Assessment of third and final year clinical medicine course at a Saudi university college of medicine: Analyzing medical students perspectives

Dr. Khalid W Al Quliti. MD

Chairman, Department of Medicine
Assistant professor and consultant of Neurology
College of Medicine, Taibah University
Consultant Neurology, National guard hospital-Madinah
Mobile: +966582425777
Madinah Munawarah, Kingdom of Saudi Arabia
Email: kh_alquliti@yahoo.com

Abstract: Background/Objective: Measuring students' evaluation and satisfaction of their medical education may identify areas of strength and weakness. Since the introduction in 2005 of the The National Commission for Assessment and Academic Accreditation (NCAAA) in Saudi Arabia, no published literature can be found on students' evaluation of their Medicine courses. This study sought to obtain medical students' perception of these clinical courses and to identify areas of strengths and weaknesses using the NCAAA questionnaire. **Methods**: This cross-sectional study was conducted on third (3rd y.) and fifth year (5th y.) medical students at Taibah University in Madina, Saudi Arabia, at the end of the course during the second semester of the 2010/11 academic year. Data were collected through a self-administered, structured questionnaire developed by NCAAA for the purpose of academic accreditation. Evaluation standards addressed course content, learning methods, learning resources, examinations, assignments, teaching staff, and overall satisfaction, and provided a total score. **Results:** Out of 237 students, 207 (95 3rd y. and 112 5th y.) responded to the questionnaire (87.3%). Total scores were 3.3 for 3rd y. students and 3.0 for 5th y.; satisfaction scores totaled 3.4 for 3rd y. and 3.0 for 5th y. students. All standards scored "good", except for course content and faculty members, which scored "very good" by 3rd y. students. The lowest scores (<3) were given to learning resources (2.9 for the 3rd y. and 2.8 for the 5th y.) and examinations and assignments (2.9 for the 3rd y. and for the 5th y.). In almost all tested standards, 3rd y. students scored higher than 5th y.; satisfaction scores were the highest at 51.81% vs. 37.14%. **Conclusion:** Medicine courses for 3rd y. and 5th y. medical students were equally received as "good" with small differences. Further research is required to identify how to improve course education and satisfaction.

[Khalid W Al Quliti. **Assessment of third and final year clinical medicine course at a Saudi university college of medicine: Analyzing medical students perspectives.** *J Am Sci* 2015;11(1):47-52]. (ISSN: 1545-1003). http://www.jofamericanscience.org. 7

Key Words: Course of Medicine, NCAAA, Medical education, Saudi Arabia.

Introduction

Many methods to evaluate medical education courses are available, but all have their limitations. The most common and useful method is students' own evaluations and ratings, which can provide quantifiable data if extracted through validated reliable methods (1-4). These data are very helpful in providing formative feedback to facilitate improved teaching and course development, and effectively promote changes in faculty behavior (1). In one study, researchers found that student assessment was an important tool in assessing the value of a course , and this association strengthened over time (5). Improving the quality of teaching programs can impact the quality of current and future health care delivery, which depends mainly on the quality of medical graduates (6-9). To maintain high quality teaching programs, feedback from students and faculty self-evaluation are recognized as the most important mechanism for enhancing performance and identifying areas of weaknesses and strengths (10-13).

Because of different learning objectives, the two "Medicine" courses are different in content but are given by the same department of medicine. The 3rd y. course includes introductory lectures and bedside teaching sessions, while the 5th y. course includes, in addition, interactive tutorial sessions, and ward and emergency room duties. Throughout both courses, numerous assessments were performed through written quizzes — best-of-five multiple choice questions (MCQ) exams and weekly objective structured clinical exams (OSCE). For the 5th y. assessment, additional marks were allocated to presentation of tutorials and morning reports. Both courses have midterm and final exams including written best-of-five MCQ exams and OSCE. To evaluate courses effectively, there should be a scientifically sound and practical feasible method to yield reliable and valid data (14, 15).

The National Commission for Assessment and Academic Accreditation (NCAAA), approved by the Council for Higher Education, adopted internationally accepted standards of good practice. The NCAAA has developed a comprehensive quality assurance and accreditation system that has benefited from international experience while keeping local characteristics. NCAAA considers a course evaluation survey a part of the evaluation of students' learning and teaching (16-18). However, since the introduction of the NCAAA in 2005 in Saudi Arabia, no published literature can be found on students' evaluation of their Medicine course. Therefore, the objective of this study was to obtain medical students' perception of their Medicine clinical courses and to identify areas of strengths and weaknesses using the NCAAA questionnaire.

