

# Medical academia clinical experiences of Ward Round Teaching curriculum

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## Abstract

**Background:** Medical students spend most of their time in hospital wards and it is necessary to study clinical educational opportunities. This study was aimed to explore faculty members' experience on Ward Round Teaching content.

**Methods and Materials:** This qualitative study was conducted by purposive sampling with the maximum variation of major clinical departments faculty members in Isfahan University of Medical Sciences ( $n = 9$ ). Data gathering was based on deep and semi-structured interviews. Data gathering continued till data saturation. Data was analyzed through the Collaizzi method and validated. Strategies to ensure trustworthiness of data (credibility, dependability, conformability, transferability) were employed (Guba and Lincoln).

**Results:** Basic codes extracted from the analyzed data were categorized into two main themes and related subthemes, including (1) tangible teachings (analytic intelligence, technical intelligence, legal duties) and (2) implied teachings (professionalism, professional discipline, professional difficulties).

**Conclusion:** Ward round teaching is a valuable opportunity for learners to learn not only patient care aspects but also ethical values. By appropriate planning, opportunities can be used to teach capabilities that are expected of general practitioners.

**Key Words:** Clinical academia, content, qualitative study, ward round teaching

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## INTRODUCTION

Preparing graduates to undertake professional roles is

of vital sensitivity and importance. Medical students experience application of basic sciences in clinical context and learn clinical skills and capabilities during ward rounds. Part of the process of clinical training and learning of medical students takes place in the clinical wards, known as ward round teaching. Ward round teaching is in fact a kind of clinical training in which lecturers and the medical team come together around the patients' bed and assess the patient's condition while the medical team is taught by the lecturer.<sup>[1]</sup> Clinical teaching at bedside is the traditional medical teaching method.<sup>[2]</sup> As teaching science, skill, and art

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of medicine must take place in a practical way by the patients' bedside, and students spend a major part of their education in hospitals, ward round teaching is one of the best and most effective methods of learning process in medicine.<sup>[3]</sup>

The aims of clinical teaching include preparing students for combining basic scientific information (learnt previously) with practical skills and capabilities related to diagnosis, treatment, patients' care and acquiring professional and procedural skills, outlooks and behaviors needed for health care services.<sup>[4]</sup> As many of the medical teaching programs aims could be experienced at different levels by the student during each ward teaching session, ward round teaching could be done using the outcome-based education.<sup>[5]</sup> In this training, the emphasis is on the final product and all that the student should have learned. This training is not about how the subject is taught by lecturers or how much the student has learned, but determines whatever must be taught and evaluated.<sup>[6]</sup>

Training based on capabilities could be regarded as the type of training that improve scientific level, outlook and skills of learners so that they may have the ability to fulfill their professional duties or, in other words, training that emphasizes on learning and improvement of skills of students to the extent that they have the ability to perform skillfully and successfully.<sup>[7]</sup>

As determination of professional capabilities is the cornerstone of medical training program based on outcome-based education, in different countries, attention has been given to this subject.<sup>[6,8,9]</sup> The General Medical Training Council of the Ministry of Health in the Islamic Republic of Iran, in a meeting in 2008, determined the minimum level expected of postgraduates of the medical course, and sent a decree to all universities across the country to be put into practice.<sup>[10]</sup> These capabilities are divided into eight areas, which include "improvement of health, and prevention of diseases and playing a role in provision of health", "communication and clinical skills", "practical procedures", "outlooks, medical ethics, and legal responsibilities", "information technology of health, basic sciences, social sciences, clinical sciences and their principles" and "research in medical sciences and personal improvement and life time learning". Therefore, contents of education in clinical courses must be based on the above merits.

