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Attributes of an Effective Clinical Teacher: a Survey on Students' and Teachers' Perceptions

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ABSTRACT

Objective: To identify the attributes of effective clinical teacher, using a self-filled survey questionnaire, that students and faculty value most, and to compare the opinion of student and faculty regarding the same.

Study Design: Cross-sectional study.

Place and Duration of Study: The Aga Khan University Hospital (AKUH), Karachi from October 2006 to January 2007.

Subject and Methods: Clinical faculty at AKUH and students in clinical years were included in this survey after taking their written informed consent. Data were collected through a structured questionnaire administered to all participants. Responses were compared.

Results: A total of 119 students in clinical years (3, 4 and 5) and 89 faculties involved in clinical teaching responded to the questionnaire. The most important attributes in faculty's and students' perspective were knowledge, interest in teaching and clinical competency. In students and faculty perspective, the fourth and fifth attributes were good communication skills and being non-judgmental.

Conclusion: Students in clinical years and clinical teachers valued knowledge, interest in teaching and clinical competency as the most important attributes for an effective clinical teacher. There were various areas of agreement and disagreement between faculty and students about attributes of effective clinical teacher.

Key words: *Effective clinical teacher. Education. Attributes.*

INTRODUCTION

To improve the quality of education and effectiveness of educator in medical college, one must identify the best clinical teacher who should be enthusiastic, being well-organized and adopt interactive teaching with students.¹ The attributes that makes a clinical teacher effective need to be explored so that medical graduates may have a better patient approach and management of clinical problems in real life practice. It is very difficult to state the minimum attributes that are essential to become an effective teacher but depending on the level of student and teaching environment, a good teacher ideally completes an alignment of the level of behaviour, competencies, beliefs and professional identity.²

Students are self-directed learners and teacher acts as facilitator, responsible to set a positive climate for learning, clarifying the purpose of the learner, organizing and making available learning resources, balancing

intellectual and emotional component of learning. Clinical teaching in all aspects nurtures a student to develop knowledge, skills and desired attitude for better patient care. Researchers have identified that the best clinical teachers are described as enthusiastic, having clarity, well-organized approach and adaptability to an interactive style with the students.³⁻⁴

Attributes of an effective teacher/facilitator as described in literature are: critical and reflective thinker, problem solver, self-directed lifelong learner, competent integrated (updated knowledge and skills), of good communication skills, honest, ready to respect perspective and values of subject, easily accessible, non-threatening, intrinsically motivated, committed, having creativity and flexibility, of good managerial and administrative skills, role model and leadership skills, open to new ideas, work productively with others, organize and uses time effectively, develop capacity to make informed ethical choices, does research and evidence-based practice and who gives timely feedback, providing compassionate, ethically, culturally best possible care with honesty and empathy.

Globally, there is a need to create a more competency-based medical education system and academic medical centers increasingly allowing the quality of teaching when determining the academic rank of their faculty.⁵⁻⁷

The primary objective of this study was to identify which teaching attributes of faculty and students of clinical

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years believe are most important for effective teaching, which attributes are least important. Secondary objective was to compare the opinion of faculty and students to determine if they differ, with regard to which attributes are most important for effective teaching.

SUBJECTS AND METHODS

This cross-sectional study was conducted at the Aga Khan University Hospital (AKUH), a tertiary care teaching hospital in Karachi, Pakistan, over a period of 4 months; from October 2006 to January 2007.

Clinical faculty of AKUH Medical College and students in clinical years (3, 4 and 5) were eligible to participate in this survey. Those who did not give written informed consent were excluded from the study.

Survey instrument was a list of characteristics/attributes of effective clinical teacher, ranking the attributes from 1-13 according to priority sequence that were valued most in a clinical teacher (1 being the most important and 13 being the least). They included knowledge based (engaged in continuing medical education), clinically competent (competent in patient management issues), interest in teaching (shows enthusiasm and positive attitude), non-judgmental (provides non-threatening environment), good communication skills with patients, students and other staff members; give useful and timely feedback (encourages two-way communication), well prepared for tutorials, lectures, ward rounds, clinics, and presentations); availability, organizational skills and good time management, scholarly activity (active in research), practices evidence-based medicine, role model (achieves a healthy balance between professional/personal/ spiritual/ physical life) and extent of interactive teaching employed.

