

## MEDICAL STUDENTS ASSESSMENT OF EARLIER STUDYING AND PRACTICING CONCEPTS OF MEDICAL EDUCATION

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### ABSTRACT

**Background:** New trends in medical education have emerged in medical curricula to ensure highly competent doctor and this involved the development of teaching medical education new concepts in early settings at medical schools. The curriculum of Faculty of Medicine and Health Sciences - Omdurman Islamic University (FMHS-OIU) is a competency-based curriculum; it based on specifications of adult learning that make the students proactive in group work for solving problems. As a result, FMHS-OIU introduces a course of new trends in medical education to the first-year students at the beginning of their study. The aim of this work is to assess undergraduate medical student's opinions on the new trends in the medical education course and to test the effect of gender assessment of early studying and practicing trends in medical education courses. **Materials and Methods:** This analytical cross-sectional study was carried out at the Faculty of Medicine and Health Sciences (FMHS), Omdurman Islamic University (OIU), 2018. The study has involved all students of the first level of both gender, they are 346 male and female medical students were asked to fill a pretested questionnaire which contains specific questions allocated in three domains of knowledge and skills was used to collect the data. Soft - ware program of Statistical Package for Social Science (SPSS) version 20. to obtain the descriptive statistics (Frequencies, percentage) as well as inferential statistics ( Chi-square) to identify the correlations between variables of the study. The confidence interval is 95% was taken as significant at P-value  $\leq 0.05$ . **Results:** The study showed statically different gender plays no role in the assessment of studying the course (P-value  $> 0.05$ ), in spite, they are taught separately. In addition, both gender assessments revealed a positive responses with high frequency and percentage regarding (cognitive knowledge, psychomotor and behavioral skills) in the course. **Conclusions:** Approximately all participated students have emphasized their high agreement particularly in (Self-learning, Small Group Work and Problem Based Learning (PBL)) that studied in the course. In conclusion, no statistical difference between male and female medical students' assessment of trends in medical education course in this study.

**Keywords:** Assessment, Course, Medical students, Medical Education

### INTRODUCTION

Diversity in undergraduate medical curricula, new educational strategies, and innovation of educational technologies was proved. In response, new trends in medical education have emerged in conventional medical curricula to ensure highly qualified and

competent doctor and this involved development of teaching medical education new concepts in the early setting.

The curriculum of Faculty of Medicine and Health Sciences- Omdurman Islamic University (FMHS-

OIU) is a competency-based curriculum; it based on specifications of adult learning that make the students proactive in group work for solving problems. As result, FMHS-OIU introduce a course of new trends in medical education to the first-year students at the beginning of their study, to emphasized that newly enrolled students are aware enough and have gained knowledge and skills in medical education which will assist them in understanding their career and enjoy the study of medicine during the study period.

The concerned course is a block of two weeks duration; two credit hours (2 CME) include comprehensive materials of medical education that provide the student with the main principals of new trends in medical education.

In fact, the FMHS-OIU is a pioneer in introducing of such courses entitled Trends in Medical Education in undergraduate medical students starting many years ago. Historically, the course starts with Faculty curricula development 2005 and underwent many developments by adding a new series of updated issues in medical education.

Last development and an addition were in 2018 to elicit the Outcome-Based Medical Education features and model besides the integration model, Problem Based Learning (PBL), simulation of learning and Community Oriented Medical Education.

In response to this, a study of medical student's assessment in studying and practicing new trends in medical education concepts towards this course was studied in the last recruited batch of medical students (batch 30). Formative assessment always is done during the course to feedback the student on his/her progress and provide the feedback of the teacher with data of modification of his/her teaching. It is used as a diagnostic tool used to aid learning.

The aim of this study is to assess undergraduate medical students at the Faculty are gained enough knowledge, skills and orientation about the new trends in medical education, and this may facilitate his/her pathway to possess the keys of successful tools through his/her study years.

Hypothetically, there is no difference in the utilization of studying and practice trends in medical between male and female first-year medical students at FMHS, OIU.

This study was aimed to assess the first-year medical students in studying trends in medical education course and to assess the first-year medical students

in practicing concepts of medical education and also to test the effect of gender in the assessment of early studying and practicing course.

## **MATERIALS AND METHODS**

This is analytical cross-sectional, total coverage at Omdurman Islamic University (OIU), Sudan, during October – December 2018, the Faculty adopted Integrated, Community Oriented and Problem Based Learning in the last decade.

