ORIGINAL ARTICLE

The Impact of the Faculty Development Workshop on Educational Research Abilities of Faculties in Mashhad University of Medical Sciences

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Background: Faculty development programs have received considerable investment of resources from medical institutions, though the effect and output of them has been infrequently studied. This study was designed to measure the effect of the Mashhad University of Medical Sciences' faculty development workshops.

Methods: Three faculty development workshops on educational research were conducted to improve the skills of medical instructors. The Kirkpatrick evaluation model, tailored to our program, was used to assess the outcomes. We asked participants to evaluate their satisfaction with the program at the end of the session. The changes in the participants' knowledge were studied with a 15 question questionnaire at the beginning and the end of the program. On the third level, we compared the number of educational project that were submitted by participants after the workshop to assess participants' application of learning in the workplace.

Results: The participants highly rated the quality of the program and felt that the workshop had a positive impact on their abilities. Assessment showed that the increase in the participants' cognitive knowledge between the pre-test and post-test was significant ($p=0.005$). Seven educational proposals were submitted by participants, which indicate a significant increases in the application of learning.

Conclusions: Our faculty development workshop appears to have positive effect on medical faculties' educational research performance, and we suggest that our educational intervention is effective in achieving its aims.

Keywords: Faculty Development Workshops, Medical Education, Educational Research

تأثیر اجراء معمل تعلیمی لرفع مستوی القدره فی امر البحوث التعلیمیه عند اعظاء الهیئه التعلیمیه فی جامعة مشهد للعلوم الطبیه

المقدمه : هناك اموال طائله تستخدم فی الجامعات لاجل وضع برامج ترفع مستوی اعضاء الهیئه العلمیه . ولکن هناك اختلاف فی الرأی فی مستوی تأثیر هذه الدورات. إن الهدف من هذه الدراسه هو تعیین مستوی تأثیر دوره التثقیف فی مجال الابحاث فی التعلیم فی جامعه مشهد للعلوم الطبیه .

اسلوب العمل : فی هذه الدراسه تم اجراء ثلاث دورات تأهیلیة فی مجال الابحاث فی التعلیم لأساتذه جامعه مشهد للعلوم الطبیه . کان المعیار التقییمی فی هذه کرك با تریك عند المشترکون من خلال اختبار ذو ۱۵ اسئله تم توزیعه علی المشترکون و بدایة و نهایة الدوره . تم مقارنه عددالابحاث المدونه من قبل المشترکون قبل الدوره و العدد بعد الدوره لاجل تقییم مستوی الدوره .

النتائج: مستوی الرضا من هذه الدورات کان مرتفع جدا و کان هناك رؤیه ایجابیه عند المشترکون بعد الدوره بالنسبه الی قدراتهم و ایضا تم رفع المستوی العملی عند المشترکون.

و اشارت النتائج الإحصائیه الی أن هناك اختلاف واضح قبل و بعد الإختبار ($P=0.005$). و تم اجراء ۷ ابحاث علمیه بعد الدراسه و هذه نسبه مرتفعه مقارنه بمرحله ماقبل الدوره.

الإستنتاج: إن دوره التثقیف فی مجال الابحاث فی التعلیم لها اثرایجابی علی الهیئه العلمیه .

الکلمات الرئیسیه : رفع المستوی ، التعلیم الطبی، الابحاث فی التعلیم .

مشہد یونیورسٹی آف میڈیکل سائنسس میں اساتذہ کی علمی ترقی ورک شاپوں کے اثرات کا جا ئزہ۔

بیک گراونڈ: میڈیکل یونیورسٹیاں اکیڈمیک کونسلوں کے رکن اساتذہ کی علمی صلاحیتوں میں اضافہ کرنےکے پروگراموں پر بے پناہ سرمایہ کاری کرتی ہیں تاہم ان پروگراموں کے مفید ہونے کے بارے میں ابھی بھی اختلاف پایا جاتا ہے۔ اس تحقیق کا ھدف اساتذہ کے لئے رکھی گئی ورک شاپوں کی تاثیر کا جائزہ لینا ہے۔اس تحقیق سے اساتذہ کی تحقیقی صلاحیتوں میں نکھار کا مطالعہ کرنا ہے۔

