708.0$ )
- العامل الإداري و إستراتيجيه البحوث ( $89.3 \pm 835.0$ )

و هذه العوامل تدل على دورها في تقوية حافز البحوث عند الإستمانته. و أيضا أشارت إلى أنه يوجد اختلاف في تأثير هذه العوامل من حيث الجنس ( $P < 0.05$ )

**الإستنتاج:** نظرا إلى دور العوامل الشخصية والحرفية عند الأمانته في تقوية حافز البحث. يمكننا إجراء معامل تعليمية وإستقطاب فيلوشيب تعليمي لترغيب الأمانته في مجال البحوث التعليمية.

**الكلمات المفتاح:** الحافز - البحث - البحث في التعليم - الأمانته.

### بیرجند یونیورسیتی آف میڈیکل سائنس میں اساتذہ کی تعلیم کے لئے تحقیقاتی پروجیکٹ انجام دینے کے محرکات پر موثر عوامل کا جائزہ

**بیگ گراؤنڈ:** یونیورسٹی کی اکیڈمیک کونسل کے رکن کا ایک بنیادی فرض میڈیکل شعبہ تعلیم میں تحقیقات انجام دینا ہے۔ اس تحقیق کا هدف اساتذہ کی تعلیم کے لئے تحقیقاتی پروجیکٹ کی انجام دہی کے محرکات کی تقویت میں موثر عوامل کا جائزہ لینا ہے۔

**روش:** یہ ایک تجزیاتی تحقیق ہے۔ اس تحقیق میں بیرجند میڈیکل یونیورسٹی کے تمام اساتذہ کو مد نظر رکھا گیا تھا ان میں سے ایک سو افراد کو ریٹنڈ طریقے سے تحقیق میں شامل کیا گیا۔ اساتذہ کے نظریات معلوم کرنے کے لئے اکتیس سوالوں پر مبنی ایک سوالنامہ تیار کیا گیا ڈیٹا کا تجزیہ ٹی ٹسٹ سنگل نمونے اور ٹی مستقل ٹسٹ سے کیا گیا۔

**نتیجے:** تحقیق میں شرکت کرنے والی بیالس اساتذہ مرد تھے اور نتائج سے پتہ چلتا ہے کہ ذاتی اور پیشہ ورانہ اسباب، یونیورسٹی کا انتظامی ڈھانچہ، مالی اور سہولتوں جیسا عامل اور ثقافتی نیز مینجمنٹ کے عوامل اساتذہ کے تحقیقاتی پروجیکٹ انجام دینے کے محرکات پر اثر انداز ہوتے ہیں۔

**سفارش:** چونکہ محرکات پر اثر انداز ہونے والے عوامل میں ذاتی اور پیشہ ورانہ عوامل بھی شامل ہیں لہذا اساتذہ کی ٹریننگ میں فلو شپ اور ورک شاپ رکھنا نہایت موثر ہوسکتا ہے اور انہیں تحقیقات کی طرف مائل کرسکتا ہے۔

**کلیدی الفاظ:** فیلوشپ، محرکات، تحقیقات اور ٹریننگ۔

## INTRODUCTION

Higher education systems assume important responsibilities in the field of economic development, social, political, cultural and educational society (1). Conducting Research in universities and higher education system are considered as basic foundations of the major growth and development in all fields of cultural, educational, economic, industrial society, so that any scientific and logical movement without research support doesn't seem possible (2).

The influential people on growth and development of society are the faculty members of Universities who Responsible for training and dissemination of knowledge and quality and knowledge development largely depends on how these members act (3).