Data were collected using a structured questionnaire. From the characteristics identified in the literature as being potentially important, a list of above 13 attributes of effective clinical teachers was compiled. This list was reviewed by Educational Development and Research Committee of Department of Family Medicine, the Aga Khan University Hospital, and agreed on via several brain storming sessions with both faculty and students in this program along with focus group discussions with students as well as with faculty. The survey questionnaire was then distributed to students of all clinical years and faculty of the teaching hospital. Respondents were asked to rank the attributes from 1 to 13; 1 being the most important and 13 being the least important attributes.

Data were analyzed using Statistical Package for Social Sciences (SPSS). Descriptive statistics were computed to present distribution of study participants by gender, student's year of medical school and faculty duration of experience in years. Median ranks were computed to report effective teacher attributes identified in terms of

importance separately by faculty and students. The Mann-Whitney U-test for ordinal data was used to test possible differences among faculty and student rankings for effective teacher attributes, as well as faculty rankings among those with ≤ 5 or > 5 years of experience. Similarly, the Kruskal Wallis test was used to test differences between rankings assigned by students in the year 3, 4 and 5 of medical school. Responses between the above-mentioned comparison groups were considered to be significantly different when α was < 0.05 . For attributes found to be significantly different on comparison with the Kruskal Wallis test among the three years of medical school, Mann-Whitney U-test was applied to test differences between years 3-4, 4-5 and 3-5.

RESULTS

A total of 119 students of clinical years (3, 4 and 5) and 89 teachers of clinical years returned their completed survey. The response rate for students was 119/253 (59%), and response rate for faculty was 89/160 (55%). Among the 89 faculty who responded, 60.7% were males while among the students 46.2% of the respondents were males. Faculty having > 5 years of experience were 56.2%. The distribution of students in the years 3, 4 and 5 of medical school was 34.5%, 44.5% and 21.0% respectively.

Overall, the most important effective teacher attribute was interest in teaching' with a median rank of 2. This was followed by 'knowledge' and 'clinical competency' both with a median rank of 3 (Table I). In teachers' perspective, the most important attributes were 'knowledge', 'interest in teaching' and 'clinical competency', each with a median rank of 3. These were followed by 'good communication skills' - median rank of 4. Three least important attributes were 'organizational skills' and 'practice evidence-based medicine' with median rank 10 and 'scholarly activity' with median rank 11 (Table II).

Table I: Overall ranking of effective teacher attributes by most important to least important (n=208).

Most important attributes	Median rank
Interest in teaching	2
Knowledge	3
Clinical competency	3
Non-judgmental	5
Good communication skills	5
Prepared	7
Interactive teaching	7
Good feedback	8
Availability	8
Role model	8
Organizational skills	10
Scholarly activity	11
Practices evidence-based medicine	11

Lowest median rank is most important

Table II: Comparison of effective teacher attributes by faculty and students.

Attributes	Faculty n=89	Student n=119	p-value*
	Median rank	Median rank	
Knowledge	3	4	0.01
Clinical competency	3	4	<0.01
Interest in teaching	3	2	0.63
Good communication skills	4	5	0.62
Non-judgmental	5	5	0.63
Good feedback	7	8	0.03
Prepared	7	7	0.67
Availability	8	8	0.06
Role model	8	7	0.09
Interactive teaching	8	7	0.05
Organizational skills	10	9	0.01
Practices EBM†	10	11	<0.01
Scholarly activity	11	12	0.14

* Mann-Whitney U-test, † Evidence-based medicine

In students' perspective, the most important attributes were 'interest in teaching' with median rank 2, followed by 'knowledge' and 'clinical competency' each with a median rank of 4. Least important attributes identified by students were 'scholarly activity' – 12, 'practices evidence-based medicine' – 11, and 'organizational skills' with median rank 9. Table II displays the data comparing students and faculty ranking of attributes. The students and faculty differed significantly in their rankings for attributes, 'clinical competency', 'knowledge', 'good feedback', 'organizational skills' and 'practices evidence-based medicine' where faculty gave more importance than the students to the former three attributes and less to the latter two. The remaining attributes had similar or not significantly different rankings assigned by students and faculty.