روش: اس تحقیق میں تین ورک شاپوں کا اہتمام کیا گیا تھا اوران کے ڈیٹا کا تجزیہ کرنے کےلئے کرک پیٹریک ماڈل سے استفادہ کیا گیا۔ اس تحقیق میں شرکت کرنے والوں کے نظریات اور رضایت مندی سے آگاہ ہونے کےلئے ایک سوالنامہ ترتیب دیا گیا تھا جسے خود شرکاء نے بنایا تھا۔ شرکاء تحقیق کی علمی صلاحیتوں کا جائزہ پندرہ سوالوں پر مبنی سوالنامے سے کیا گیا۔ یہ سوالنامہ ورک شاپ کی ابتدا اور خاتمے پر دیا گیا تھا۔ ورک شاپ کے بعد ان کے تجویز شدہ تحقیقاتی منصوبوں کا اکیڈمیک کونسل کے ارکان کے اوسط منصوبوں سے موازنہ کیا گیا۔

نتیجے: ورک شاپ میں شرکت کرنے والوں نے ان پر بڑا اطمینان ظاہر کیا اور اس کے بارے میں ان کی نظر مثبت تھی۔ انہوں نے اپنی صلاحیتوں کے بارے میں بھی مثبت نظر کا اظہار کیا۔ تجزیہ سے پتہ چلا کہ ورک شاپ سے پہلے اور بعد کے نتائج میں کافی اختلاف ہے۔ورک شاپ کے بعد تجویز کئے گئے بعض تحقیقاتی منصوبے اکیڈمیک کونسل کے منصوبوں سے کہیں بہتر تھے۔

سفارشات؛ تحقیقاتی صلاحیتوں کا جائزہ لینے کے لئے منعقدہ ورک شاپوں سے کافی فائدہ ہوا ہے اور اساتذہ نے اس کا خیر مقدم کیا ہے۔

کلیدی الفاظ: تحقیقات،علمی صلاحیتیں، ورک شاپ۔

تأثیر برگزاری کارگاه توانمندسازی بر توانایی اعضای هیأت علمی دانشگاه علوم پزشکی مشهد درانجام پژوهش در آموزش

مقدمه: دانشگاه های علوم پزشکی سرمایه های زیادی را صرف برنامه های توانمندسازی اعضای هیات علمی می نمایند. ولی هنوز در مورد کارایی و تاثیر این دوره ها اتفاق نظر کاملی وجود نداد. هدف این مطالعه تعیین تاثیر کارگاه توانمندسازی برگزار شده در دانشگاه علوم پزشکی مشهد در زمینه پژوهش در آموزش است.

روش کار: در این مطالعه ۳ کارگاه توانمندسازی در زمینه پژوهش در آموزش برای اساتید دانشگاه علوم پزشکی مشهد برگزار شد. برای ارزیابی تاثیر این دوره آموزشی، الگوی ارزیابی کرک پاتریک ملاک عمل بود. به منظور ارزیابی رضایت و نگرش شرکت کنندگان پرسشنامه ای در انتهای کارگاه توسط خود شرکت کنندگان تکمیل می گردید. میزان دانش شرکت کنندگان نیز توسط آزمونی با ۱۵ سوال که توسط محقق تدوین شده بود در ابتدا و انتهای کارگاه ارزیابی گردید. جهت ارزیابی میزان تاثیر کارگاه ها (سطح سوم مدل کرک پاتریک) تعداد طرح های تحقیقاتی تنظیم و ثبت شده توسط شرکت کنندگان بعد از کارگاه با متوسط تعداد طرح ها اعضای هیات علمی دانشگاه مقایسه گردید.

