



# ASSESSMENT OF STUDENTS' SATISFACTION ON ACADEMIC ENVIRONMENT, CLINICAL SKILLS AND EXAMINATIONS IN OBSTETRICS AND GYNECOLOGY COURSE OF UNDER GRADUATE CURRICULUM

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Malak Mohammed Musaed Al-Hakeem, Associate Professor, Department of Obstetrics and Gynaecology, College of Medicine, King Saud University, Riyadh, Saudi Arabia

## ABSTRACT

### CORRESPONDENCE:

Dr. Malak Mohammed  
Musaed Al-Hakeem  
Associate Professor and  
Consultant  
Department of Obstetrics and  
Gynaecology  
College of Medicine  
King Saud University  
Riyadh, Saudi Arabia  
Email ID:  
[alhakeem.malak@yahoo.com](mailto:alhakeem.malak@yahoo.com)  
Phone: +966-1-4679040

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"A structured teaching curriculum provides improved knowledge and skills."

**Background:** During the last decade efforts has been made globally by academic experts in changing curriculum with essential requirements and core competences, so that medical graduates must become a good physician. This study aims to evaluate medical students' level learning and satisfaction towards Obstetrics and Gynaecology course.

**Methods:** A Cross sectional survey was carried out during November 2009 and June 2010 at College of Medicine, King Saud University, Riyadh. The fourth year medical students ( $n=128$ ) who were undertaking the Obstetrics and Gynaecology course constitute the study subjects. A structured questionnaire was used to quantify the outcome variables knowledge, skills and satisfaction from various components of the curriculum in obstetrics and gynaecology course.

**Results:** The overall internal consistency (alpha) of various components scales in the curriculum was 0.94 with a range of alpha 0.82-0.91 in various domains. The study showed an increase in the proportion of knowledge and clinical skills of excellence (72.3%) among medical students than they were at the beginning of the course (20.7%,  $p<0.001$ ). Faculty support, study materials, theoretical lectures, and clinical training have greatly influenced students' satisfaction.

**Conclusions:** Although various components of the curriculum appear to give greater level of knowledge, skill and satisfaction, their potential influence on graduate outcomes, in terms of delivering health care providers who are patient-centred, creative thinkers and compassionate leaders should not be discounted.

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**Key Words:** Medical Education, Curriculum, Clinical skills & Satisfaction.

## INTRODUCTION

The medical education has experienced significant changes and revision of curriculum and strategies in the past decade. These changes brought new educational challenges and opportunities. Graduating medical students must acquire the core clinical skills and competences which are required for patient care and also able to demonstrate them on direct observation.<sup>1</sup> The clinical skills and competences comprise not only set of general knowledge but also professionally attitudes which are necessary to perform medical practice more efficiently.<sup>2,3</sup> Among the teaching of different subjects of undergraduate curriculum, the teaching of Obstetrics and gynecology (O & G) to large number is a challenging task due to limitations of patients accessibility and the clinical specialists to teach the appropriate knowledge and skills.<sup>4</sup> Exams are an excellent measure of knowledge but exam scores do not necessarily correlate with clinical skills.<sup>5</sup> Student satisfaction is considered important for a long-term success and lifelong learning. In the increasingly competitive markets for high quality doctors who can work efficiently at different emergency situations, there is a need to identify and evaluate the effects of the factors affecting student learning and satisfaction. Although medical students in the health care professions appear to be satisfied with their clinical practices and learning, the elements that contribute to this satisfaction are not well known.<sup>6,7</sup> Limited research to date has explored the views of medical students satisfaction towards (O & G) curriculum. The present study was motivated by this concern. The College of Medicine, King Saud University (KSU) is one of the oldest medical colleges in the region, which follows traditional curriculum of teaching with two semester pattern and an intake of about 200-300 students each year. After two years of basic sciences, general medicine & general surgery in third year, students undertake Obstetrics and Gynaecology course of 11 credit hours, which consists of 4 and 7 hours of theoretical and clinical studies. The aim of this course, to become familiar with the knowledge, attitude, skills necessary for obstetrics and gynaecology physicians and effective good team members in the obstetrics and gynaecology department.