Faculty with at least 5 years of experience gave the most importance to 'interest in teaching', 'knowledge', 'clinical competency' and 'good communication skills' while those with less than 5 years of experience gave most importance in the following order, 'knowledge', 'interest in teaching', 'clinical competency' and 'good communication skills'. The differences, however, were not statistically significant (Table III). Faculty rankings differed significantly regarding 'interactive teaching' which was given more importance by faculty with less than 5 years of experience.

Analysis of responses in order of importance by year of education revealed some differences. Students in year 3 gave more importance to 'clinical competency' compared to students of year 4, while 'practices evidence-based medicine' was more important as perceived by year 5 students compared to those in year 3 (Table IV). The differences in assigned ranks for other attributes were not significant.

Table III: Comparison of effective teacher attributes by years of faculty experience.

Attributes	At least 5 years of experience n=39	More than 5 years of experience n=50	p-value*
	Median rank	Median rank	
Interest in teaching	2	3	0.07
Knowledge	3	2.5	0.86
Clinical competency	3	3	0.57
Good communication skills	4	5	0.24
Non-judgmental	5	6	0.16
Good feedback	7	8	0.35
Prepared	7	7	0.82
Availability	8	8.5	0.90
Role model	9	7	0.08
Interactive teaching	9	7	0.02
Organizational skills	10	11	0.67
Scholarly activity	11	11	0.24
Practices EBM†	11	10	0.29

* Mann-Whitney U-test, † Evidence-based medicine

Table IV: Comparison of effective teacher attributes among students by year of medical school.

Attributes	Year 3 n=41	Year 4 n=53	Year 5 n=25	p-value*
	Median rank	Median rank	Median rank	
Interest in teaching	3	2	2	0.42
Clinical competency‡	3 ¹	5 ²	4	0.02
Interactive teaching	3	6	7	0.10
Knowledge	4	4	3	0.74
Good communication skills	4	5	5	0.15
Non-judgmental	5	6	4	0.10
Prepared	7	7	6	0.77
Availability	7	7	9	0.52
Good feedback	8	8	8	0.94
Role model	9	6	7	0.05
Organizational skills	9	9	10	0.06
Scholarly activity	11	12	12	0.50
Practices EBM†‡	12 ²	11	11 ¹	0.01

* Kruskal Wallis Test, † Evidence-based medicine.

‡ Rankings with superscript¹ were significantly higher than those with superscript² on Mann-Whitney U-test (p < 0.05).

DISCUSSION

Teaching and learning in medicine is a continuous process which starts formally at medical school and continues during internship followed by training in the particular specialty chosen by the doctors. Throughout their careers, doctors keep themselves up-to-date through continuous professional development. This means that medical education continuously evolves reflecting the latest developments in modern medicine and students are future facilitators as described by Irby for clinical teachers.⁶ In the modern era, students are self-directed learners and the teachers are responsible to set a positive climate for learning as discussed in literature regarding new ideas and perception about clinical teaching.^{8,9}

In this study, the student population comprised 55 (46.2%) males and 64 (53.8%) females. There were

about 253 students in all three clinical years at AKU medical college, the response rate was 119/253 (50%). Among clinical faculty, 160 questionnaire forms were distributed with a resulting response rate of 55%. Out of 89 faculties who responded, 54 were males and 35 females.

A total of 39 faculty members had experience in clinical teaching of at least 5 years while rest of them had more than 5 years experience in teaching. Students and faculty agreed that knowledge, interest in teaching and clinical competence were among the most important attributes of an effective clinical teacher (Table I). There were also agreements that better educators were those who had effective and good communication skills.