Check the activities of faculty members and their interactions, on one hand, provides appropriate feedback for analysis of educational issues and fundamental decision-making and strategic planning for authorities of higher education system and the other hand, faculty members can also be aware of their performance and to enhance the quality of their activities (4). These activities divided into three categories: education, research and service delivery (performance) are included (5). The educational and research activities are more important in these activities which make senses in university (6). This means that the interaction effect of these two mentioned characteristics guarantee the dynamism and vitality medical science universities and Educational field (7). This issue is the factor to make clear the importance of research in the field of education (8). So the important platform of development and scientific promotion of medical sciences universities, especially in terms of international dimension, is paying attention to science production and the development of meaningful research in the field of education (9). So the characteristic of educational system development is the highlighted & active participation of research in educational system. Spreading reading culture and scientific & research thought in all courses are the necessity of basic education system, especially Equipping teachers in using methods and research tools, can cause knowledge, growth, innovation and the dynamics of the education system. Also it causes training researcher students in dealing with scientific issues (10). In general, research in education is one of most important goals alongside Teaching which it should be paid-attention by faculty members and it seems that teachers (professors) in the meantime, has important & sensitive task who can, in addition to specialized-research activities, institutionalize the spirit and motivation of educational researches and correct teaching methods which derived from the results of this research. Sereshti & Kazemian in their study mentioned the most important barriers of professor's conducting research ordinary are; lack of creating incentives in researchers, lack of time & being busy, and bureaucracy, bureaucracy regulations, lack of using the results of research and inability of translations of Persian articles in other languages, important apathy barriers to research issue, inability to use computers and unbeneficial researches (11). Azizi showed that improve the performance of research professors in the humanities also requires conducting reforms in organizational approaches, management & policy research

and on the other hand, provided to the implementation of empowerment and professional strengthening of professors in the field of research and provide proper financial resources and scientific to conduct research activities by teachers (professors) (12). As well as the Dixie (13), has shown that Research of teachers (professors) can have positive effects on their job performance. He concluded, in series of studies and research he carried out in 1998 and 2001, which meaningful researches Has an effect on their (teachers) learning experiences. And help them to achieve new knowledge about education, students and teaching skills (14). so, due to this issue that research activities in the field of education is one of the most important tools for Educational managers decisions, and this is particularly in universities & centers of higher education which educational process form an important part of their task-based activities, are more important. Besides, since the professors less welcomed the conducting of research projects in Education at the University Research Center, therefore the aim of this study was to investigate the effective factors on strengthening the incentive of conducting research projects in Training faculty members of Birjand University of Medical Sciences.

## METHODS

This study is cross-sectional (analytical descriptive study). The Target population was all teachers in *Birjand University of Medical Sciences* in the academic year of 93-94. *Krejcie & Morgan* table was used to determine the sample size which the sample of 100 people was determined and selected by Stratified random method. This means firstly, each faculty (college) was selected as one stratum, and then professors proportional to population volume of each faculty (college) were selected randomly.

A 31-point Questionnaire, According to Likert 5-option scale (strongly agree to strongly disagree), was used to collect information. Content Validity of the questionnaire was confirmed by 8 experts of medical education and educational sciences field and questionnaire reliability based on *Cronbach's alpha* method was 84%. For data analysis, software *SPSS 14* was used and descriptive statistics (mean, standard deviation, frequency) and also after the normality of data based on *Kolmogorov-Smirnov test*, single-sample t-test and independent t-test at significance level of  $p < 0.05$  was used.

## RESULTS

Research Demographic information showed that from the total of 100 questionnaires distributed, 42 people (42%) of the participants were male (mean age  $40.40 \pm 8.04$  years) and 58 participants (58%) and women (mean age  $38.14 \pm 7.91$  years) (table 1).

Results of table 2 showed that the personal & career aspects of professor's factor had the most effectiveness point and management & research policy factor had the lowest effectiveness point on strengthening research incentive in Education from the view-point of the professors. Also it showed that between the mean scores; factors of management & research policy, Finance and Facilities, Cultural backgrounds are different based on the gender, but between the mean scores; the factors of Structural & Administrative of University,

Table 1. Status of participants' Abundance			
Variable	dimension	Abundance	percentage
Gender	Male	42	42
	Female	58	58
Academic Rank	Instructor	50	50
	Assistant Professor	42	42
	associate professor	7	7
	full professor	1	1
Faculty/College	Medical	34	34
	Health	14	14
	Nursing	23	23
	Paramedical	15	15
	Dentistry	6	6
	No Reply	8	8

Personal & Career aspects of professors, there was no different among the professors based on gender.  $p < 0.05$