Furthermore, concern about lack of clinical skills of the students has caused organizations such as the American Council for Graduate Medical Education (ACGME), and the World Health Organization

Advisory Committee recommend that university teaching programs should increase the number of clinical training sessions.<sup>[11]</sup>

In Iran, numerous researches have been carried out about barriers of clinical teaching and condition and environment of clinical teaching. These included characteristics of effective teaching, teaching methodology, teaching skills and characteristics of a good teacher, obstacles and stressors in clinical education and learning environment from the viewpoint of the students and teachers.<sup>[12-18]</sup>

All these have been quantitative studies and no studies have been conducted on the question that "following training in ward, what capabilities can be expected of students?". Thus, researchers designed the present study to explain and explore live experience of clinical teachers about contents that can be taught in this opportunity; therefore, expected outcomes can be predicted in this field. This study was conducted to assess clinical teachers' experience regarding the contents of ward round teaching.

## MATERIALS AND METHODS

In this study, the contents of ward round teaching are assessed with emphasis on the experiences and understandings of the members of the clinical scientific team. Therefore, qualitative research assessment for this purpose is appropriate. Qualitative researches in managerial sciences, sociology and nursing can be applied to recognize the phenomena that are affected by values, cultures and human relations.<sup>[19,20]</sup>

The research environment was the teaching hospitals of Isfahan University of Medical Sciences and the research community included members of major clinical departments (internal medicine, gynecology, pediatrics and surgery). In order to clarify different aspects of the subject, two interviews were organized with students at externship and internship levels.

Purposefully and with utmost variety, samples were selected from the members of the clinical academia in such a way that the aims of the research were covered.<sup>[21,22]</sup> thereby helping in gaining an understanding of the problem in the study. Sampling continued until data were saturated.<sup>[23]</sup> Data were collected through individual semi-structured interviews. Questions focused on the main aspect of the study, which was experience of participants of ward round teaching. Interviews began with easy and general topics such as describe your own experiences of ward round teaching. But, during the interviews, based on information given by the

interviewees and the atmosphere of the interview, some probing questions were also asked. With the agreement of the teaching staff, interviews were conducted in their office and recorded. Duration of each interview was approximately 45-75 min, with one session per person. The Collaizi method was used for analyzing the data. Interviews were written down on paper word for word and, in the end, assessment and analysis of the data was carried out. Initially, to sympathize with participants and gain deeper understanding of their experiences, all subjects of the interviews were read out to the participants and important statements (containing rich meanings about the subject of study) were extracted. Next, the meaning of every important statement was explained (meanings were coded and recorded). Then, these codes were categorized and were sent to samples for confirmation. Results were integrated into a complete description of the subject under study and to achieve clear meaning, and were then revised. Finally, findings were referred to the participants for accreditation, with emphasis on results being correct.<sup>[24]</sup>

In a qualitative research, one of the most important issues is gaining certainty of the accuracy and correctness of data. In 1983, Lincoln and Guba proposed four methods of confirmation of correctness of data. These were credibility, dependability, conformability and transferability. In this study, taking into account these standards, the researchers with the help of three colleagues used different methods such as allocating sufficient time for collecting data and coding the information, referred to the participants for confirmation and accreditation of the results as much as possible.<sup>[20]</sup>

Ethical considerations in this study included gaining informed written consent of the participants, record the interviews, not recording their name on tapes or typescripts, confidentiality of the information and having the right to withdraw at any stage they wished.<sup>[20,24]</sup>

## RESULTS

In this study, samples were taken from the clinical academic members of the Isfahan University of Medical Sciences (nine people) of the major departments (internal medicine, pediatrics, gynecology and surgery) and two students at externship and internship level.

All the participating lecturers had 5 years or more work experience (on average 18 years), consisting of four women and five men, of whom there were two gynecologists, two pediatricians, two surgeons and

**Table 1: Themes and sub-concepts of the study**

Main themes	Sub-concepts
Tangible teachings	Technical intelligence analytical intelligence legal responsibilities
Implied teachings	Professionalism professional discipline professional difficulties

one cardiologist. From the academia, there were three assistant professors, five associate professors and one professor, making an appropriate range of participants for the interviews.

Results were obtained from the assessment of the qualitative information in two main areas of tangible teachings and implied teachings. Related sub-themes were divided as shown in Table 1.

