ORIGINAL ARTICLE

Experiences of Medical Teachers about Methods, Types, and Barriers of Giving Feedback

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Background: The aims of the research that formed the basis of the current study are as follows: 1- Determining methods that are used by teachers for giving feedback in clinical settings. 2- Determining types of feedback, teachers give to their students in clinical settings. 3- Determining barriers of giving feedback and its important teachers' experience in clinical settings.

Methods: This applied research was a cross-sectional study that involved 131 medical clinical teachers. Using resources in the library and on the web, we developed a questionnaire comprising two parts: the first part of the questionnaire focused on assessing the methods and types of giving feedback used by the participants (a total of 25 items); the second part focused on determining barriers that teachers experience when giving feedback in clinical setting (8 items). Responses to each question were on a Likert Scale. The validity of the questionnaire was determined using content validity index (CVI) measures, and was confirmed by 10 experts. Reliability was evaluated with Cronbach's alpha coefficient.

Results: Most of the teachers (57.49%) in this study reported giving oral feedback to students, 39.1% reported giving nonverbal feedback and a few of them (3.41%) gave written feedback. Participants allowed to nominate more than one type of feedback. Teachers reported many barriers to giving feedback to students, including lack of knowledge and skill about giving feedback, large numbers of students, lack of time, and fear of students' negative reaction to feedback. Also, concern about negatively impacting the relationship between students and teachers, and students feeling humiliated were considered moderately important.

Conclusions: In general results show that there is considerable capacity to improve the quality and extent of feedback given to health sciences students in clinical settings.

Key words: Feedback, Medical Education, Teacher, Students, Higher Education

تجارب استادان پزشکی در مورد شیوه ها، انواع و موانع ارایه بازخورد

مقدمه: اهدافی که این مطالعه به دنبال آن بود عبارتند از: ۱- تعیین شیوه های که توسط استادان برای ارایه بازخورد در آموزش بالینی بکار می رود. ۲- تعیین انواع بازخورد که استادان در آموزش بالینی به دانشجویان ارایه می کنند ۳- تعیین موانع ارایه بازخورد و اهمیت هر یک از موانع در آموزش بالینی

روش کار: در این مطالعه مقطعی ۱۳۱ نفر از اساتید بالینی بیمارستان های آموزشی شهر مشهد از طریق نمونه گیری سهمیه ای از گروه های مختلف بالینی انتخاب شدند. با استفاده از منابع کتابخانه ای و اینترنتی پرسشنامه ای دو قسمت طراحی شد. بخش اول پرسشنامه با ۲۵ گویه بر روی روش های ارایه بازخورد و انواع آن متمرکز بود و قسمت دوم با ۸ گویه موانع ارایه بازخورد و اهمیت هریک را بررسی می کرد. پاسخ به سوالات پرسشنامه بر اساس مقیاس لیکرت بود. روایی پرسشنامه بر اساس شاخص روایی محتوا اندازه گیری و مورد تایید ۱۰ نفر متخصص مرتبط بود. پایایی نیز بر اساس ضریب الفای کرونباخ تعیین شد.

نتایج: در این مطالعه اکثر اساتید (۵۷/۴۹٪) بازخوردها شفاهی، ۳۹/۱٪ آنان بازخورد غیر کلامی و ۳/۴۱ از آنان بازخوردها کتبی ارایه می کنند. اساتید می توانستند انواعی از ارایه بازخورد را انتخاب کنند. استادان موانع متعددی را برای ارایه بازخورد گزارش کردند؛ کمبود دانش و مهارت در ارایه بازخورد، زیاد بودن تعداد دانشجویان، کمبود وقت، و ترس از واکنش منفی دانشجویان را به عنوان مهمترین موانع ارائه بازخورد بیان کردند. همچنین نگرانی از به هم خوردن رابطه بین استاد و دانشجو و احساس کوچک شدن دانشجو دارای اهمیت متوسط بودند.

نتیجه‌گیری: نتایج نشان داد که ظرفیت قابل توجهی برای ارتقاء کیفیت و کمیت بازخوردهای ارایه شده به دانشجویان علوم پزشکی در آموزش بالینی وجود دارد.

