

**Research Skills Education: Student Satisfaction**

Iman Ghasemzadeh<sup>1</sup>, Soghra Fallahi<sup>2</sup>, Maryam Ghafouri<sup>2</sup>, Zahra Rezaee<sup>2</sup>, Mohammad Alizade<sup>2</sup>, Mohammad Esmail Shahrzad<sup>2</sup>, Rokhsareh Zare shahri<sup>2</sup>, Forough Mahmoudi<sup>3</sup>, Saied Jokar<sup>4</sup>, Aliakbar Hesam<sup>2</sup>, Seyed Shojaeddin Namazi<sup>2\*</sup>

1. Research center for Infectious and Tropical Disease, Hormozgan University of Medical Sciences (HUMS), Bandar Abbas, Iran
2. Student Research Committee, Hormozgan University of Medical Sciences (HUMS), Bandar Abbas, Iran
3. Research Center for Reproductive Health & Infertility, Hormozgan University of Medical Sciences (HUMS), Bandar Abbas, Iran
4. Yasuj University of Medical Sciences, Yasuj, Iran  
[ssh.namazi@gmail.com](mailto:ssh.namazi@gmail.com)

**Abstract:** medical students should improve their research skills to prepare achieve higher educational levels and learn how to be a competent teacher. The aim of this study was to assess the participant satisfaction of the students who attended the research skills workshop in Iran. This cross-sectional study was conducted in 2011. The southern network of student research committee established a research skills workshop at Yasuj University. Data was collected using a two-part questionnaire. The first part consisted of demographic questions and the second part consisted of 20 closed questions related to participant satisfaction. Questions were divided into three sections; lecturer ability, the equipment of Yasuj University, the and recreational programs of the workshop. The answer to each question was scored between 1-5 using likert scales. The total score of each questionnaire was 100 points. Data was analyzed with SPSS 17 software using descriptive tests such as mean, standard deviation, frequency and statistical tests such as independent T test. The average age of the participants was 21.45±1.8. Among them, 27(61.4%) were female. Among the participants 31(70.5%), 7(15.9%) and 16(36.4%) had experience of participation in similar workshops, experience as a lecturer and participating in a research project respectively. There was a significant relationship between satisfaction of the workshop and an experience of taking part in similar workshops, year of entrance and university ( $p<0.05$ ). Among the participants 7(15.9%) had very high, 18(41%) had high, 11(25%) had medium, 6(13.6%) had low and 2(4.5%) had very low level of satisfaction with the workshop. In this study internet unavailability was the most important limitation of this workshop, thus, 31(70.5%) of the participants were not satisfied with the workshop. Internet is an important part in medical education and research. Internet access should be considered for research skills workshops.

[Ghasemzadeh I, Fallahi S, Ghafouri M, Rezaee Z, Alizade M, Shahrzad ME, Zare Shahri R, Mahmoudi F, Jokar S, Namazi SSH. **Research Skills Education: Student Satisfaction.** *Life Sci J* 2012;9(2s):26-29] (ISSN:1097-8135).

<http://www.lifesciencesite.com>. 5

**Keywords:** Students, Research, Education

**1. Introduction**

Medical education is an important part of medicine which is performed by physicians and residents (Afshar et al. 2011, Mahboobi et al. 2009). In addition to clinical skills, medical students should improve their research skills to prepare themselves for higher levels and learn how to be a competent teacher (Peluso and Hafler 2011, Sharifi et al. 2012).

The positive roles of teaching abilities in clinical proficiency are clear. This educational process is mostly conducted by residents under the attending's supervision (Busari and Scherpbier 2004). Student – as – teacher program is incorporated in a handful of medical school's curriculum (Pasquinelli and Greenberg 2008). Some medical schools use individual workshops and didactic lectures for research skills training. This teaching program is often combined with Evidence Based Medicine

(EBM) literature (Ilic, Tepper et al. 2011). One of the five principal steps in accessing proficiency in EBM is efficient and sufficient search for medical literature (Khader, Batayha et al. 2011, Zahran and Taha 2011, Mahboobi et al. 2011). Medical research is a critical factor for the development of patient health care outcome and in the recent decades has led to better treatment of disease (Steadman, Coates et al. 2006, Mant, Del Mar et al. 2004, Askew, Glasziou et al. 2001). Therefore, the capability for performing primary care research is essential (Ried, Montgomery et al. 2008). A trial showed that educating well-organized search based on EBM in undergraduate medical students and postgraduate can improve the knowledge, critical skills, attitude and behavior in long term (Coomarasamy and Khan 2004). Attending workshops is more effective in improving research skills than the didactic teaching (Ghali, Saitz et al.

2001). The aim of this study was to determine the satisfaction of participants from quality and quantity of research skills workshop that was conducted in Yasuj University of medical sciences of Iran.

## 2. Material and Methods

This cross-sectional study was conducted in 2011 in the south network of student research committee of Iran. This network established a research skills workshop at Yasuj University. A number of Faculty members of Yasuj University conducted this workshop during a week. In the teamwork section, participants were divided into groups of 10-15 students and gathered in different classrooms. Faculty members supervised the teams.