### Tangible teachings

One of the attained concepts of this study was tangible teachings, which is very wide, covering an extensive range of dimensions and, in fact, includes numerous experiences of lecturers in connection with consciously taking every educational opportunity to teach students. Three sub-concepts were derived from this concept: Technical intelligence, analytical intelligence and legal responsibilities.

### Technical intelligence

What is meant by this sub-concept is that all capabilities expected of a general practitioner, including clinical skills (the ability to take history, do physical exam, interpret their results for diagnosis and determine the management plan of the patient), practical actions, communication skills, patient management, ability to search and research using the Internet, prevention of disease and patients' training. As an example, participant number 6 statement: "depending on the case, we may, for example, even do the dressing too. It depends on the needs of the patient, if we want to do the dressing, we'll say what stages the dressing should have. This dressing is wrong, for example how it should be" contained attention to the practical training methods and correction of what was wrong. Also, participant number 6 expressed: "we talk about drugs a lot, it appears to me that these guys have a lot of problems with medical therapy, how to prescribe drugs, I even say, they bring brochures of drugs and see that this drug is for infusion" contains codes of attention to the needs and treatment training of the patient and use of educational aids. Participant number 8 statement said: "If there is a problem with doing a physical exam, a physical exam is performed right away, with their own help, for example when he says he has ascites, I say what test should be done for this ascites? When he names the test, I ask a resident to do the test, so he can see how it is done and

then I ask him to do it himself". This contains codes of attention to physical exam training, observation training and doing these under supervision.

Participant number 2 expressed: "I tell them, when I talk to a patient, I am not talking about private things and you should take note of these questions as they are part of your training". This contains code: attention to the physician–patient relation. Generally, all the above forms have technical intelligence sub-concept. It can be deduced from statements of the participants that capabilities such as clinical skills, practical procedures, communication skills, patient management, searching the Internet, prevention of disease and patient training are necessary skills for becoming a doctor. Also, expressions of lecturers showed appropriateness of ward rounds opportunities for teaching the above points.

On the other hand, the statement of participant number 2, "our resident knows very well how to save a septic shock patient, but he is not able to treat a simple parasite. He may make a mistake treating a simple cold" contains specialty and sub-specialty codes of the field in some wards.

### Analytical intelligence

What is meant by analytical intelligence in this study is the ability to clinically diagnose, based on the data collected from the patient, by stating logical reasons and analyzing and interpreting these data using best evidence.

For example, participant number 5 statement was: "When I visit a patient, I say these clues are in line with this diagnoses, this clue is in line with the second diagnoses, why should the first diagnosis be more important? For this reason why is the second diagnosis weaker? For that reason" contains code of attention to analysis of diagnosis. Participant number 6 statement: "I told him a scientist must ask questions and look for answers. You are not a scientist if a question is not formed in your mind. A good scientist asks questions" contains code of attention to critical thinking. Statement of participant number 5: "One article, two articles, or whatever he thinks is good for the patient is introduced. It is discussed why this patient was treated in this way? Whereas, this new article introduces another treatment" contains code of attention to medical judgments based on evidence.

All the above statements combined form analytical intelligence. From the participant's statements, it can be deduced that analytical intelligence is one of the main learning points of ward round teaching in which making the best diagnostic decision and treatment for

the patient is taught.

### Legal responsibilities

Giving answers regarding responsibilities and legal medical problems, which include familiarity with its usual problems and ability to use legal principles related to professional activities, such as misuse of drugs and patients' rights, are content of another group of participants statements, for example, "It has so happened that a patient wanted me to prescribe a particular drug for him, and I refused to do so. When I explained, I noticed that all students were surprised. So I told them that there was a reason. These are expensive drugs, and if I prescribe them, they will sell them in the market". This contains code of clear expression of topics and attention to legal problems attached to prescriptions. Participant number 5 statement; "I tell them that they should be careful when answering a patient, you should be careful as to what the question is, if you respect them and answer their questions, usually no legal problems arise". This contains code of attention to the rights of the patient's companion.

