

Medical student and patient perspectives on bedside teaching

Nahid Kianmehr, APIM, Mani Mofidi, APEM, Reza Yazdanpanah, MD, Marjan A. Ahmadi, MD.

ABSTRACT

الأهداف: تقييم وجه نظر طلاب الطب البشري و المرضى بالدراسة السريرية (BST).

الطريقة: أجريت دراسة مقطعية لتوضيح آراء الطلاب، و المرضى عن التعليم السريري BST في مستشفى الجامعة التعليمي - طهران - إيران خلال الفترة من يونيو 2008 إلى سبتمبر 2008م و اخترنا بشكل عشوائي 100 طالب طب البشري، و 100 مريض بالغ أدخلوا المستشفى التعليمي العام. اشتملت هذه الدراسة على المرضى الذين مكثوا في المستشفى 48 ساعة على الأقل، ولديهم تشخيص حالي في يومين متتاليين، ومرضى تتراوح أعمارهم أقل من 18 عام، واستبعدت الدراسة المرضى غير الناطقين بالفارسية. جمعنا آراء المرضى والطلاب باستبيان منفصلين.

النتائج: أن متوسط عمر الطلاب 25.2 ± 2.2 (عام منهم 22-36) عام ممنهم 35% الذكور. أن متوسط عمر المرضى 46.3 ± 18.7 (17-85) عام منهم 50% ذكور. يعتقد أكثر الطلاب أن التعليم السريري هو طريقة مجده لتعلم مبادئ تاريخ المرض، والفحص الجسدي، والمهارات العملية، وتسجيل المعطيات، ومهارات التواصل، والطب المبني على الشواهد، وتفسير النتائج السريرية. يعتقد 53% من الطلاب أن زمن التعليم السريري غير كافي بينما يعتقد 40% من الطلاب أن التعليم السريري هو الأكثر تأثيراً في تعلم المهارات السريرية، أبدى 60% من المرضى ارتياحهم مع التعليم السريري، وفضل 80% من المرضى أن يجرى تقديم الحالة أمامهم.

خاتمه: تقترح دراستنا أن آراء المجموعتين تؤكد أن التعليم السريري في حضور المرضى يتبع فرص قيمة، ونادرة لتبادل مهارات و معرفة الطب للفائد الموجه للمريض.

Objectives: To evaluate the perspectives of medical students and patients on bedside teaching (BST).

Methods: A cross-sectional study was undertaken to elicit patients and learners opinions on BST in Hazrat Rasool Hospital, a university teaching hospital in Tehran, Iran. From June 2008 to September 2008, 100 fourth-year medical students and 100

adult patients admitted to the general medical service of a teaching hospital were chosen randomly. Patients who stayed for a minimum of 48 hours and had at least 2 case presentations in 2 consecutive mornings were included in the study. Patients under 18 years of age, non-Persian speakers, and cognitively impaired were excluded from the study. Their perspectives on BST were assessed with 2 separate questionnaires.

Results: The mean age of medical students was 25.2 ± 2.2 (22-36) years and 35% were male. The mean age of patients was 46.3 ± 18.7 (17-85) years and 50% were male. Most of medical students believed that BST is an effective way for learning principle of history taking, physical examination, practical skills, data registry, communicating skills, evidence based medicine, and interpretation of para-clinical findings. Fifty-three percent of them believed that the time of BST is not enough, while 40% thought BST is the most effective way of learning clinical skills. Sixty percent of patients were comfortable with BST and 80% of them preferred that case presentation be performed in front of them.

Conclusion: Our study suggests that teaching in the presence of patients provides unique and valuable opportunities to integrate the knowledge and skills of medicine for the direct benefit of the patient.

Saudi Med J 2010; Vol. 31 (5): 565-568

From the Department of Internal Medicine (Kianmehr), Department of Emergency Medicine (Mofidi), Hazrat Rasool Hospital, Department of Emergency Medicine (Yazdanpanah), and the Department of Internal Medicine (Ahmadi), Iran University of Medical Sciences, Tehran, Iran.

Received 13th February 2010. Accepted 12th April 2010.