The data was collected using a two-part questionnaire. The first part consisted of open demographic questions (age, gender, educational field, university, year of entrance), research experience and research expertise and participation in similar workshop as an applicant or lecturer or participation in a research project. The second part consisted of 20 closed questions related to participants' satisfaction of the workshop.

The questions were divided into three sections, consisting of the ability of the lecturers, the equipment of Yasuj University and workshop's recreational programs. Lecturer related questions were about their proficiency in the subjects that were taught during the workshop, the ability to transmit research skills to the participants, the rate of student participation during the workshop, supervision on the teams, time management and workshop management. Equipment related questions were regarding the availability of internet training aid tools, workshop environment and duration, participant reception. Recreational program related questions were about their satisfaction of the recreational places and the transportation services. The answer to each question was rated from 1 to 5 using likert scales. The total score of each questionnaire was 100 points.

Data was analyzed with SPSS 17 software using descriptive statistical tests such as mean, standard deviation, frequency and independent T test.

## 3. Results

The average age of the participants was  $21.45 \pm 1.8$ . Among them, 27 (61.4%) were female, 17 (38.6) were male. Among the participants 31(70.5%) had a previous experience of participating in similar workshops and 7 (15.9%) had an experience as a lecturer, 16 (36.4%) had an experience of participating in a research project. Among the participants 24(54.5%) were medical students, 5 (11.4%) were dental students, 3(6.8%) were the pharmacy students, 2(4.5%) in the nutritional field, 2(

4.5%) in the science laboratory field, 2(4.5%) in library, 1 (2.3%) in the field of hygiene, 1(2.3%) in the nursery, 1(2.3%) in the field of midwifery and 1(2.3%) in the field of operation room.

In this study 8(18.2%) were from Fasa University, 7(15.9%) from Bandar Abbas University, 7(15.9%) from Bushehr university 5(11.4%) From Ahvaz university, 5(11.4%) from Yasuj university, 4(9.1%) from Shiraz university 4( 9.1%) from Jahrom university and finally 4( 9.1%) of participants were from Kish university of medical sciences. Year of entrance of 15(34.1%) of the participants was 2008, 12(27.3%) was 2007, 11(25%) 2009, 4(9.1%) 2005 and 2(4.5%) was 2006.

Among the participants 31 (70.5%) had a previous experience of taking part in similar workshops, 7 (15.9%) had an experience as lecturer and 16 (36.4%) had been participated in research projects. There was a significant relationship between satisfaction of the workshop and an experience of participation in similar workshops ( $p=0.02$ ), year of entrance ( $p=0.036$ ) and university of origin ( $p<0.001$ ). Participant satisfaction of teacher's proficiency was high ( $N=30$ , 68.2%). Among the participants 20 (45.5%) had high level of satisfaction and 19 (43.2%) had medium level of satisfaction regarding the ability of teachers to transmit messages to participants. Fifty percent of the students believed that teachers had applied sufficient training aids. The majority of the participants were satisfied with their involvement in discussions during the workshop.

In this study, 18 participants (41.9%) rated the supervision of the teachers as very high and 19 (44.2%) rated it as high. The majority of the participants believed that scientific content of the workshop was appropriate with their academic level ( $N=20$ , 45.5%). while 14 (31.6%) and 16 (36.4%) of the participants evaluated that medium and low, respectively. Among the participants, 17 (39.5%) were moderately satisfied with duration of the workshop and high satisfaction was seen in 13 (30.2%) of the participants. The majority of participants had enough satisfaction to recreational programs. Overall 7(15.9%) of the participants had very high level of satisfaction, 18(41%) had high level of satisfaction, 11(25%) had medium level of satisfaction, and 6(13.6%) and 2(4.5%) had low and very low level of satisfaction regarding the workshop, respectively.

## 4. Discussions

This study showed that internet unavailability was the most important limitation of this workshop, thus, 31(70.5%) of the participants were not satisfied with the workshop.

Anthes and colleagues established that internet is a useful tool in medical education programs (Anthes, Berry et al. 1997), Internet is an important part of data mining and information resource gathering in medical education (Nalliah, Chan et al. 2010). A study regarding physicians' use of online evidence has shown that 80% of physicians believed that electronic databases can improve patient care (Romanov and Aarnio 2006). Internet availability is an important part of a research skills workshop that shouldn't be ignored by the organizers.

One of the limitations of this study was that it couldn't evaluate the relationship between the participants' skills and the amount of their satisfaction. Also, it lacked a participant follow up to identify the effects of this workshop on their skills. Therefore establishing research skills workshop and appraising its feedback on participants' skill in long-term is recommended.

In evidence-based medicine, research skills are important and should be mastered by physicians. The knowledge of using internet for research purposes can develop health systems. On the other hand, inadequate knowledge and insufficient expertise in research methods inhibit their development. Educating medical students in research methods is expanded by workshop holding (El Ansari 2004).