Generally, after getting through analytical levels, the sub-concept of legal responsibilities is formed. The above sub-concepts are placed in the context of tangible learning of ward round teaching.

### Implied teaching

What is meant by implied teaching in this study is a group of values and expectations that lecturers subconsciously express while interacting with the patient and learner. Learners observe and learn from these behavioral patterns. This context itself is divided into sub-concepts of "professionalism," "professional discipline" and "professional difficulties".

### Professionalism

What is meant by professionalism in this study is teaching characteristics of kindness, making contact, sympathy, respect, respecting other people's rights, attention to human dignity and confidentiality. For example, the statement of participant number 5; "if I go to the physical exam room, for instance, and we want to examine the patient or do sonogram for the patient, if I see the patient does not have a cover sheet, I get out, basically, sub-consciously, I come out and say you have forgotten to cover the patient". This contains codes of attention to patients' needs and subconscious behavior. Also, participant number 8 statement: "Well, this confrontation of resident or intern with the patient and shouting is not at all acceptable. In my rounds, patient is respected, even if he may be from the lowest cultural and economical background" contains codes of respect for patient and discarding unethical behaviors.

The combination of these cases after analytical processes comprise sub-concept of professionalism. It can be deduced from participant's experiences that teaching the above cases is done during interactions and subconsciously. But, sometimes, lecturers draw attention to themselves as role models with conscious emphasis. For example, participant number 2 statements: "practically, touching the patient, listening to the patients' problems privately, talking kindly to patients, and comforting them, I teach them".

On the other hand, content of another group of participants' statements, for example, participating student in the study "most of the time, the patient does not know what is going on, in a grand round, suddenly 30 students gathered around a patient, and you could see the patients' horror, and they did not know what was going on at all". Statement of another student: "there were many fellows, for example, when patient said his eyes hurt, they did not answer him and left. They would not talk to the patient at all or they would say, how long have been taking this, and if they had asked this question before, they wouldn't even ask this, or look at the patient, let alone talk to him". This contains codes of lack of attention to the patient, indicating negative experiences of professionalism.

### Professional discipline

What is meant by professional discipline in this study is characteristics of discipline, punctuality and also appropriate medical clothing. For example, statement of participant number 6: "One of my residents did not have pocket on her uniform. I asked why her uniform didn't have any pockets. She said, so what. And I said you have a pen in one hand and stethoscope in the other, now you have no free hands". This contains codes of attention to professional clothing. Also, participant number 6 statement: "In my rounds, you see students wearing more make up than residents and interns, and I say, here we have a bunch of patients who should not feel that you are from another world or have come here all happy and tipsy" contains codes of professional clothing and sympathy with the patients.

Another statement from participant number 7: "I tell them you want to resuscitate, if suddenly you receive news that you must resuscitate a patient, how can you get to the patient in time wearing high hills?" contains code of justification of professional necessities.

These cases, combined after analysis, form sub-concept: Professional discipline, which is another one of ward round teachings.

### Professional rigor

What is meant by professional rigor is difficult

conditions in medical profession faced by doctors. A person should learn to face these difficulties during his education. From the viewpoint of the participating lecturers in the study, ward is the right environment for getting used to these conditions and professional problems, which is contained in the statement of another participating group. For example, "The patients' terrible smell must be felt, that terrible smell in the ward must be felt by the student". This contains code of getting accustomed to the conditions of the profession. And, statement of participant number 1: "I tell him, does this dirty job for example, insert an N-G tube which may get bloody. He should do the job for the patient wearing whatever he is wearing, he should come in such a way that he can perform the action" contains the codes of performing professional difficulties. After analytical processes, combination of these cases forms the sub-concept of professional difficulties, which is another one of ward round teachings. It can be deduced from the participants' statements that in the medical profession, doctors are faced with many difficult conditions, and students must learn how to handle these difficulties during their education. Again from the lecturers' point of view, ward is a good environment for getting used to these conditions and also getting used to difficulties of the profession.