Both groups also felt strongly that scholarly activities, good organizational skills and practicing evidence-based medicine had little importance in defining an effective clinical educator. Tamara described the three top most attributes of an effective clinical teacher as 'clinical competence', 'non-judgmental' and 'role model', in a study that identified the attributes valued most by residents and faculty.¹⁰ In this study, both groups felt interest in teaching, knowledge along with clinical competency was required to become effective clinical teacher.

This study demonstrated that the views held by the Pakistani students and faculty were somewhat different (Table II).

Both groups felt that it was important for a quality educator to become non-judgmental providing a safe learning environment. Students felt 'interest in teaching' was a more valuable attribute compared to faculty whereas faculty thought knowledge and clinical competency were the top most attributes compared to students. It was also very interesting to note that though the students were in different clinical years, they mostly held similar views regarding interest in teaching.

This study showed that faculty having less than 5 years clinical teaching experience expressed that good communication skills was the fourth important attribute after interest in teaching, clinical competence and knowledge (Table III), while those who had teaching experience of more than 5 years stressed that interactive teaching, being well prepared and a role model was the fifth important attribute for an effective clinical teacher. Good communication with trainees, patients and colleagues defines teaching excellence.

The analysis of clinical teaching and clinical practice demonstrated that they were closely linked. Tang demonstrated students' perception of effective and ineffective clinical teacher in school of nursing. They found that teachers strive to improve their attitude towards students as the best way to achieve the goals of clinical teaching.¹¹ Attributes of effective clinical teacher pointed out by the medical students were more or less same as described in literature.

To promote excellence in medical teaching, medical students and faculty did agree upon few attributes. The medical students in clinical years felt that acting as a role model and organizational skills were important attribute compared to faculty. Clinicians can 'teach' collaboration by acting as role models and by encouraging learners to understand the responsibilities of other health professionals. As managers, clinicians can apply their skills to the effective management of learning resources.¹²

There were some disagreements among the students too. Year 3 students ranked interest in teaching, clinical competency and interactive teaching in the order of importance. Year 5 students ranked knowledge as the second most important attribute after interest in teaching, clinical competency and non-judgmental as the third attributes of effective clinical teacher. Year 4 students thought role model worth emulating was important compared to other students (Table IV).

The importance of teaching conversation and learning in the context of clinical education is well-described in literature. In this study, students in year 3 felt that good communication skills was an important attribute compared to year 4 and 5, a factor, stressed by previous authors, that is essential to promote excellence in medical teaching.^{12,13}

Interest in teaching was universally marked as most important attribute of an effective clinical teacher by all clinical year students. Year 3 students gave more importance to interactive teaching as third important attribute after interest in teaching and clinical competency, while year 4 and 5 students stressed more on knowledge and clinical competency as second most important attribute respectively. Year 5 students were not very keen about interactive teaching compared to year 3 and 4 (Table IV). These findings are generally in keeping with a previous study on faculty and students' perception of effective clinical teacher where both groups valued skills, knowledge, and fair feedback the most important attributes of a clinical teacher.¹⁴ Authors have discussed the art and science of becoming a successful teacher.^{15,16}

Utilizing the literature search and comparing the study result we can streamline the clinical teaching as we know better teaching should translate into better learning by students who may turn out to be future educators in their own right. This, however, should translate into better care for patients. It is important, therefore, to identify characteristics that define qualities essential to be an effective educator.

The inadequate response rate among both faculty and students presented a potential limitation of the study, however, it essentially did capture the views of both the groups at the university fairly well. Understanding and interpretation of terminology described in survey questionnaire might be different at different levels.

Further studies are required to look at the areas of disagreement and factors responsible for excellence in teaching should be promoted.

CONCLUSION

Students in clinical years and clinical teachers value knowledge, interest in teaching and clinical competency as the most important attributes for an effective clinical teacher. It is very difficult to state the minimum attributes, which are essential to become an effective teacher.

These agreement areas can serve as the beginning of a list of attributes that might be used to define competence for clinical educator. The areas of disagreement will require further study. The attributes that promote the development of competence among learner needs to be encouraged.

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