Methods

This cross-sectional study was conducted at Taibah University College of Medicine, Madina, Saudi Arabia, in the 2010/11 academic year with approval from the dean of quality assurance. Third and fifth year medical students were asked to participate in this study. After completion of the course and after the final exam was administered students were asked to answer a questionnaire about the course without any obligation on their part. The questionnaires were distributed to students in their examination classes at the end of the written exam. They were familiar with the questionnaire, since they have completed other NCAAA post-course surveys. They were given sufficient time to respond to the questionnaire. Each class group was supervised by two independent faculty members (who were not involved in teaching the course). Confidentiality was ensured throughout the study.

The previously validated self-administered structured questionnaire of the Student Assessment of Teaching Quality, developed by the NCAAA in Arabic for the purpose of academic assessment, was used without making any changes. It consists of six areas with 33 items; respondents were required to rate their agreement or disagreement on each statement by choosing one of the following responses: Strongly Agree (1), Agree (2), Not sure (3) Disagree (4) or Strongly Disagree (5). Students were asked to evaluate course content (six items), learning methods (eight items), learning resources (seven items), examination tests and assignments (six items), teaching staff (six items) and overall satisfaction (one item).

Statistics

Statistical analysis and figures were generated using Microsoft Office Excel 2007. Proportions were used to summarize the characteristics of the respondents because the data consisted of categorical variables. Mean scores were calculated for each item and were used for rating: poor (1:1.5, one star and needs to be changed); intermediate (1.6:2.5, two stars and requires changes and development), good (2.6:3.5, three stars and needs to be developed), very good (3.6:4.5, four stars and development should continue) and excellent scores (4.6: 5, five stars and no changes necessary). The overall course score was calculated by finding the mean of the scores of the six standards.

Results

The questionnaire was distributed to 237 students and 207 responded (95 from 3rd y. and 112 from 5th y.), with response rates of 87.3%. A high percentage of students answered all questions (95.7% for 3rd y. and 92.2% for 5th y.). Overall Medicine course assessment total scores were 3.3 for the 3rd y. and 3.0 for the 5th y. with similar scores of satisfaction (3.4 for the 3rd y. and 3.0 for the 5th y.) (Figure 1). This means both courses are good but need more improvement. The course content assessed as "very good" (3.6) by 3rd y. students included many high scoring standards ($\geqslant$3.6) (Table 1). For 5th y., the total course content score was "good" (3.2), with only one standard scored "high". Faculty members were scored "very good" (3.6) by 3rd y. students only (Table 5). Otherwise, all remaining standards scored "good", (Tables 2-5); in almost all tested standards, 3rd y. students scored higher than 5th y. Third year students scored higher than 5th y. with higher satisfaction scores (51.81% vs. 37.14%). Moreover, a higher frequency of dissatisfaction was reported by 5th y. students (35.24% vs. 16.87%) (Table 6). The lowest scores (<3) were given to learning resources (2.9 for the 3rd y. and 2.8 for 5th y.) and examinations and assignments (2.9 for both years). No single standard was given a poor or excellent score.

Discussion

This study showed that our medical students valued both Medicine courses as equally "good" with small differences. Global satisfaction scores were also good with higher satisfaction among 3rd y. students. But according to the NCAAA, both courses need to be developed. Unfortunately, no similar studies from other Saudi universities were published for comparison. Moreover, different medical programs and different methods of evaluating medical education make comparison of our results with published literature in the West difficult. Our results are important for the College of Medicine to address necessary improvements especially for the 5th y. course, the last year before internship and the start of clinical practice.

Despite good overall satisfaction scores (3.4) — almost half of participating 3rd y. students were satisfied (51.81%) with the course, with a significant

percentage disagreeing (16.87%) or not sure (31.32%) about satisfaction. This was more exaggerated by 5th y. students, with total scores of "good" (3), but almost equally "satisfied" (37.14%) and "not satisfied" (35.24%). A substantial percentage were not sure about satisfaction (27.62%). The reasons behind the high percentage of non-satisfaction were not well explored by other items in the questionnaire and remain unknown. Moreover, dissatisfaction was hidden by the total "good" scores in both courses. This discrepancy between standard evaluation and satisfaction points out the limitations of the NCAAA questionnaire in measuring actual weak points of a course and the need for a more reliable method for evaluation of satisfaction.