## DISCUSSION

Teaching by the patients' bed side is a patient-oriented teaching method, so that teaching clinical skills are done using a real patient.<sup>[25]</sup> As can be deduced from the results of this study, ward is an environment with teaching opportunities and gaining clinical skills, which include ability to take patient's history, physical exam, interpret its results for diagnosis and determining patients' management plan, presentation of patient's data, professionalism and professional discipline. This issue has been mentioned with great emphasis in several studies as advantages of teaching by the patient's bedside.<sup>[26-30]</sup> With these skills, a doctor can diagnose many illnesses without the need for paraclinics. Students learn the value of taking patients' history and physical exam by the patient's bedside. As, by observing their own professors, they can understand how he makes the hypothesis of diagnosis.

Another case repeatedly talked about by the participating professors was the ability to manage patients in addition to teaching clinical skills as one of the aims of ward round teaching processes. The usage of basic clinical sciences when teaching patient management is mentioned. At present, one of the challenges facing ward round teaching in some

wards and also in teaching patient management is the fact that some wards such as intensive care units are not appropriate for teaching general practitioners. Therefore, being subspecialized counts as a negative point.

One of the solutions for this problem taken up by the participating professors is the selection of appropriate patient or even outpatients forward round teaching.

Therefore, if ward round teaching takes place without attention to the need for selection of the right patient, the students' ability to learn patient management could fail, and make them dislike the ward. Monica and Ramani, in their article about improving clinical teaching stress, used this method.<sup>[20,30]</sup>

Another teaching topic includes teaching the ability to make contact with the patient, which comes about through contents of the model set by assistants, associates and professors as they take history and physical exam. But, with regard to the results of the study, the ability to do practical procedures such as injections, taking blood samples from veins and arteries, etc. form part of the content of ward teaching; students learn these abilities while doing their duties. Also, when comparing the ward and clinic, it was evident that in wards, students are exposed to complicated specialized practical procedures and as work pressure is higher in the ward, the opportunity for learning occurs much less.<sup>[32]</sup>

Training to be responsible for medical and legal responsibilities and complete regards for principles of medical ethics and medical professionalism are also another finding of this study. Teaching legal matters in the classroom as theories turns into practice when students confront with patients.

Another benefit of patient bedside for students is learning the ability to solve problems and make decisions for the patient. Results of the study indicate that gaining the ability to make clinical decisions for the patient using evidence-based medicine is another teaching done by professors. Clinical reasoning is not inborn, and can be taught. At present, clinical reasoning happens accidentally and in clinical exposures.<sup>[33]</sup> Experiences of professors show that there is no contextual program for clinical reasoning, and it is more like reminders to students.

One of the points participating professors stress on is their own part as role models in teaching professional ethics and communication skills. They were aware of their part as role models, as they expressed themselves, in relation with students, were careful

and paid attention to their roles. They knew that they were being watched by students taking their model. In studies by Right and Carrs, it is expressed that awareness of being a model pushes teachers toward finding situations in which they could show themselves as models with their skills, behaviors and outlooks so that they can, in this way, teach professionalism.<sup>[34]</sup>

Students observe the respected places of their teachers and their eagerness to teach. This opportunity never arises in the conference room. Other results from this study show the possibility of teaching professional discipline, getting used to professional difficulties and characteristics such as punctuality and professional clothing in the ward environment. With these, a good professional image of the person is presented, causing respect and trust of patients toward the person and also increasing health and safety of the person. Not doing these leave negative effects on patient care.

Teaching all these in an environment where patients are present is possible, not in theoretical speeches; students must be encouraged to return to the ward while doing their personal studies so that they can practice their clinical skills even more. It may be possible in these sessions that there could be enough opportunity for students to do small duties.