The objective of this study was to assess students' satisfaction and acquired knowledge & clinical skills during their course. This study intended to investigate four main domains, which include, faculty support, teaching efficacy (theoretical and clinical training), assessments (MCQ's and OSCE), and course format to see if they are significantly associated with student satisfaction and learning.

## MATERIALS AND METHODS

Based on theory, literature review and clinical experience, a draft questionnaire was developed in 4 parts which include: support from the department and faculty (support, resources, availability of staff when required, course organization and willing to have the student in the department), theoretical lectures (clarity of lectures, interactive and understandability), clinical training (consistent with course objectives, helpful to explain and apply theoretical knowledge, and opportunity to improve individual skills) and an assessment of exam process (clarity of the exam, fairness ,clarity, reasonable questions, reflecting knowledge and performance,)course suitability, duration of the course etc. The questionnaire also composed of questions addressing overall student satisfaction and satisfaction with the course format, student motivation and exam format The response for each question was categorized as strongly agree (1), agree (2), disagree, (3) and strongly disagree (4).The questionnaire was developed based on focus group discussion in the department aiming in improving the questionnaire and removing any ambiguity. The structured questionnaire was distributed among fourth year medical students after the course in obstetrics and gynecology department between November 2010 and June 2011 at College of Medicine, King Saud University, Riyadh. The complete response for the questionnaire was obtained from 128 students.

Data were presented as frequencies and percentages for the variables (items) in qualitative nature. McNemar's paired chi-square test was used to study satisfaction regarding the medical students' knowledge and clinical skills before and after the course

completion in obstetrics and gynecology. Chi-square test was used to (i)observe the association between the factors and the categories of knowledge and clinical skills after the course and (ii) observe the association between the curriculum assessment and categories of knowledge and clinical skills after the course. As the study explored the knowledge acquired, perceptions and clinical skills with fresh questionnaire, Cronbach's  $\alpha$  coefficients were computed to measure the internal consistency of items in various clinical domains and for the overall scale. Values of Cronbach's  $\alpha$  larger than 0.50 were considered acceptable<sup>8</sup>. Factor analysis was used to study the construct validity of the scale with principal component method using varimax rotation. Data were analyzed using SPSS version 21.0 (SPSS Inc., Chicago, IL, USA).

## RESULTS

A total of 128 fourth year medical students (74 males, 57.8% and 54females, 42.2%) were participated in the study. Table 1 presents the Cronbach's  $\alpha$  for the domains such as support from the department and faculty, theoretical lectures, clinical training and assessment of examination. For all the four domains,  $\alpha$  ranged from 0.82 to 0.91. The Cronbach's  $\alpha$  for the all the items in the overall scale was 0.94.

The factor analysis of various constructs was also derived using the existing information from the student's evaluation (data not shown). The percent of variation explained in questions related to support from the department/faculty, and exam questions (20.4%), theoretical lectures (12.3%), reflection on examination and feedback sessions (12.0%), duration of course and specialization (9.7%), clinical sessions and knowledge (9.6%), clinical skills and interaction with patients (7.1%).The total percent of variation explained in all the items included was 71.1%. Table 2 shows that the course curriculum in obstetrics and gynecology resulted an increase in the proportion of knowledge and clinical skills (for example, excellent and high-72.3%) among medical students than they were at the beginning of the course (20.7%); ( $P < 0.001$ ).