The suitability of the NCAAA to assess medical education is questionable as the design of medical education and training models among undergraduate colleges of medicine are different . Medical education, hospital resources, and patient availability may contribute to the quality of teaching; however these points are not covered in the questionnaire. Moreover, at academic hospitals, clinicians share teaching medical students duties of medical students and their evaluations should be included in the questionnaire. In addition, there seems to be a difference between the service and goals of teaching hospitals and the goals of the curriculum (19); this difference should be taken into consideration in improving the course for the sake of developing the teaching skills of students as future clinicians.

One study examined the predictive factors for students' global satisfaction using a two-year data set of medical student feedback from 11,780 questionnaires. Researchers found four predictive factors: structure and process; time; outcome and input. The structure and process factor was the best predictor of students' global satisfaction. The researchers concluded that to improve teaching quality, we should focus on students' learning processes and clerkship structure (20). This is also seen in another study (21) which analyzed 2,450 questionnaires on evaluation of seven medical courses. Authors concluded that medical students' evaluations depend not only on the teaching and teaching staff but also on the course organization, supervision, and learning activities.

In this present study, the strong points were exceptionally present only in the evaluation of the 3rd year course which scored "good" on all standards, except course content and faculty members, which scored "very good".

The weak points are difficult to recognize as no single standard scored poor or intermediate. However, given the lowest scores, it appears that the most important areas for improvement were the learning resources and examinations and assignments. Taken together, this may reflect the difficulty faced by the students to find suitable resources to prepare for exams and complete assignments. On the other hand, this may also reflect on the failure of both the teaching staff and medical students to recognize the different intended learning objectives (ILOs) of the two courses. While the 3rd y. course is mainly introductory, the 5th y. course is more practical and aims to prepare final-year students for future clinical practice. Improving learning resources may be achieved by stating them clearly in the curriculum and ensuring that all teaching staff utilizes them during instruction as well as in preparing exams and assignments. These findings should be taken into consideration in the future review process by the department and the college of medicine.

Conclusion

Medicine courses for 3rd y. and 5th y. medical students were equally received as "good" with small differences. However, most course standards are viewed as areas needing improvement for both years. Some improvements needed:

- better identification of learning resources, examinations and assignments;
- better measurement of students' learning outcomes;
- regular review and update of quality standards and continuous quality improvement;
- Lastly, better identification of ILOs to both the faculty members and the students are needed.

Similar data from other Saudi medical universities would greatly enhance the relevance and validity of this study. Further research is required to identify how best to improve the course education and satisfaction.

Limitations

Many limitations were present in this study including the use of students' subjective impressions and the absence of teaching staff perspectives. Moreover, the use of the NCAAA questionnaire could be limiting because, despite its strong generic standards, it may be insufficient and non-specific in evaluating medical education, especially for clinical years.

Acknowledgment

The author would like to thank all medical students for their participation in this study. Acknowledgement extends to the Quality Office, College of Medicine at Taibah University.

Disclosure

Author has no conflict of interests and the work was not supported or funded by any authority. The author alone is responsible for the content and writing of the paper.

Table 1: **3rd and 5th year students' assessments of Medicine course content.**

Course Content	3rd y. students	5th y. students
Implementation of the course is consistent with the basic lines and commensurate with the credit hours.	3.5	3.0
The course has developed my ability to investigate and solve problems.	3.8	3.7
The course has improved my skills in communication.	3.7	3.4
The course has developed my ability to work effectively with groups.	3.7	3.2
What I learned in this course will be important for my future career.	3.6	3.2
The basic lines (knowledge and skills) are clear for me.	3.1	3.9
Total score (NCAAA score).	3.6 (very good)	3.2 (good)

Table 2: 3rd and 5th year students' assessment of learning methods of the Medicine course .

Learning methods	3rd y.	5th y.
There is effective use of technology and multimedia in teaching.	3.2	2.9
Lectures contribute to increasing the ability to understand and accommodate the scheduled course.	3.4	3.1
Lectures are well presented and structured to achieve benefits.	3.2	2.9
Lectures raise students' interest.	3.3	2.9
Lectures address recent scientific developments and scientific facts.	3.4	2.9
Lectures vary in part to the questions and discussion.	3.4	3.2
Lectures contribute to scientific and clinical lessons to increase the ability to think and to absorb information.	3.6	3.5
Lectures contribute to scientific and clinical lessons in understanding the content of theoretical lessons.	3.6	3.6
Total score (NCAAA score).	3.4 (good)	3.1 (good)

Table 3: 3rd and 5th year students' assessment of learning resources of the Medicine course .