یافته ها: میزان رضایت شرکت کنندگان از این کارگاه توانمندسازی بالا بوده است و شرکت کنندگان این کارگاه در انتهای کارگاه نگرشی مثبت نسبت به توانمندی خود داشتند. این کارگاه باعث افزایش دانش شرکت کنندگان نیز گردید. آنالیز نتایج نشان داد که تفاوت معنی داری بین نتایج پیش آزمون و پس آزمون وجود دارد($p=0.005$). تعداد ۷ طرح تحقیقاتی توسط شرکت کنندگان بعد از کارگاه تنظیم شده بود که نسبت به متوسط تعداد طرح های سایر اعضای هیات علمی بسیار بالاتر بود

نتیجه گیری: کارگاه توانمندسازی در زمینه پژوهش در آموزش تاثیر مثبتی بر اعضای هیات علمی داشته است و در راستای اهداف در نظر گرفته شده برای این کارگاه موثر بوده است.

واژگان کلیدی: توانمندسازی، آموزش پزشکی، پژوهش در آموزش

INTRODUCTION

Faculty members in universities may have a huge amount of content knowledge, but many may not have the instructional knowledge and skills required for effective teaching and educational research. Faculty development programs are a response to this deficit. During the past decades, many faculty development programs have been established for this demand in medical universities all over the world. Accordingly, Iranian Ministry of Health and Medical Education has also placed a great emphasis on faculty development programs to provide professional competencies in faculty members. These faculty development programs have received considerable investment of time, effort, and money from medical institutions(1).

Workshops are one of the most common professional development methods. However, questions have been raised about the effectiveness of workshops in making significant changes in teaching practice (2). While several studies suggest the faculty development workshops are effective, but many of them considered some preexisting requirement for these effectiveness (3-5). Despite numerous publications describing program development, there is a paucity of published research that evaluates the effectiveness of educational workshops(6). And unfortunately, there is few survey on effectiveness of faculty development workshops in medical universities in Iran(7). Consequently, Iranian medical universities that are putting resources into faculty development programs may have no objective way to decide which faculty development efforts are effective and worth the investment.

The Education Development Center of Mashhad University of Medical Sciences conducts a variety of faculty development programs, including workshops and short courses on educational research which should be evaluated for better result. The purpose of this study was to evaluate the impact of the Mashhad University of Medical Sciences faculty development workshops on educational research abilities of faculties and to provide valid recommendations for designing future programs.

METHODS

Three workshops focusing on research in education were considered for this quasi-experimental study. These workshops were conducted by Education Development Center (EDC) of Mashhad University of Medical Sciences during 2012 and 2013 for faculty members. The workshops cover the main topics of educational research based on expert opinion and needs analyses. Each topic was initially presented during a brief lecture (30-45-miutes). During subsequent small-group discussions, participants reviewed the content and doing some practical projects. Twenty to 30 faculty members participated in each workshop.

The Kirkpatrick evaluation model tailored to our program was used to assess the outcomes (6, 8). For the first outcome level, we asked participants to evaluate their satisfaction with the program at the end of workshops by completing a self-administered15-item questionnaire. Each question was scored on a scale of 1 (very weak) to 5 (excellent). This questionnaire obtains demographic information; ratings of the program and also ratings of the workshop's effects on their attitudes toward research in education.

The changes in the participants' knowledge were studied with a 15 question (each worth 1 point) instructor-administered questionnaire before and after the workshops. The test was comprised of the essential elements taught during the workshop. In this study we specifically looked for differences in the impact of the workshop between the different participants in the faculty development program. Reliability of the questionnaire and tests were examined by Cronbach's Alpha which were 0.93 and 0.89 respectively and the validity of the questionnaire and tests were approved by expert panel.

On the third level, to assess participants' behavioral changes and the application of learning in the workplace, we compared the number of educational research project which were submitted by participants after the workshop.

We used paired t-tests to compare before and after tests and analysis of variance or student t-tests to compare ratings of different participants.

RESULTS

During 2012 and 2013, a total of 76 faculty members of Mashhad University of Medical Sciences attended these workshops and have completed the questionnaire and tests. Participants' average age was 39.53±6.81 years (range: 28 to 55 years old) and 48.7% were male. Assistant professors from 61.6% of participant while 15.1% were associated professor, 11% were instructor, and 12.3% were non faculty member. Most of the participants belonged to medical school. Among 44 basic scientist and 32 clinical science teachers, 57.9% had less than five years' teaching experience.