کلمات کلیدی: بازخورد، آموزش بالینی، استادان پزشکی، دانشجویان پزشکی

تجارب اساتذه الطب بخصوص أساليب و انواع و عوائق تبيين و ردود الفعل

التمهيد و الهدف: إن الاهداف التي تسعى اليها هذه الدراسه كالتالي: ١- تعيين الاساليب التي يتم استخدامها من قبل الاساتذه لتبيين ردود الفعل في مجال التعليم السريري. ٢- تعيين اقسام ردود الفعل التي يتم تبيينها من قبل الاساتذه تجاه الطلاب في التعليم السريري. ٣- تعيين عوائق تبيين ردود الفعل و بيان اهمية كل مانع في التعليم السريري.

أسلوب العمل: في هذه الدراسه المقطعيه تم اختيار ١٣١ عدد من اساتذه التعليم السريري في المستشفيات التعليميه في مدينه مشهد بشكل مدروس من جميع الاقسام التعليميه. و تم تصميم استمارات من خلال استخدام مصادر المكتبه و الانترنت. انقسمت الاستماره الى قسمين الاول، اشتمل على ٢٥ عباره في مجال اساليب تبيين ردود الفعل و انواعها. و القسم الثاني احتوى على ٨ من عبارات تحتوى على موانع تبيين ردود الفعل و اهميه هذاالامر إن الاجابه على اسئله الإستماره كانت على اساس مقياس ليكرت. تم استخدام المعايير الإحصائيه في التثبت من جربه علميه و ايضا تم اخذ التاييد من ١٠ اساتذه معنيين.

النتائج: في هذه الدراسه تبين أن هناك ٥٧/٤٩٪ من الاساتذه يبينون ردود الفعل بشك شفوي، ٣٩/١٪ منهم يبين ردود الفعل بشكل غيركلامي و ٣/٤١٪ بشكل مكتوب. و كان هناك المجال في اختيار اسلوب ردود الفعل. اشار الاساتذه الى موانع تبيين ردود الفعل منها:- قله المعرفه و المهاره في تبيين ردود الفعل

- كثره عدد الطلاب – عدم وجود الوعت الكافي
- الخوف من وجود ردود فعل سلبيه من قبل الطلاب.
- و كان هناك عاملين ذو اهميه وسطى و هم
- انعدام الثقه بين الطلاب و الاستاد و الثاني شعورتحقير من قبل الطالب.

الاستنتاج: اشارت نتائج هذه الدراسه الى الإمكانيات الهائله في ارتقاء الكيفيه و الكميه في مجال تبيين ردود الفعل تجاه طلاب الطب في التعليم السريري.

كلمات المفتاح: ردود الفعل، التعليم السريري، اساتذه الطب، طلاب الطب.

میڈکل اسکول میں فیڈ بیک کے شیووں، قسموں اور ان کی راہ میں موجود رکاوٹوں کے سلسلے میں اساتذہ کے تجربے

بیک گراونڈ: اس تحقیق کا هدف ان شیووں کا تعین کرنا ہے جو اساتذہ کلینیکل تعلیم کے موقع پر فیڈ بیک کے لئے اپناتے ہیں۔ اس کا دوسرا هدف فیڈ بیک کی قسموں کا تعین ہے اورتیسرا هدف فیڈ بیک کے راستے میں موجود رکاوٹیں اور ان رکاوٹوں کا جائزہ۔

روش: اس تحقیق میں ایک کو اکتیس اساتذہ نے حصہ لیا جن کا تعلق مشہد مقدس کے اسپتالوں سے تھا۔ ایک سوالنامہ کتابوں اور انٹرنیت کی سائیٹوں کی مدد سے تیار کیا گیا تھا پچیس سوال فیڈ بیک کی اقسام اور انہیں پیش کرنے کی روشوں کے بارے میں تھے جبکہ آٹھ سوال فیڈ بیک کے راستے میں موجود رکاوٹوں کی بارے میں تھے۔ سوالنامہ لائیکرٹ اسکیل کے مطابق ترتیب دیا گیا تھا۔ اس سوالنامے کو کرونباخ آلفا کے ذریعے کے معتبر بنایا گیا تھا۔