Table 3 and 4 show the factors associated with higher

knowledge and clinical skills after the course. Good support from the faculty, adequate and helpful study resources, availability of faculty for clarifying questions and the department's willing to have the student were some of those factors responsible for the increase in students' satisfaction. The objective of theoretical lectures was also influenced students satisfaction. Though the lectures were interactive and understandable and lead to higher knowledge and skills but were not statistically significant. In clinical training, the consistency of clinical sessions with course objectives, usefulness of clinical sessions in enforcing theoretical knowledge and clinical training were highly associated with improvement of knowledge and clinical skills (table 3).

In the assessment, clarity and adequacy of OBSC and MCQ questions, curriculum based questions, distinguishing excellent students from ordinary students, reasonable time, feedback sessions and the marks reflecting performance, knowledge and acquired skills were some those factors highly associated with students satisfaction (Table 4).

## DISCUSSION

One of the important issues in any teaching and learning system is the quality of the students. There should be some standards in teaching, clinical training and examination questions. A curriculum which consists of comprehensive blueprint of contents, methods of teaching and time frame of sessions that is reviewed continuously can ensure the relevance of teaching and learning. Acquiring clinical skills need feedback assessment from medical students who undergo core clinical program. Such assessment is necessary to document the gain in knowledge and clinical skills.<sup>9</sup>

This study provides some useful insights which demonstrate the evaluation of factors that lead to students' satisfaction in clinical skills in obstetrics and gynecology. A high ' $\alpha$ ' value indicated that the questions in the scale were internally consistent and reliable. A factor analysis demonstrated a meaningful construct of various factors which explain maximum variation in the data. The present study compared the

Table 1. Reliability of items measuring the perceptions, evaluations, and satisfactions of course curriculum under different domains

Domain	items	Response categories	Internal consistency, Cronbach's $\alpha$
Support of the Department and Faculty	5 items	4 point scale from (1) strongly agree to (4) strongly disagree	0.87
Theoretical Lectures	4 items	4 point scale from (1) strongly agree to (4) strongly disagree	0.88
Clinical Training	3 items	4 point scale from (1) strongly agree to (4) strongly disagree	0.82
Assessment: exam process	19 items	4 point scale from (1) strongly agree to (4) strongly disagree	0.91
Overall scale	31 items	4 point scale from (1) strongly agree to (4) strongly disagree	0.94

Table 2: The knowledge and Clinical skills in Obstetrics and Gynecology before and after the course

Knowledge and Clinical skills in Obstetrics and Gynecology before the course	Knowledge and Clinical skills in Obstetrics and Gynecology after the course		
	Excellent or high	Average or low	Total
	No. (%)	No. (%)	
Excellent or high	10 (40.0)	15 (60.0)	25(20.7)
Average or low	78 (81.3)	18 (18.7)	96 (79.3)
Total	88(72.7)	33(19.0)	121

McNemar's chi-square test = 42.7, p<0.001

the proportion of knowledge and skills in medical students at the beginning of their second year and at the end of fourth year in Obstetrics and Gynecology. The increase of knowledge and skills in the current curriculum emphasizes that the strengths of the curriculum are worthy of more exploration. Students gave positive evaluation regarding various curriculum activities. In our opinion, a qualitative improvement in students learning has taken place during the course. In this course, concepts acquired during classes would be applied clinically to real cases obtained in the wards. The concept of modern education directs us towards integrating knowledge, understanding practice for the learners. In the process of learning, it is considered to be an ongoing part of life and not just a preparation for it.<sup>10</sup> In keeping this view, medical curriculum needs to incorporate the student's ethos of self-evaluation in acquiring the knowledge and skills in order to provide effective patient care. In the present study, a higher

level of satisfaction is reassuring and perhaps an indication of better hospital teaching environment, the positive value of self assessment as guided by the course curriculum. The limitation of this study was lack of commonness to other courses and other settings.

## CONCLUSION

The Obstetrics and Gynecology teaching curriculum adopted in our institution has showed improved knowledge and skills leading to better satisfaction among students. Though it appears to show greater satisfaction, more innovative methods such as team based learning with creative thinking could be adopted so as to become more compassionate-patient centered physicians, and effective leaders.