Learning Resources	3rd y.	5th y.
Lecture hall equipment is characterized by quality control.	2.8	2.8
Laboratory equipment is characterized by quality control.	2.7	2.6
Skill lab equipment is characterized by quality control.	2.7	2.6
The computer equipment and technical support satisfy my needs.	2.8	2.7
The literature (readings) assigned help to understand the material.	3.2	3.0
The scheduled topics, textbooks and references are available in the library whenever needed.	3.0	2.9
The scientific material is suitable, updated and useful.	2.9	2.7
Total score (NCAAA score).	2.9 (good)	2.8 (good)

Table 4: 3rd and 5th year students' assessment of examinations and assignments of Medicine course.

Examinations and Assignments	3rd y	5thy
Exams are held on dates suitable for students	3.3	3.2
Allocated time for answering the exam questions is suitable.	2.8	3.0
The examination questions achieve justice among the students.	2.8	2.9
The various exam questions measure the absorption capacity of the students.	2.9	2.8
The various exam questions measure the ability of the students to think and understand.	2.9	2.8
Assignments and research provide the opportunity for thinking, creativity and innovation.	2.9	2.7
Total score (NCAAA score).	2.9 (good)	2.9 (good)

Table 5: 3rd and 5th year students' assessment of faculty members of the Medicine course.

The Faculty Members	3rd y.	5th y.
Faculty of the department have full knowledge and familiarity with the scheduled content.	3.8	3.5
Faculty members are committed to giving the fully scheduled course.	3.7	3.2
Faculty members are interested in preparing helpful teaching materials	3.5	3.1
Faculty members are present to help during office hours.	3.5	3.1
Faculty members encourage me to provide the best.	3.6	3.0
Faculty members care about me and are interested in my educational progress.	3.5	3.1
Total score (NCAAA score).	3.6 (very good)	3.1 (good)

Table 6: 3rd and 5th year medical students' satisfaction with the Medicine course.

	3rd y. students	5th y. students
Strongly agree/agree	51.81%	37.14%
Not sure	31.32%	27.62%
Strongly disagree/ disagree	16.87%	35.24%

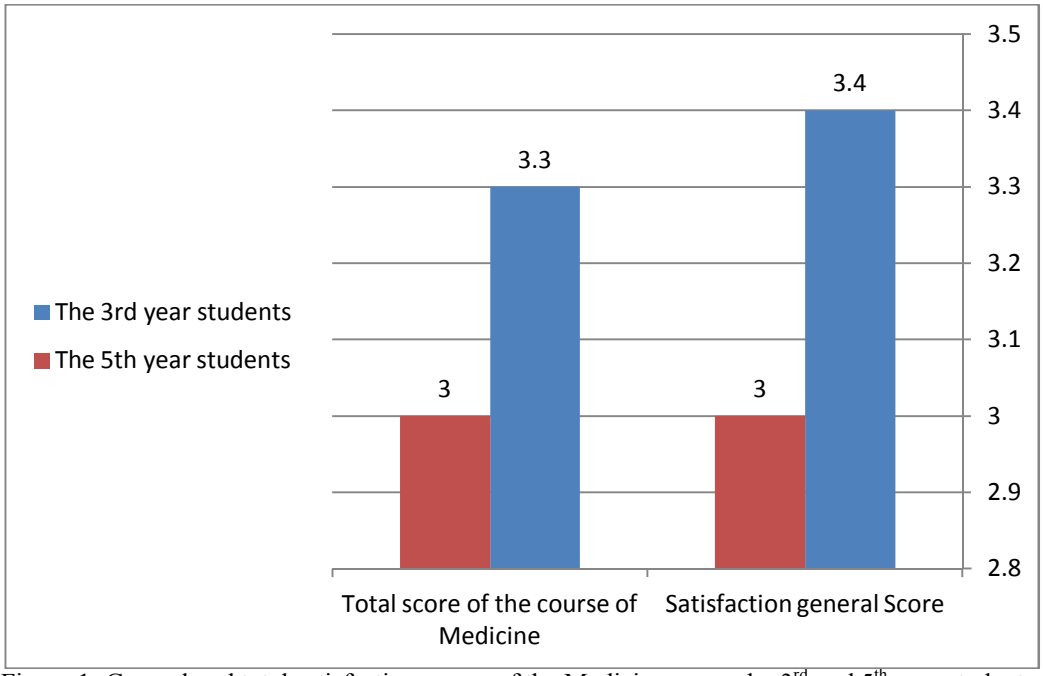

Figure 1: General and total satisfaction scores of the Medicine course by 3rd and 5th year students.