نتیجے: اساتذہ نے فیڈ بیک کے سلسلے میں متعدد رکاوٹوں کا ذکر کیا ہے جس میں فیڈ بیک دینے میں علم و مہارت کی کمی، وقت کی کمی، اور طلباء کے منفی ردعمل کی طرف اشارہ کیا جاسکتا ہے۔ اسی کے ساتھ ساتھ اساتذہ نے استاد اور طلباء کے رابطوں کے خراب ہونے کا خدشتہ بھی رکاوٹوں میں شامل کیا ہے۔

سفارش: اس تحقیق سے پتہ چلتا ہے کہ کلینیکل تعلیم میں فیڈ بیک کے عمل کو بہتر بنانے کے لئے کافی گنجائیشیں موجود ہیں۔

کلمات کلیدی: فیڈ بیک، کلینیکل تعلیم، اساتذہ اور طلباء ۔

INTRODUCTION

The mission of medical faculties is to produce qualified physicians with the requisite knowledge, attitudes and skills [1]. To achieve this goal, clinical teaching is the cornerstone in medical education, because approximately 50% of our curriculum in Iran, as in other countries such as the United Kingdom (50% theory and 50% practice) is devoted to clinical studies [2]. Therefore, giving feedback in a clinical teaching plays an important role in developing medical skills and holistic approach, and medical teachers need to be aware of different types of feedback, methods, and barriers to giving quality feedback to maximize their students' learning.

All graduates of medical faculties must be able to apply what they have learned in the classroom to situations with patients in the workplace [3]. The results of many studies have shown that giving feedback can improve the teaching and learning process, but that poorly-given feedback may impede student learning [4].

In fact, giving feedback in such a way as to support student learning is an important teaching skill in medical education. It is an essential element of the educational process for classroom and especially clinical education. Giving feedback is emphasized in training, both in the past and the present, but rarely used [5].

The clinical educational environment is an interactive and complex network of factors that affect learning outcomes, including the development of knowledge, attitudes, psychomotor skills, problem solving, communication, and critical thinking [1]. In general, a combination of theoretical and practical training is possible in a clinical context. Most students believe that the best learning outcomes occur only in a clinical setting [6].

At present in medical sciences, the educational focus has shifted from acquiring knowledge to the achievement of learning outcomes. Therefore, preparing graduates to be able to connect with patients and manage their health needs is a basic step [7]. Failure to provide proper feedback may lead to serious mishandling of patients' health issues [8]. Giving feedback becomes more important when a medical student does not interact well with patients and he or she is not aware of this. This situation is likely to affect patient outcomes in both the present and the future [9].

Providing quality feedback is one of the essential elements of the educational process that can help students to achieve their full potential. Feedback empowers students to achieve the objectives of their courses, by strengthening the proper function and providing solutions for certain situation. Feedback links the training and assessment roles of teachers and demonstrates their commitment to students [10].

Quality feedback also reinforces successful learning, identifying errors and correcting students' misunderstandings. Quality feedback also provides information for teachers that allows them to reflect on and improve the quality of their teaching practices, by highlighting areas that students have not fully understood [11].

The importance of quality feedback has always been recognized, but over the years, questions about types of feedback, methods used and the barriers to giving quality feedback have surfaced and need to be considered. In spite of its importance, the process of giving feedback in clinical settings, its complexity and variables have not been widely examined in the research. Furthermore, there are few studies about the type and methods of giving feedback in clinical settings [12] and this is probably the first study in this field in particular in Iran.

The research questions that formed the basis of this study are as follows:

1. What methods are used by teachers for giving feedback in clinical settings?
2. What types of feedback do teachers give to their students in clinical settings?
3. What barriers to the giving of quality feedback do teachers' experience in clinical settings?

METHODS

This applied research was a cross-sectional study that involved 131 medical clinical teachers as subjects. The sample was developed using stratified probability sampling of the 427 faculty members in the Medical School of Mashhad University of Medical Sciences, Mashhad, Iran. Inclusion criteria for teachers included: being responsible for clinical education and having at least a six-month clinical experiences. Teachers who did not complete the questionnaires correctly were excluded from the study.

First of all, by the use of the Quota method, the number of participants in different clinical departments was determined. The main sample size with considering of the 20% loss of participants, 131 were applied. All of the 131 teachers approached to participate in the study agreed to do so. Participation consisted of filling in a questionnaire on how participants used feedback in clinical settings and perceived barriers to giving effective feedback.