Table 3: Factors associated with knowledge and clinical skills in obstetrics and gynecology among fourth year medical students

† Factors	Knowledge and clinical skills after the course		
	High	low	p-value
	No. (%)	No. (%)	
<b>Support of the Department/Faculty</b>			
1) Good support in the department for any problems during the course	85 (94.4)	15(65.2)	<0.001
2) Recommended studying resources were adequate and helpful	80 (88.9)	15(62.5)	0.002
3) Teaching faculty were available when you have questions or need of help	79 (89.9)	17(70.8)	0.02
4) Course organizer was helpful	71 (80.7)	17(73.9)	0.48
5) Department is willing to have the student	87 (96.7)	16(69.6)	<0.001
<b>Theoretical Lectures</b>			
1) Lecturers' objectives were clear	80 (89.9)	16(66.7)	0.01
2) Lecturers were interactive	60 (67.4)	12(50.0)	0.12
3) Lectures were didactive	65 (74.7)	14(63.6)	0.30
4) Lectures helped you to understand the course	65 (76.4)	13(56.5)	0.06
<b>Clinical Training:</b>			
1) Clinical sessions were consistent with the course objectives	81 (90.0)	14 (60.9)	0.001
2) Clinical sessions were helpful to explain and enforce the theoretical knowledge	81 (90.0)	13 (56.5)	<0.001
3) Clinical training gave me the opportunities for personal growth and improving the clinical skills	74 (82.2)	13 (54.2)	0.004

† All factors are shown with strongly agree and agree

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Table 4: Association between curriculum assessment in Obstetrics and Gynecology and knowledge and clinical skills gained after the course

Assessment (Factors strongly agree or agree†)	Knowledge and clinical skills after the course		
	High	Low	p-value
	No. (%)	No. (%)	
1) Department endorses the process of the exam, clearly during the course	74 (83.1)	15 (62.5)	0.03
2) OSCE questions were clear	80 (89.9)	15 (62.5)	0.001
3) MCQ questions were clear	72 (81.8)	12 (50.0)	0.001
4) Exam questions distributed were adequate to cover the whole curriculum	73 (81.1)	11 (45.8)	<0.001
5) Exam questions were from the curriculum	77 (85.6)	15 (62.5)	0.01
6) Exam can distinguish excellent student from ordinary student	75 (83.3)	11 (45.8)	<0.001
7) Exam time was reasonable with the questions, numbers and complexity	77 (86.5)	11 (47.8)	<0.001
8) Exams were a teaching sessions (did you learn any information from the exam)	65 (73.9)	10 (43.5)	0.01
9) Feedback sessions helped you not to repeat mistakes in the final	66 (81.5)	12 (52.2)	0.004
10) My mark is reflecting my performance	70 (78.7)	9 (39.1)	<0.001
11) My mark is reflecting my knowledge and the acquired clinical skills	68 (78.2)	12 (52.2)	0.01
12) The questions were in consequences to the level of teaching	67 (74.4)	13 (59.1)	0.15
13) Does the assessment way in this course directed you to study from book only	60 (66.7)	14 (63.6)	0.79
14) Does the assessment way in this course directed you or interact with (agree patients	63 (70.8)	11 (47.8)	0.04
15) Does the assessment way in this course directed you or both	60 (75.9)	13 (65.0)	0.32
16) The duration of the course was suitable to the objective of the course	68 (76.4)	16 (69.6)	0.50
17) The duration of the course was enough to acquire the required clinical skills	72 (81.8)	17 (73.9)	0.40
18) This course encouraged you to go to Obstetrics and Gynecology specialization?	65 (73.0)	7 (30.4)	<0.001

† All factors are shown with strongly agree and agree

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**Concept and Design of the study, analysis and interpretation, manuscript preparation, critical revision of the manuscript, data collection, statistical analysis, and literature search.**

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