Address correspondence and reprint request to: Dr. Mani Mofidi, Department of Emergency Medicine, Hazrat Rasool Hospital, Satarkhan Ave, Niayesh St, PO Box 1445613131, Tehran, Iran. Tel. +98 (216) 6515001. Fax. +98 (216) 6525327. E-mail: mofidim@iums.ac.ir

There are many methods for teaching in academic medical institutions such as ward rounds, bedside teaching, hallway discussions, problem-based learning, focused conferences, telephone calls, and availability by pager for emergencies and administrative works.¹⁻³ Although medical technology can facilitate the efficiency of patient care as well as make helpful data, physicians should not lose contact with the patient.⁴ Bedside teaching (BST), an essential component of medical education, can be presented as teaching in front of the patient. During bedside teaching rounds, medical students see the patients as actual people rather than abstract hosts of disease. Also they could observe physical conditions directly that may influence their understanding of an illness.^{5,6} Bedside teaching is an effective method for increasing student's skills in history taking, physical examination, and professionalism.^{7,8} Some studies indicated that BST was seen as the most valued methods of teaching between medical students,⁹ but because of some findings, there has been a trend in training of medical students away from the bedside into the conference rooms and web-based learning.¹⁰ Literature reviews indicate that actual teaching at the bedside has declined from an incidence of 75% in the 1960s^{11,12} to an incidence of less than 8-19% nowadays.¹³ Concern about patients' privacy and anxiety appears to be the 2 main reasons for this change.¹⁴ Some recent surveys have shown that a majority of patients satisfied with BST and felt that they understood their problems better afterwards.¹⁵ There are many surveys on medical students and patients perception of the various teaching methods.¹⁶ In this study, we perform this to assess students and patients perspectives on BST.

Methods. This cross-sectional study was conducted in Hazrat Rasool Hospital, a university teaching hospital in Tehran, Iran, from June 2008 to September 2008. One hundred medical students and 100 patients admitted in the Medicine Department completed the survey. To be eligible, the patient had to be hospitalized for a minimum of 48 hours in order to have at least 2 case presentations in 2 consecutive mornings. Patients under 18 years of age, non-Persian speakers, and cognitively impaired patients were excluded from the study. Informed consent was taken from all participants. The Ethics Committee of the Faculty of Medicine of the Iran University of Medical Sciences approved the study.

In our hospital, BST is conducted at the patient's room. Typically one attending physician, 2 or 3 internal medicine residents, and several interns and medical students are present. Medical students recorded the patient's history, the results of physical examination, and laboratory findings. Then, one resident examined the patient, and the attending physician supervised

the details of clinical diagnosis skills, emphasizing on clinical decision making and solving their problems. We used 2 questionnaires for data collection. Perspectives of students and patients on BST were assessed with 2 separate 13-item questionnaires. One research assistant administered the survey to patients in the medicine ward and dressed in street clothes. Patients were informed that their perspective will be treated confidential and there is no any impact on their care. Responses of students available on 5 scales were designated as follows; 1 = absolutely agree, 2 = agree, 3 = without comment, 4 = disagree, and 5 = absolutely disagree.

For analysis, these scores were converted to a binary score (1 & 2 = positive perspective and 4 & 5 = negative perspective). Collected data were analyzed using the SPSS version 13 software.

Results. Table 1 shows the baseline characteristics of the included cases. Most of students believed that BST is fundamental for medical training ($p<0.05$). Fifty-three percent of students believed that the time of BST is not enough and 40% of them believed that BST is the most effective strategy for improving their medical knowledge. Details of medical students' belief on BST are presented in Table 2. In patients group, there were no significant differences in responses according to age and gender ($p>0.05$). Eighty percent of patients preferred that case presentation be performed in the presence of them ($p<0.05$). In our study, higher education level was correlated with positive perspective on BST ($p<0.05$). Patients' perspectives on BST are presented in Table 3.

Discussion. In our study, more than 90% of students believed that BST is an effective way for learning principles of history taking, physical examination, and practical skills. Hull et al¹⁷ established a study to compare 2 methods of teaching (BST and computer-based learning) between 24 medical students and found that 92% expressed their preference for BST over computer-based learning only. In our study, only 31% of medical students believed that the time of BST is enough for learning medical skills and 40% felt that BST is the

Table 1 - Selected baseline characteristics of included cases.