Using resources in the library and on the web, we developed a questionnaire comprising two parts: the first part of the questionnaire focused on assessing the methods and types of giving feedback used by participants (a total of 25 items); the second part focused on determining barriers teachers experience when giving feedback in a clinical setting (8 items). At the beginning of the questionnaire, participants were asked to provide some demographic information.

Demographic information consisting of gender, age, marital status, educational level, academic status, and clinical teaching history was also collected in the questionnaire.

Questions focusing on the experience of teachers regard to methods of giving feedback and its types were categorized into four domains: types of feedback, methods, time, and place of giving feedback. Responses to each question were on a Rating Scale with five options "always, often, sometimes, rarely or never".

In section of the questionnaire focusing on barriers to giving feedback, participants were asked to nominate how important each barrier to feedback was for them, on a five-point Likert scale of "Very important" etc. Potential barriers for inclusion in the items were identified from the extant research literature.

Questionnaires were completed in the presence of the researcher (MF) and if needed more information provided to participants.

The validity of the questionnaire was determined using content validity index (CVI) measures, and was confirmed by 10 experts. Items having a CVI of more than 0.8 were kept in final questionnaire. Reliability was evaluated with Cronbach's

alpha coefficient. The reliability coefficient was 0.86, and its internal validity of the factors was 0.8.

After completing the questionnaire, coded data analyzed by SPSS in this study, descriptive and inferential statistics were used as follows:

In order to describe demographic data, descriptive statistics such as percentage, mean and standard deviation were used.

Ethics: All participants were given oral and written information about the study, after which they chose whether or not to participate. Participants were informed that participation in this study was completely voluntary, and their data would be used anonymously and in aggregate. The Ethics Committee of the Mashhad University of Medical Sciences reviewed and approved the study (letter no: 930654, date: 2015). The data collected was analysed by SPSS version 16.5.

RESULTS

There were 131 clinical teachers in this study, 58 (44%) male and 73 (56%) female, 124 (95%) married, 6 (4.5%) single and one had not responded to this question. The academic profile of the sample is outlined in Table1.

Types and methods of feedback provided: Most of the teachers (57.49%) in this study reported giving oral feedback to students, 39.1% reported giving nonverbal feedback and a few of them (3.41%) give written feedback. Participants allowed to nominate more than one type of feedback.

Participants' reports about the types, methods, times and

Table 1. Academic position of participants

Position	Number and percent
assistant professor	84 (64%)
associate professor	36 (27.5%)
professor	11 (8.5%)