Comparison of results of this study with the minimum abilities expected from students of medical sciences based on the decree of the 3<sup>rd</sup> meeting of general medical council dated 2008 indicates that, in the ward, the four areas of proficiencies expected of general practitioners have been to a large extent achieved. But, also, teaching of other subjects could be done, such as extracting scientific information from books and medical journals, which necessitates having facilities like computers and the Internet with easy access for students as well as lecturers. Teaching improvement of health and prevention from disease and playing a role in presenting health services in the present ward environment of teaching hospitals is not possible, and requires programming and use of the community for learning these capabilities.

It must be mentioned that patient-oriented teaching opportunities exist in this society but, at present, with the existing possibilities in the country, chances of observation and supervision of this teaching are not easily at hand. Outpatient clinics also provide the opportunity for teaching but, in clinics, the teaching time is short as patients spend little time with the doctor. Based on studies, students tend to learn better and even more in outpatient environments than in wards, but these are never a good replacement.<sup>[35]</sup>

## CONCLUSION

Ward round teaching provides a valuable opportunity for students, in which they learn clinical aspects of patients care as well as ethical values. Identifying teaching opportunities in these places, familiarization of professors with teaching methods and educational programming, use of these subjects in determining achievable goals in wards, encouraging students to take a more active role in wards and making them understand the importance of ward in learning clinical skills and expected capabilities of them can cause improvement of ward round teaching.

As professionalism, reasoning ability and clinical judgment are parts of the expected capabilities of a general practitioner, medical schools have the duty to ensure that their teaching programs have a clear role in training and producing these characteristics in students. In other words, developing these characteristics must be part of the teaching goals of medical schools and, because of the role and importance of wards in teaching students, it is necessary, when programming teaching aims, to pay a special attention to providing these capabilities in ward round teaching.