Characteristic	Medical students (n=100)	Patients (n=100)
Mean age (years)	22-36	17-85
Mean \pm SD	25.2 \pm 2.2	46.3 \pm 18.7
Gender (number of male)	35	50
Mean length of stay (days)	-	9.4 \pm 11.4 (1-70)
Education >12 years (n)	-	46

Table 2 - Perspectives of medical students on bedside teaching (BST).

Variables	Number of patients		
	A	B	C
BST is a useful method for learning medical skills	95	4	1
BST is effective in learning principles of history taking	94	5	4
BST is effective in learning correct physical examination	97	2	1
BST is effective in documentation of patient's data	82	16	2
BST is effective in increasing students-patients communication skills	87	10	3
BST is effective in practical application of basic science knowledge	92	5	3
BST is effective in increasing the skill for time management	57	30	13
BST is effective in increasing skills for using Para clinical findings in diagnosis and treatments of diseases	83	13	4
BST is a suitable method for teaching the problem based learning	83	14	3
BST is a suitable method for teaching evidence based medicine	84	12	4
The time of BST is not enough for learning medical skills	53	16	31
BST results in better attending- student communication	54	26	20
The most parts of medical science achieved by BST	68	10	22

A - absolutely agree & agree, B - no comment, C - disagree & absolutely disagree

Table 3 - Perspectives of patients on bedside teaching (BST).

Variables	Number of patients	
	Yes	No
Do you satisfied with BST?	60	40
Do you feel comfortable during BST?	58	42
BST increases your awareness about your disease?	54	46
Do specialized terms in BST increase your concerns?	44	56
Do you think BST results in transpiring your personal secrets for others?	24	76
Do you receive appropriate responses to your questions during BST?	56	44
Do you think BST has positive effects?	66	34
Do you think BST results in better physician-patients communication?	70	30
Do the BST help you to not to be alone?	70	30
In your opinion, should the physicians take permission from you before starting BST?	66	34
Do you think BST is an opportunity for delivering more information to your physicians?	76	24
Do you prefer discussion about your disease be performed in the presence of yourself?	80	20
Do you think BST is a suitable way for closely visiting the physicians?	82	18

most effective way for increasing medical knowledge. Lüring et al¹⁸ reported that students believed that BST effectively causes growth of their knowledge and they were highly satisfied. We found that 97% of students stated that BST is useful for learning correct physical examination and 92% of them believed that BST is a practical way to implicate basic science to clinical situation.¹⁸ Ramani¹⁹ showed that physical examination skills were declining among medical trainees, so he suggested that clinical teaching at the bedside should be increased. Another goal of our study was to assess the perspective of patient on BST. Eighty percent of our patients preferred that case presentation be performed

in their presence. Chauke et al¹⁵ reported that 94.9% of patients prefer the case presentation discussion at the bedside. We think that the causes of this differences are racial and socioeconomic differences. Some investigators revealed that admitted patients who experienced case presentations at bedside had more positive feelings on their relationships with their physicians.²⁰

In our study, we found that more-educated patients would be more satisfied with BST compare with less well educated patients, because the latter group feels discomfort with complex medical terminology. American Council for Graduate Medical Education and the WHO Advisory Committee on Medical training recommend that training programs should increase the

frequency of BST in their clinical curricula.¹⁹ Alweshahi et al²¹ administered a 25-item questionnaire and showed that the attitude of the students is heavily influenced by teacher behaviors. Other researches suggested some points such as attending to the patient' comfort, focused teaching, and group dynamics.²² In our study, 40% of patients were not satisfied, 56% felt their concerns were increased, and 76% felt their secrets were being revealed. We think that this reluctance maybe due to the religious background. Some patients (especially women) are not comfortable to undergo to this kind of examination in front of medical team and other patients. Thus, it is important to respect the privacy of the patients, use some simple methods to mitigate these concerns. For example, bedside case presentation should be performed in a secure place.

Our study had some limitations. Attitude of students could be influenced by behavior and knowledge of the attending physicians. In addition age, gender, educational level and severity of diseases can affect the perspectives of patients on bedside case presentation.

Another important limitation of this study is the absences of comparison group on students and patients in a service without BST. Considering this comparison is recommended in further study.