Pre-test questionnaires yielded a mean score of 7.42±2.81 out of 15 and did not show any association with any demographic factors such as sex, age, length of previous teaching experience, fields of sciences (basic/clinical), academic degree and type of employment. Post-test results yielded a mean score of 10.08±2 out of 15 which is significantly higher than the pre-test scores ($p=0.005$). So, there was a significant increase in the participants' cognitive knowledge after this intervention, which confirmed the positive impact of the workshop.

The post-test result also showed no significant difference between male and female or different type of employment but this score is significantly higher among younger faculty members and faculty members with shorter teaching experience. Instructors have the lowest post-test score (mean 7.25) in comparison to the others (mean 10.37). The post-test scores were higher among faculty of medical (Mean 10.55), dentistry (Mean 10.33) and pharmacy (Mean 10.33) school than faculty of paramedical (Mean 9.42) and nursery (Mean 7.66) school. The post-test scores were significantly different between different academic degree and M.Sc. degree has the lowest scores.

Participants rated the program as highly satisfactory (mean

26.14±4.56 out of 35 on a five-point scale) and they strongly recommended the experience to colleagues. They believed that the workshop has benefited their knowledge, educational research abilities, and attitudes. Satisfaction level is not associated with any demographic factors such as sex, age, length of previous teaching experience, fields of sciences (basic/clinical), academic degree and type of employment. There also was not any correlation between satisfaction level and the scores of pre-test and post-test.

The mean score on the participants' perception of their educational research ability was 27.98±5.01 from 40. Participants' ratings of their attitude after the workshops revealed good scores. As the participants indicated a positive view about their motivation and ability in educational research, this workshop sounds effective in this field. Comparing their view, it is not significantly different between male and female, different age group, length of teaching experience, fields of sciences (basic/clinical), academic degree and type of employment. Correlation between the score of post-test and attitude was significant at the 0.01 level (2-tailed) but there was not such relation between pre-test scores and attitude.

Seven educational research proposals (9.21%) were submitted by the participants of these workshops whereas only 2.85% of all faculty members have submitted an educational research proposal during 2012 and 2013, which indicate a significant increases in the application of learning in the workplace.

DISCUSSION

The purpose of this study was to evaluate the impact of the faculty development workshops on educational research conducted by Mashhad University of Medical Sciences. Our results demonstrate that participation in this faculty development workshop resulted in significant improvement in cognitive knowledge and attitude of the participants. Most participants rated the overall course quality as good. Our analysis has shown that the program achieved many of its stated educational objectives. In addition our study specially showed that impact of the workshop is different between different participants which should be considered when inviting the faculty members for faculty development workshops.

The results of our study support the findings of some previous studies that have examined faculty development programs (7-9). Those studies showed that faculty development programs specially interactive faculty development workshop can result in major improvement in faculties (10). Although the literature reports increase in knowledge, changes in attitudes, satisfaction with the program, and sometimes behavior change for faculty development programs (11-16). But little has been published on the outcomes of faculty development programs in Mashhad University of medical sciences, so our report is the first report about the impact of faculty development in Mashhad and sounds important.

Recently Karg propose integrating continuing medical education and faculty development into a single course and believe that this can save time for physicians with teaching responsibilities. His study reveals that integrating continuing medical education and faculty development into a single course is highly effective in changing physicians' medical practice as well as teaching practice (17, 18). The Johns Hopkins proposed longitudinal model for faculty development as an alternative approach to faculty development and demonstrate a positive impact of this on clinician-educator perceptions of their attitudes and behaviors towards learners and colleagues (19).

However, some important limitations to our study exist. First, we report the effect of the workshop on a small group of participants at a single institution. This will necessarily limit the generalizability of our findings. And without a control group it is hard to delineate the precise impact of this faculty development workshop. Therefore it would require a much larger sample size to remove the possibility of bias. Second, we used identical test before and after participation and there may be concern that this could have influence on the results. So in future study different but equivalent post-test should be used. Anyway, further research and use of more complementary objective measures would be recommended. In summary, meaningful improvement after participation in this faculty development program was seen.

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Conflict of Interest: Authors declare no conflict of interest.

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