## REFERENCES

- Sabori M, Hadadgar A, Fatehi F, Okhovat H, Nasri P, Hoseini M, *et al.* *Ketab bakhsh*. 1<sup>st</sup> ed. Isfahan: Golhaie Mohammadi and Isfahan Medical University; 1382.
- Azizi F. [Medical education: Mission, vision and challenges]. Tehran: Ministry of Health and Medical Education. 2003: 398.
- Salmanzade H. *Teaching round in hospital*. 1<sup>st</sup> ed. Tehran: Nashr Koshyar; 1377.
- White R, Evan C. *Clinical Teaching in Nursing*. 1<sup>st</sup> ed. London: Champan and Hall; 1991.
- Dent JA, Harden RM. *A practical guide for medical teacher*. 2<sup>nd</sup> ed. London: Churchill Livingstone; 2005
- Outcomes for the medical undergraduate in Scotland: A foundation for competent and reflective practitioners. The Scottish deans' medical curriculum group march 2000. [Last cited on 2011 Sep 09]. Available from: <http://www.sedemen.org>.
- Yousefi A. Competency Based Education. *Iran J Med Educ* 2006;5:213-4.
- Burrill GC. Competency-based curriculum development: An experimental model for social service workers. *Innov Higher Educ* 1977;1:132-8.
- McGaghie WC, Miller GE, Sajid AW, Tedler TV. *Competency-Based Curriculum Development in Medical Education (An Introduction)*. WHO; 1978
- Mosavabat sevomin neshast shoraie amozesh pezeshk omomi movarekh 3 esfand mah 1387 peivast shomaare 2, sanad hadeaghal tavanmandihaie mored entezar az daneshamokhtegan dore doktoraie pezeski omomi az daneshgahaie olom pezeshki dar jomhorie eslamiiran.
- Ramani S. Twelve tips to improve bedside teaching. *Med Teach* 2003;25:112-5.
- Sadeghi S, yaghobi M. Vighegihaie tadrise az didgah asatid va daneshjoian daneshgahe oolom pezeshki birjand. *Faslnameh tosee* novin birjand 1384;5.
- Iranfar S. Vazeeiat faaliat amozeshi oostadan daneshgah oolom pezeshki kermanshah az nazare daneshjoia dar sale 1378. *Majale daneshgah oolom pezeshki kermanshah* 1379;3:27-8.
- Fasihi harandi T, Soltani Arabshahi K. Baresi vazeeiat darondad va faraiand amozeshbalini dar daneshgah olom pezeshki iran. *Faslnameh paiesh olom behdashti jahad daneshgahi* 1382 spr;2:127-32.
- Zohor A. Shakhshaie tadrise asarbakhsh az didgah daneshjoian oolom pezeshki kerman. *Faslameh paiesh* 1380:4:7-8.
- Yazdankhah Fard M, Pouladi S, Kamali F, Zahmatkeshan N, Mirzaei K, Akbarian S, *et al.* The stressing factors in clinical education: The viewpoint of students. *Iran J Med Educ* 2009;8:341-9.
- Anbari Z, Ramezani M. The obstacles of clinical education ad strategies for the improvement of quality of education at arak university of medical sciences in 2008. *Arak Med Univ J* 2010;13:110-8.
- Arabshahi S, Kohpaiezade J, Soboti B. The Educational Environment of Main Clinical Wards in Educational Hospitals Affiliated to Iran University of Medical Sciences: Learners' Viewpoints Based on DREEM Model. *Iran J Med Educ* 2008;8:43-9.
- Lynch SJ. Using a phenomenological research method to study nursing phenomena. *Qualitative research methods in nursing*. Columbus: Greyder Press; 1998.
- Ansari M, Yamani N, Yousefi A, Yarmohammadian M. 1<sup>st</sup> ed. An introduction to qualitative research. Isfahan Medical University, 1386.
- Saneei A, nikbakht Nasrabadi A. *Qualitative research methodology in medical science*. 1<sup>st</sup> ed. Tehran: Baraie Farda; 1383.
- Jamshidian A, Siadat A, Norouzi R (translators). *An introduction to qualitative research*. Uwe flick (Author). 1<sup>st</sup> ed. Qum: SamaGhalam; 1382.
- Salsali M, Parvizi S, Adib hajbagheri M. *Qualitative Research Methodology*. 1<sup>st</sup> ed. Tehran: Boshra; 1382.
- Nasr A, Oreizi H, Abolghasemi M, Bagheri K, Alamatsaz M, Pakseresht M, *et al.* (Translators). *Educational research An introduction*. In: Gall M, Borg W, Gall J, authors. 2<sup>nd</sup> ed. Tehran: Sazman motalee va tadvin kotob oolom ensani daneshgaha; 1387.
- Lisa S. The effect of bedside case presentations on patient's perceptions of their medical case. 1997.
- Ramani S, Orlander JD, Strunin L, Barber TW. Whither bedside teaching? A focus-group study of clinical teachers. *Acad Med* 2003;78:384-90.
- Spencer J. ABC of learning and teaching in medicine: learning and teaching in the clinical environment. *BMJ* 2003;326:591-4.
- Allen young. Benefits of bedside teaching. [Last cited on 2011 Sep 03]. Available from: <http://www.asid.net.au>.
- Monica D, Nick B. Whys and hows of patient -based teaching. *Advance in psychiatric treatment* 2005;11:223-31.
- Fiona R, Gerard R. Teaching on the run tips 4: Teaching with the patients. *Med J Aust* 2004;181:158-9.
- Ramani S. Twelve tips to improve bedside teaching. *Med Teach* 2003;25:112-5.
- Eric W, Jacobson MD, William L, Keough MS, Brian E, Dalton MD, *et al.* A comparison of inpatient and outpatient experiences during an internal medicine clerkship. *Am J Med* 1998;104:159-62.
- Lee A, Joynt GM, Lee AK, Ho AM, Groves M, Vlantis AC, *et al.* Using Illness Scripts to Teach Clinical Reasoning Skills to Medical Students. *Fam Med* 2010;24:255-61.
- Wright M, Carrese JA. Excellence in role modeling: Insight and perspectives from the pros. *Can Med Assoc J* 2002;167:638-43.
- Davis MH, Dents JA. Comparison of student learning in the out-patient clinic and ward round. *Med Educ* 2009;28:208-12.

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