In conclusion, based on the results of this study, both the medical students and patients believed that BST provides valuable opportunities to integrate the knowledge and skills of medicine and can empower patients. This study demonstrates the positive feeling of medical students on BST that seems to satisfy them without causing increased discomfort to the patients.

Acknowledgment. The authors would like to thank Dr. Nair for his support during the survey design. Moreover, we would like to acknowledge all the medical students and patients who participated on this study.

References

1. Azer SA. Problem-based learning. A critical review of its educational objectives and the rationale for its use. *Saudi Med J* 2001; 22: 299-305.
2. Phy MP, Offord KP, Manning DM, Bundrick JB, Huddleston JM. Increased faculty presence on inpatient teaching services. *Mayo Clin Proc* 2004; 79: 332-336.
3. Azer SA. Problem-based learning. Challenges, barriers and outcome issues. *Saudi Med J* 2001; 22: 389-397.
4. Boudoulas H. The well-rounded clinician. *Hellenic J Cardiol* 2005; 46: 317.
5. Aldeen AZ, Gisondi MA. Bedside teaching in the emergency department. *Acad Emerg Med* 2006; 13: 860-866.
6. K Ahmed Mel-B. What is happening to bedside clinical teaching? *Med Educ* 2002; 36: 1185-1188.
7. Branch WT Jr, Kern D, Haidet P, Weissmann P, Gracey CF, Mitchell G, et al. The patient-physician relationship. Teaching the human dimensions of care in clinical settings. *JAMA* 2001; 286: 1067-10s74.
8. Baernstein A, Oelschlager AM, Chang TA, Wenrich MD. Learning professionalism: perspectives of preclinical medical students. *Acad Med* 2009; 84: 574-581.
9. Billings ME, Engelberg R, Curtis JR, Block S, Sullivan AM. Determinants of medical students' perceived preparation to perform end-of-life care, quality of end-of-life care education, and attitudes toward end-of-life care. *J Palliat Med* 2010; 13: 319-326.
10. Burnette K, Ramundo M, Stevenson M, Beeson MS. Evaluation of a web-based asynchronous pediatric emergency medicine learning tool for residents and medical students. *Acad Emerg Med* 2009; 16 Suppl 2: S46-S50.
11. Landry MA, Lafrenaye S, Roy MC, Cyr C. A randomized, controlled trial of bedside versus conference-room case presentation in a pediatric intensive care unit. *Pediatrics* 2007; 120: 275-280.
12. Crumlish CM, Yialamas MA, McMahon GT. Quantification of bedside teaching by an academic hospitalist group. *J Hosp Med* 2009; 4: 304-307.
13. Williams KN, Ramani S, Fraser B, Orlander JD. Improving bedside teaching: findings from a focus group study of learners. *Acad Med* 2008; 83: 257-264.
14. Rogers HD, Carline JD, Paauw DS. Examination room presentations in general internal medicine clinic: patients' and students' perceptions. *Acad Med* 2003; 78: 945-949.
15. Chauke HL, Pattinson RC. Ward rounds: bedside or conference room? *S Afr Med J* 2006; 96: 398-400.
16. Abdelmoneim I. Students perception of the various teaching methods used in the primary health care course in the Abha, College of Medicine. *Saudi Med J* 2003; 24: 1188-1191.
17. Hull P, Chaudry A, Prashofer A, Pattison G. Optimal sequencing of bedside teaching and computer-based learning: a randomised trial. *Med Educ* 2009; 43: 108-112.
18. Lüring C, Bredl K, Beckmann J, Köck FX, Grifka J. [Knowledge transfer and student's satisfaction in orthopaedics--a survey of 476 students]. *Z Orthop Ihre Grenzgeb* 2007; 145: 97-101.
19. Ramani S. Twelve tips for excellent physical examination teaching. *Med Teach* 2008; 30: 851-856.
20. Kaga K, Asakage T. Medical education by bedside learning - helping medical students to interact with patients who have head and neck cancer. *Acta Otolaryngol* 2007; 127: 408-410.
21. Alweshahi Y, Harley D, Cook DA. Students' perception of the characteristics of effective bedside teachers. *Med Teach* 2007; 29: 204-209.
22. Janicik RW, Fletcher KE. Teaching at the bedside: a new model. *Med Teach* 2003; 25: 127-130.