Table 2. Teachers responses about the nature of the feedback they give

Items	Never	Rarely	Sometimes	Always
1. Before giving feedback, I invite students to self-assess	13 (10.1%)	47 (36.4%)	48 (37.2%)	21 (16.3%)
2. I let students discover their own strengths and weaknesses.	10 (7.7%)	35 (26.9%)	64 (49.2%)	21 (16.3%)
3. I focus on student behavior when giving feedback.	2 (1.6%)	25 (19.4%)	76 (58.9%)	26 (20.2%)
4. If needed, I relate my feedback to the objectives of the training course.	9 (7%)	39 (30.2%)	63 (48.8%)	18 (14%)
5. I try to provide feedback without prejudice to students and avoid questioning his or her personality.	1 (0.8%)	7 (5.3%)	38 (29%)	85 (64.9%)
6. I give feedback clearly.	2 (1.6%)	9 (7%)	64 (49.6%)	54 (41.9%)
7. I give feedback based on my findings and observations about students.	7 (5%)	15 (11.8%)	68 (51.9%)	41 (31%)
8. I do not humiliate students when giving feedback.	2 (1.6%)	3 (2.43%)	38 (29.5%)	86 (66.7%)
9. I start my feedback by presenting positive aspects of students' performance.	0 (0%)	15 (11.7%)	81 (63.3%)	32 (25%)
10. I focus on students' weaknesses in my feedback.	14 (11%)	19 (14.8%)	73 (57%)	22 (17.4%)
11. I focus on students' strengths in my feedback.	1 (0.8%)	26 (20.3%)	69 (53.9%)	32 (25%)
12. I avoid giving multiple types of feedback at same time.	10 (7.8%)	38 (29.9%)	59 (46.5%)	20 (15.7%)
13. I focus on my expression when giving feedback.	1 (0.8%)	18 (14.1%)	71 (55.5%)	38 (29.7%)
14. I encourage students to ask me to give them feedback about their performance.	22 (17.1%)	43 (33.3%)	45 (34.9%)	19 (14.7%)
15. I give written notes for further guidance of students.	63 (49.6%)	39 (30.7%)	19 (15%)	6 (4.7%)
16. I make sure that students have received my feedback.	15 (12%)	43 (34.4%)	55 (44%)	12 (9.6%)
17. I support the students after giving feedback.	4 (3.1%)	19 (14.8%)	78 (60.9%)	27 (21.1%)
18. When I give negative feedback to students, I help them to understand that is useful and constructive.	1 (0.8%)	19 (15%)	72 (56.7%)	35 (27.6%)
19. I pay attention to student reactions to my feedback.	2 (1.6%)	13 (10.2%)	75 (58.6%)	38 (29.7%)
20. I let students express their dissatisfaction about my feedback.	8 (6.3%)	38 (29.7%)	54 (42.2%)	28 (21.9%)
21. I follow the effects of my feedback at the appropriate time.	9 (7%)	46 (35.9%)	55 (43%)	18 (14.1%)
22. I was faced with the negative reaction of the students after giving feedback.	74 (56.9%)	35 (26.9%)	16 (12.3%)	5 (3.8%)
23. I minimize the time between observed performance and giving feedback.	3 (2.4%)	41 (32.3%)	66 (52%)	17 (13.4%)
24. I give feedback to students away from the patient and other people.	4 (3.1%)	11 (8.5%)	58 (45%)	56 (43.4%)
25. I give feedback in a private environment.	10 (7.8%)	12 (9.4%)	60 (46.9%)	46 (35.9%)

places of giving feedback and the importance of each item are summarized in Table 2.

Reported barriers to feedback: Teachers reported many barriers to giving feedback to students. Based on their experiences, lack of time and large numbers of students were very important barriers. Concern about negatively impacting the relationship between students and teachers, and students feeling humiliated were considered moderately important. Finally, inadequate training of teachers in giving accurate feedback and the unwillingness of students to receive negative feedback were seen as the least important barriers to giving feedback. These barriers are summarized in Table 3.

DISCUSSION

Overall, the findings showed that giving all types of feedback to students in clinical settings could be improved, in particular the provision of written feedback. Teachers in clinical settings were aware of the importance of giving feedback, but are constrained by a number of barriers. It seems that lack of knowledge is a very important barrier to give feedback. Teachers also reported concerns about the consequences of their feedback to students (Table 3). But, similar to other studies in the field, most of the teachers in our study gave feedback.

McIlwrick et al. (2006) have confirmed this point and reported the following: "Ask a psychiatrist if she provides performance feedback to students, and she might reply, 'Sure it is important. I do it all the time'. Ask a resident for her opinion on performance feedback, and you may hear, 'I rarely receive feedback myself, but I always tell the MED students how they are doing'. Ask a medical student if he receives feedback on his performance and he may say, 'No one says very much . . . and when they do, it does not really help me' ". Many times, if you ask the experts if they provide feedback to students about their performance, the answer is, "Of course, I always do this important work" [13].

According to findings of their study, 41.2% of teachers reported that they mostly give feedback. This discrepancy between the amount of feedback that clinical teachers say they provide, and the amount of feedback health students report having received, needs to be the focus of research that highlights underlying reasons for the phenomenon.

In our study, teachers reported that most of the feedback they provided was verbal, sometimes non-verbal and rarely written (Table 2). These results were consistent with the results of the Tayebi et al. study. According to their findings, verbal feedback is the most commonly used. Written feedback was used rarely in clinical training [14]. It may be that the reason for this is that this type of feedback requires more time, given that lack of time was the most important barrier to giving feedback identified by participants in our study.

However, more research is needed to discern which type of feedback is most effective in clinical settings. Elder and Brooks' research with nursing students found no differences in effectiveness between simple and more detailed feedback [15]. It is also not clear whether verbal or written feedback is most effective in supporting student learning in clinical settings.