An academic course of trends in medical education (Basic Concepts) with the new version of course contents was taught to the first-year medical students; then a designed questionnaire with a five Likert Scale was distributed to the students. In the scale the followings are considered, strongly agree = 1, agree = 2, agree to some extent = 3, disagree = 4, strongly disagree = 5.

The data of this study were obtained through a pretested questionnaire which includes the following three domains:

### **A-Cognitive knowledge:**

The students were assessing studying and practicing of:

1. Learning of the competency in the based model and out-come based curriculum
2. Learning self –learning methods in Small Group Work, Problem based Learning and Student Focused Learning.
3. Learning of calculation of Grand and cumulative Point Aggregation (GPA) and (cGPA)
4. Rehearse the Faculty rules and updated examination regulations.

### **B-Psychomotor skills:**

The students were assessing studying and practicing of:

- 1- Learning different teaching methods.

### **C -Behavioral skills:**

The students were assessing studying and practicing of:

1. Possession of cooperative sprits, presentation skills and another respectfulness (Theory and practical).
2. Capability to practice communication skills with tutors, colloquies and community individuals.

The questionnaire was self-administered filled by the students before the exam of the course is held. The students were not allowed to share responses to the questionnaire data. The students were sitting at about half a meter distance between each other.

All identifications of students were not taken to guarantee the confidentiality of the student opinions and for bias judgments.

### **Ethical consideration**

The participation of students in this study was optional, with no pressure and no harm was made for those who unwilling to share.

The administration of Faculty as well as the Research Ethics Committee of the Faculty was approved the study.

### **Statistics**

The obtained data of this study were entered into static's soft-ware program; Statistical Package for Social Science; (SPSS) version 20. Frequencies, percentage, the correlation tests were conducted and Chi-Squire was used to determine the significance of the correlation between categorical variables. The study was considered the Confidence Interval 95% was taken at P-value  $\leq 0.05$  was significant.

### **RESULTS**

The total number of first-year medical student in FMHS, OIU was 378 male and female students, but 347(91.8%) successfully completed the fillings of the designed questionnaire. 175 out of 183 male students and 172 out of 195 female students i.e 95.6% and 88.2% from all participants respectively (Table 1). Male: female ratio was (49.6:50.4) respectively.

The medical student's opinion in the clarification of learning outcomes of this course was shown in (Table2). Learning cognitive knowledge, behavioral and psychomotor skills were demonstrated in (Table 3, 4, 5, 6).

### **DISCUSSION**

More than 90% of medical students participate in the study were emphasized the importance of the teaching new trends in medical education course for newly recruited medical students and more than 80% of them revealed that the learning outcomes of the course were clearly stated, and they may reflect that the setting and teaching of the course contents were achieved properly in spite male and female medical students are taught in separate campus, but to some extent by the same tutors.

As stated by many authors "Implementing Competency-Based Education (CBE) requires that educators be able to define the crucial knowledge, skills, attitudes, and behaviors" that will maintain the outcome graduate to able to demonstrate at completion of their training. (1, 2, 3)

In regards curriculum model and features almost all students were ensured their agreement of well learning and practicing Self-learning, Small Group Work and Problem Based Learning (PBL) in the course.

Learning competency and out-come based curriculum model and features is the topic newly introduced by the Faculty to batch 30 was assessed by the students and results showed that about 90% of them learned what is it and how to adopt (table3). In fact OIU, FMHS was adopted OBE in its undergraduate curricula and taught this in the first block in the first semester. On the other hand CBE, however, "implies a training process that results in proven competency" (1, 5) in certain skills and behaviors required to practice that profession.

Outcome-Based Education (OBE) is adopted by many institutions and organizations in the last decades. for example Association of American Medical College (AAMC), Accreditation Council for Graduate Medical Educators (ACGME), Can MEDS framework of Royal College of Physicians and Surgeons of Canada, General Medical Council in United Kingdom (Tomorrows' Doctors and Scottish Doctors) and Gulf Cooperation Council (GCC) medical colleges deans committee developed a consensus on learning outcomes in undergraduate medical programs.

Learning of behavioral skills was illustrated in table 6 which showed that most of the students were gained the presentation skills, cooperation sprits and respect of others as well as practicing communication skills with tutor, colleagues and community individuals. This is found in the study of assessment of medical students in Korea by Hyo Hyun Yoo and his colleagues (6).

More than 80% of students were elicited that the teaching methods taught and applied the course were typically implemented.

### **CONCULUSION**

The results of this study can be used as a tool to find the trends in our curriculum and the impact of curriculum revision activities which are currently underway in the Faculty.