Ilic Dragan and colleagues evaluated the effects of a single research skills workshop on researching proficiency of medical students in their first clinical years. They concluded that research skills would not be improved by carrying out a single workshop (Ilic, Tepper et al. 2012). Gabriel M Leung and colleagues, evaluated the educational effectiveness of learning evidence based medicine. They found out that appropriate and rapid access to applicable and relevant evidence on a portable computing device can improve learning and promote utility of evidence, and enhance students' confidence in scientific judgment in practice (Leung, Johnston et al. 2003).

#### **Acknowledgements:**

We thank Yasuj University of Medical Sciences for providing invaluable support during this project. We would also like to acknowledge all the individuals who cooperated in this study.

#### **Corresponding Author:**

Seyed Shojaeddin Namazi  
Student Research Committee, Hormozgan University of Medical Sciences (HUMS), Bandar Abbas, Iran  
E-mail: [ssh.namazi@gmail.com](mailto:ssh.namazi@gmail.com)  
Tel: +989364300246

#### **References**

1. Afshar Z, Ebrahimzadeh Y, Seddigh SH, Golmirzaei J, Hamedy Y, Mahboobi H, et al. Research Mentorship Program (RMP) to Enhance the Research Productivity in a Psychiatric Hospital: First Report. *Electronic Physician*. 2011;3(4):442-5.
2. Mahboobi H, Khajeh E, Sharif N, Jahangiri Z, Khorgoei T, Jahanshahi KA, et al. Correlation between Grades in the Medical Basic Science Course and Scores on the Comprehensive Basic Sciences Exam in Iran. 2009.
3. Peluso MJ, JPH, Medical Students as Medical Educators: Opportunities for Skill Development in the Absence of Formal Training Programs. *Yale J Biol Med*, 2011. 84(3): p. 203.
4. Sharifi M, Golmirzaei J, Bushehri E, Paskhandi S, Paskhandi S, Namazi SS, et al. The Prevalence of Anxiety Among students of Hormozgan University of Medical Sciences in 2007.
5. Busari JaAS, Why residents should teach: a literature review. *J Postgrad Med*, 2004. 50(3): p. 205.
6. Pasquinelli L, MaLWG, A review of medical school programs that train medical students as teachers (MED-SATS). *Teaching and Learning in Medicine*, 2008. 20(1): p. 73-81.
7. Ilic D, K. Tepper, and M. Misso, Teaching evidence based medicine literature searching skills to medical students during the clinical years - a protocol for a randomised controlled trial. *BMC Med Educ*, 2011. 11: p. 49.
8. Khader YS, W. Batayha, and M. Al-Omari, The effect of evidence-based medicine (EBM) training seminars on the knowledge and attitudes of medical students towards EBM. *J Eval Clin Pract*, 2011. 17(4): p. 640-3.
9. Zahran EM, Taha EE-S. Integrating Evidence Based Nursing into the Critical Care Nursing Course: Challenges from Students' Perspectives. *Journal of American Science* 2011; 7(7):135-144.
10. Mahboobi H, Jahanshahi K, Sharif N, Shahrzad ME. Research Utilization and Attitudes towards Research among Nurses in Southern Iran in 2008. 2011.
11. Steadman RH, et al., Simulation-based training is superior to problem-based learning for the acquisition of critical assessment and management skills\*. *Crit Care Med*, 2006. 34(1): p. 151.
12. Mant D, et al., The state of primary-care research. 2004.

13. Askew DA, P.P. Glasziou, and C.B. Del Mar, Research output of Australian general practice: a comparison with medicine, surgery and public health. *The Medical journal of Australia*, 2001. 175(2): p. 77.
14. Ried K, et al., General practice research training: impact of the Australian Registrar Research Workshop on research skills, confidence, interest and involvement of participants, 2002–2006. *Family practice*, 2008. 25(2): p. 119-126.
15. Coomarasamy AaKSK, What is the evidence that postgraduate teaching in evidence based medicine changes anything? A systematic review. *BMJ: British Medical Journal*, 2004. 329(7473): p. 1017.
16. Ghali WA, et al., Successful teaching in evidence - based medicine. *Med Educ*, 2000. 34(1): p. 18-22.
17. Anthes DL, R.E. Berry, and A. Lanning, Internet resources for family physicians. *Can Fam Physician*, 1997. 43: p. 1104-13.
18. Nalliah S, et al., Effectiveness of the use of internet search by third year medical students to establish a clinical diagnosis. *Singapore Med J*, 2010. 51(4): p. 332-8.
19. Romanov KaMA, A survey of the use of electronic scientific information resources among medical and dental students. *BMC Med Educ*, 2006. 6(1): p. 28.
20. El Ansari W. Appraisal skills as a public health competency for evidence-based care: students' satisfaction with their research education. *Journal of public health management and practice : JPHMP*. 2004 Jul-Aug;10(4):354-65.
21. Leung GM JJ, Tin KYK, Wong IOL, Ho LM, Lam WWT, et al. Randomised controlled trial of clinical decision support tools to improve learning of evidence based medicine in medical students. *Bmj*. 2003;327(7423):1090.

12/12/2012