The results of our study show that teachers in clinical settings take into account a number of principles of good practice when giving feedback. For example, they encourage students to self-evaluate, give feedback in an environment away from patients and their family, and they respect the personality of their students (Table 2). The study of Emmerson, et al. emphasized that feedback must be understood as a helping tool and that students need to feel that they are respected, and teacher behaviours reported in this study suggest that clinical educators are following practices that support respect for the student [16]. Weinstein also argues that feedback should not to be used as a form of evaluation for the course [9]. Their study found that teachers hold strong concerns about the negative outcomes of the feedback which lead them to be very careful about giving feedback. This is a hidden barrier to give feedback. This finding was also confirmed by the results of this study.

Hattie and Timperley (2007) believe that immediate and delayed feedback has different effects on students' learning. If students receive immediate feedback, it supports them change their behavior rapidly, but delayed feedback enables students to reflect and engage in comprehensive self-evaluation [17].

In relation to the barriers of giving feedback in clinical settings, participants in this study emphasised two factors as most important: lack of time and large numbers of students

Table 3. Teacher responses about the barriers to giving feedback to students

	Barriers to giving feedback by teachers	Less important	Moderately important	Very important
1.	Lack of time for teachers	15 (15.2%)	22 (22.2%)	62 (62.6%)
2.	A large number of students	7 (7.3%)	35 (36.5%)	54 (56.2%)
3.	Worry about the negative reaction of students	29 (54.7%)	15 (28.3%)	9 (17%)
4.	Worry about students feeling humiliated	23 (37.1%)	32 (51.6%)	7 (11.3%)
5.	Worry about destroying the relationship between students and teachers	25 (43.1%)	29 (50%)	4 (6.9%)
6.	Inadequate training of teachers about giving accurate feedback	28 (31.5%)	36 (40.4%)	25 (28.1%)
7.	Unwillingness of students to receive negative feedback	34 (43.6%)	32 (41%)	12 (15.4%)
8.	Lack of knowledge about methods of giving feedback	37 (43%)	22 (25.6%)	27 (31.4%)

(Table 3). These are common problems and many researchers have also reported them [18-19]. Finding solutions for these problems, needs greater attention from researchers, managers and teachers, and may require universities to provide additional resources for courses involving clinical education.

In addition to the barriers of time and resources, McKimm also identified obstacles such as: fear of damaging relations between students and teachers, fear of a negative effect more than a positive effect on the student, the student being defensive to criticism, too generalized feedback that does not guide the student to correct the behavior, contradictory feedback from various sources, and lack of respect for students from the source of feedback [20-21]. Teachers in our study reported most of these barriers, but believed lack of time and large numbers of students were the most important barriers.

In regards to the question "I avoid giving multiple feedbacks on the one occasion" 43.5% of participants answered they did not consider this when giving feedback (Table 2). However, research suggests that to be most effective in changing student behavior and building knowledge, feedback should be limited and contain a small amount of information behaviors [22]. This suggests a need for further building the knowledge of clinical educators to ensure that they provide small amounts of actionable feedback on any one occasion for their students.

Our study also found that 85% of teachers believed they always avoid prejudices about students and 53.5% believed that their feedback is often based on their observations (Table 2). These findings align with those of Bienstock et al. (2007). Bienstock et al argue that feedback should be specific, based on the observed behavior of learner, non-judgmental and non-prejudiced. As Bienstock et al reported, teachers in our study believed that feedback should be comprehensive, should be based on direct observation of behavior and be provided as soon as possible after the observation. In addition feedback should be constructive, so as to increase the quality of students' performance [23].

Participants in this study were experienced and knowledgeable. Moreover, this study only focused on the understanding and experiences of Iranian teachers; conducting further studies in other countries is needed to expand this body of knowledge.

In general, results show that there is considerable capacity to improve the quality and extent of feedback given to health sciences students in clinical settings. The provision of professional learning for teachers in clinical settings on how and when to provide effective feedback would appear to be a first necessary step to increase the quality of feedback and improve student learning.

The results of this study are useful for clinical teachers in all branches of medical science to support them in giving feedback to students in an effective way that maximizes student learning outcomes and competence.

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