### DISCUSSION

In this paper, we attempted to study the approach of professors of Birjand University of Medical Sciences regarding the role and impact of structural factors and university administration, management and research policy, financing, research facilities, cultural, social & political backgrounds and personal aspects and professional professors, on strengthening of research incentive in their education. Accordingly, the results in Table 2 indicate that all studied factors play a major role in strengthening of research incentive of the professors training, but based on rankings conducted between the factors, According to the average, it was found that the factor of personal and career aspects of professors play a

more important role in this regard. Therefore, according to the personal and career aspects of professors which are the most important incentive of conducting research in education and the first priority, paying attention to the parameters related to personal and career incentive in the Research deputy and Research Committee in University's education should be considered. This consideration will underlie career growth and increasing the knowledge, insight and skills in educational research capabilities of professors. This result match with the finding of Sereshti and Kazemian (11), Adamsen and colleagues (15), Kuuppelomaki & Tuomi(16), Hicks (17), which all of these researchers are emphasized on the research ability of individuals.

According to table 2, mentioned factors are effective in increasing research incentive on professors training. So it is better for managers and policy makers of health education system and academic institutions, in the Structural and administrative Dimension of universities, to review and revise administrative terms, research regulations, and eliminating bureaucracy barriers. It facilitates the presence of professors in Educational researching arena and provides job, career and a strong incentive fields to promote research activities in professors training. This is match with findings of Azizi (12), Khazaei(18) who argue that macro-structure of university are effective in increasing the research projects. In terms of policy making and macro-research management of the country and the university, with revised management principles and regulations of the promotion, consider having Article in Educational field for upgrading to the higher level. This result is in compliance with finding of Rasouli-Azar and colleagues (19) factor of macro management are effective in increasing research projects. Also, results in financial facilities dimension, showed the effectiveness of it. Therefore universities of medical science should provide necessary platforms and incentives to facilitate conducting of educational research projects which this is in compliance with the finding of Rasouli-Azar and colleagues who argue that economic factors,

Table 2. Average factors in general & comparison of effective factors on strengthening the incentive of conducting research projects of faculty members based on gender				
Significant Level	Mean ± StD	Gender	Mean ± StD Total	Factors
0.123	3.98 ± 1.35	male	4/24±1/42	Structural & Administrative of University
	4.43 ± 1.45	female		
0.002	3.68 ± 0.917	male	3/89±0/835	Management & Research Policy
	4.22 ± 0.680	female		
0.017	4.03 ± 0.675	male	4/23±0/708	Finance and Facilities
	4.37 ± 0.701	female		
0.001	3.70 ± 0.845	male	4/04±0/892	Cultural backgrounds
	4.28 ± 0.850	female		
0.213	4.31 ± 0.620	male	4/41±0/675	Personal & Career aspects of professors
	4.48 ± 0.709	female		

increased funding and resources and financial needs, providing the right conditions for research and publication of research works, making opportunities for participation of individuals in congresses, conferences and taking advantage of the Information system, are effective in increasing research activities.

Finally, as regards that research field in general & research in education and research performance of professors in medical science is strongly influenced by the ultra-cultural, social and political system surroundings itself, so it is necessary toward promoting and strengthening the activities of Educational Research in Medical Sciences, provide conditions that authorities Thought & negative social attitude and mentality about the place of educational research and being unbeneficial be corrected. This result is match with the finding of Hagman(20) who argues that space and atmosphere are the effective factors on conducting research. The results in Table 2 show that, there was a difference between the average of management, research policy, financial & facilities, social and cultural factors. This difference may be due to the fact that women teachers (professors) were been fewer in managerial positions and this management factors are known more important than other factors. This result is match with finding of Rasouli-Azar and colleagues (19) which showed that women research expectation is more than men. The strengths point of this research project is that the results can be used in Educational Deputy field and Research Committee in Education. The weakness point and the

limitation of this research is low-level cooperation of professors to fill in the questionnaire, also lack of time to fill in the questionnaire, was the matter which controlling it was out of researcher's ability.

According to the findings, it is essential for Universities of Medical Science, by encouraging and facilitating research affairs in education and appropriate policy reinforce the incentives to engage in the affairs of educational research in parallel to training. The primary purpose of holding all educational seminars, congresses, Medical Education meetings and Martyr (Shahid) Motahhari Educational Festival and specialized meetings needs to promote scientific level of researchers and strengthen the research incentive in education. Because if the education is not based on research, it will not meet the needs of medical students.

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