Students' assessment for this new course was emphasized the contribution of students in formulation of their academic program (academic freedom)

No statistical difference between male and female medical students' assessment of trends in medical education course in this study.

**Conflict of interest:**

None

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**Table 1: Students opinion on the presence of trends in medical education course in undergraduate medical curricula, distributed by gender N=347**

	<b>M*</b>	<b>F*</b>	<b>Total (%)</b>
Strongly agree	70	70	140 (40.3%)
Agree	51	62	113 ( (32.6%)
Agree to some extent	35	29	64 (18.4%)
Disagree	11	5	16 (4.6% )
Strongly disagree	8	6	14 (4.0%)
<b>Total</b>	<b>175</b>	<b>172</b>	<b>100.0%</b>

*P* value = 0.387

M\*= male medical student      F\*= female medical student

**Table 2: Students opinion on clarity of learning outcomes of trends in medical education course, distributed by gender N=347**

	<b>M</b>	<b>F</b>	<b>Total (%)</b>
Strongly agree	26	43	69 (19.9%)
Agree	45	58	103 ( 29.7%)
Agree to some extent	66	47	113 (32.6%)
Disagree	24	16	40 (11.5% )
Strongly disagree	14	8	22 (6.3%)
Total	175	172	100.0%

*P* value =0.016

**Table 3: Students opinion on learning medical curricula types and features during the medical education course, distributed by gender N=347**

	Learning competency and outcome based curriculum model and features			Self-learning, Small group work, and Problem Based Learning		
	<b>M</b>	<b>F</b>	<b>Total (%)</b>	<b>M</b>	<b>F</b>	<b>Total (%)</b>
Strongly agree	44	60	104 (30.0%)	103	107	210 (60.5%)
Agree	63	53	116 ( 33.4%)	46	41	87 ( 25.1%)
Agree to some extent	44	47	91 (26.2%)	22	17	39 (11.2%)
Disagree	19	7	26 (7.5% )	2	4	6 (1.7% )
Strongly disagree	5	5	10 (2.9%)	2	3	5 (1.4%)
Total	175	172	347(100.0%)	175	172	347(100.0%)

*P* value 0.063 0.764

**Table 4: Students opinion on learning Faculty examinations regulations, rules and assessment tools during the medical education course, distributed by gender N=347**

	Rehearsed Faculty rules and regulations			Calculation of Grand & Cumulative Aggregation Points (GPA & cGPA)		
	<b>M</b>	<b>F</b>	<b>Total (%)</b>	<b>M</b>	<b>F</b>	<b>Total (%)</b>
Strongly agree	60	68	128 (36.9%)	148	120	268 (77.2%)
Agree	63	66	129 (37.2%)	18	41	59 ( 17.0%)
Agree to some extent	37	27	64 (18.4%)	5	12	17 (4.9%)
Disagree	13	9	22 (6.3% )	0	1	1 (.3% )
Strongly disagree	2	2	4 (1.2%)	1	1	2 (.6%)
Total	175	172	347(100.0%)	175	172	347(100.0%)

*P* value = 0.586 *P* value = 0.003

**Table 5: Students opinion on learning different teaching methods:**

	<b>M</b>	<b>F</b>	<b>Total (%)</b>
Strongly agree	60	48	108 (31.1%)
Agree	65	58	123 ( 35.4%)
Agree to some extent	36	48	84 (24.2%)
Disagree	9	9	18 (5.2% )
Strongly disagree	5	9	14 (4.0%)
Total	175	172	347 (100.0%)
<i>P</i> value = 0.335			

**Table 6: Students opinion on gaining behavioral skills during the trends in medical education course, distributed by gender N=347**

	<b>Presentation skills, cooperation sprints, and respect of others</b>			<b>Practicing communication skills with tutor, colleagues and community individuals</b>		
	<b>M</b>	<b>F</b>	<b>Total (%)</b>	<b>M</b>	<b>F</b>	<b>Total (%)</b>
Strongly agree	124	125	249 (71.8%)	67	73	140 (40.3%)
Agree	30	29	59 ( 17.0%)	57	54	111 ( 32.0%)
Agree to some extent	17	16	33 (9.5%)	36	29	65 (18.7%)
Disagree	4	0	4 (1.2% )	10	12	22 (6.3% )
Strongly disagree	0	2	2 (.6%)	5	4	9 (2.6%)
Total	175	172	347(100.0%	175	172	347(100.0%)
<i>P</i> value	0.197			0.851		