References

1. Wright, RE. Student evaluations of faculty: Concerns raised in the literature, and possible solutions. College Student Journal 2006;40(2):417-422.
2. Beran, T, Violato, C, & Kline, D. What's the 'use' of student ratings of instruction for administrators? One university's experience. Canadian Journal of Higher Education 2007;17(1):27-43.
3. Franklin, J. Interpreting the numbers: Using a narrative to help others read student evaluations of your teaching accurately. In KG Lewis (Ed.), Techniques and strategies for interpreting student evaluations [Special issue]. New Directions for Teaching and Learning 2001;87:85-100.
4. Abrami, PC. (2001). Improving judgments about teaching effectiveness using teacher rating forms. In M. Theall, PC. Abrami, and LA. Mets (Eds.). The student ratings debate: Are they valid? How can we best use them? [Special issue]. New Directions for Institutional Research 2001;109:59-87.
5. Woloschuk W, Coderre S, Wright B, McLaughlin K. What factors affect students' overall ratings of a course? Acad Med. 2011 May;86(5):640-643.
6. Holmboe ES, Bowen JL, Green M, Gregg J, DiFrancesco L, et al. Reforming internal medicine residency training. A report from the Society of

General Internal Medicine's task force for residency reform. J Gen Intern Med. 2005;20:1165-1172.
7. O'Malley PG, Khandekar JD, Phillips RA. Residency training in the modern era: the pipe dream of less time to learn more, care better, and be more professional. Arch Intern Med. 2005;165:2561-2562.
8. AGME website. Accreditation Council for Graduate Medical Education. Residency competency evaluation. Available: www.acgme.org/acWebsite/resEvalSystem/reval_urology.asp. Accessed 2011, Sept. 27.
9. American Board of Internal Medicine AF. American College of Physicians-American Society of Internal Medicine A-AF. European Federation of Internal Medicine: Medical professionalism in the new millennium: a physician charter. Ann Intern Med. 2002;136:243-246.
10. Duffy FD, Lynn LA, Didura H, Hess B, Caverzagie K. Self-assessment of practice performance: development of the ABIM Practice Improvement Module (PIM). J Contin Educ Health Prof. 2008;28:38-46.
11. Duffy FD, Holmboe ES. Self-assessment in lifelong learning and improving performance in practice: physician know thyself. JAMA. 2006;296:1137-1139.
12. Eva KW, Regehr G. Self-assessment in the health professions: a reformulation and research agenda. Acad Med. 2005;80(10 Suppl):S46-S54.
13. Veloski J, Boex JR, Grasberger MJ, Evans A, Wolfson DB. Systematic review of the literature on assessment, feedback and physicians' clinical performance: BEME Guide No. 7. Med Teach. 2006;28:117-128.
14. Overeem K, Driessen EW, Arah OA, Lombarts KM, Wollersheim HC. Peer mentoring in doctor performance assessment: strategies, obstacles and benefits. Med Educ. 2010;44:140-147.
15. Steinert Y, Mann K, Centeno A, Dolmans D, Spencer J, et al. A systematic review of faculty development initiatives designed to improve teaching effectiveness in medical education: BEME Guide No. 8. Med Teach. 2006;28:497-526.
16. Darandari E, Al-Qahtani, SA, Allen ID, Al-Yafi WA, Al-Sudairi AA, Catapang J. The quality assurance system for post-secondary education in Saudi Arabia: A comprehensive, developmental and unified approach. Quality in Higher Education. 2009;15:39-50.
17. Telmesani A, Zaini R, Ghazi HO. Medical education in Saudi Arabia. 2009. Available at:www.uqu.edu.sa/page/ar/22910#ednref12
18. Al-Musallam A. Higher education accreditation and quality assurance in the Kingdom of Saudi Arabia. Paper presented at the First National Conference for Quality in Higher Education; 2007 May 15-16; Riyadh, Saudi Arabia.
19. Ottolini MC, Cuzzi S, Tender J. Decreasing variability in faculty ratings of student case presentations: a faculty development intervention focusing on reflective practice. Teach Learn Med. 2007;19:239-243.
20. Durak HI, Vatansever K, van Dalen J, van der Vleuten C. Factors determining students' global satisfaction with clerkships: an analysis of a two year students' ratings database. Adv Health Sci Educ Theory Pract. 2008 Nov;13(4):495-502.
21. Gerbase MW, Germond M, Nendaz MR, Vu NV. When the evaluated becomes evaluator: what can we learn from students' experiences during clerkships? Acad Med. 2009 Jul;84(7):877-85.

1/3/2015