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The OSCE in Gynaecology and Obstetrics : About the experience of the Faculty of Medicine of Marrakech

THESIS

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BY

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Born on the 07 September 1990 in Rabat

TO OBTAIN THE DEGREE OF DOCTOR OF MEDICINE

KEYWORDS:

Medical Education-Assessment-Evaluation-OSCE

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بسم الله الرحمن الرحيم

"When you educate a man, you educate an individual. But if you educate a woman, you educate a nation."

-African Proverb

"Raise your words, not voice. It is rain that grows flowers, not thunder."

-Rumi

"If you want to know what a man's like, take a good look at how he treats his inferiors, not his equals."

-Sirius Black

"Only those who attempt the absurd can achieve the impossible."

-Albert Einstein

"As you grow older, you will discover you have two hands, one for helping yourself, the other for helping others."

-Audrey Hepburn

The Hippocratic Oath

At this time of being admitted as a member of the medical profession, I solemnly pledge myself to consecrate my life to the service of humanity;
I will give to my teachers the respect and gratitude which is their due;
I will practice my profession with conscience and dignity;
The health of my patients will be my first consideration;
I will respect the secrets which are confined in me;
I will maintain by all means in my power, the honor and noble traditions of the medical profession;
My colleagues will be my brothers and sisters;
I will not permit consideration of religion, nationality, race, gender, politics, socioeconomic standing or sexual orientation intervene between my duty and my patient;
I will maintain the utmost respect for human life;
even under threat, I will not use my medical knowledge contrary to laws of humanity;
I make these promises solemnly, freely and upon my honor.

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LISTE ARRÉTÉÉ LE 12/02/2018

DEDICATIONS

To my dear mother Fatiha

It is not a lie when they say all the words in the world can't express the infinite love that I carry for you. You have been my sunshine, my guidance and my source of tenderness. You are the embodiment of the warrior mother who protects and provides for her children at all costs. Your integrity and courage, at time of difficulty, will always be an example to follow. And I love, love, love you. May Allah Almighty, preserve and grant your health, long life and happiness.

To my dear father M'Hammed

You have always inspired the way forward, your love and dedication to your medical profession, guided us.
It is through your encouragement that I opted for this noble profession. I hope I have answered the hopes you have built in me.
You are my moral support and my source of joy and happiness, may God keep you and give you good health.

In memory of my grandparents

It is with a lot of nostalgia, that I remember the beautiful memories and the unforgettable moments spent together.
Your warm welcome and your great kindness have greatly affected me.
I wish you were here so that I could express my gratitude to you.
May God take you into his mercy.

To my sisters Lamiaa and Hasnae

We lived together, shared everything, received the same education, followed the same path.
I would like to express to you through these lines all my feelings of love, may our sisterhood unite us forever.
I wish you every success in your medical studies and fill you with happiness throughout your life.

To my little brother Ismail
Your extreme kindness has forced the love and admiration of everyone.
It is with great love that I greet you, and wish you every success in your studies.

To my aunts Bahija, Amal, Saida
My uncles Abdelali, Abdellatif, Abdelkhalek, Mohammed
Please accept the expression of my deep gratitude for your support, encouragement, and affection.
I hope you find in the dedication of this work, the testimony of my sincere feelings and my wishes for health and happiness.

To the Khaoua Family
May this work be the testimony of my great love and esteem. God preserve you and give you long life and good health.

To all my family members, big and small
Please find in this modest work the expression of my affection.

To my friend and sister Mouna
Cousins by blood, sisters by heart, friends by choice
Your kindness, your generosity and your help have been for me a source of courage, as well as your valuable advice has given me confidence in my abilities.
Our memories and past events together will be engraved forever in my memory.
May Almighty God fill you with happiness and bring you success in your private and professional life.

To my friends Hajar, Soukaina and Nada
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With this work, I would like to express my utmost consideration, admiration and my sincere thanks. For this work would not have been possible without your dedication to improve our school educational system and strive to achieve higher level of education's quality

Abbreviations

List of abbreviations

FMPM : Faculty of Medicine and Pharmacy of Marrakech
OSCE : Objective Structured Clinical Examination
SP : Standardized patient
CBME : Competency-Based Medical Education
PSS : Perceived Stress Scale
TCE : Traditional Clinical Examination
ECG : Electrocardiogram
REMPO : Réformes des études médicales, pharmaceutiques et odontologiques
LMD : License-Master-Doctorate
TIPS : Test of Integrated Professional Skills

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Introduction

By the end of their medical curriculum, medical students have to take one more final exam to evaluate their acquired medical knowledge and competencies. For many years now, the method of choice was the traditional clinical examination. However, this method which generally evaluates a single clinical case remains subjective and not reproducible from one candidate to another.

Given the central role of the assessment of the teaching-learning dynamics, it is fundamentally important to be concerned about the consistency of the evaluation process along with the conceptual orientations of the training program.

It was therefore imperative to look for a new evaluation method, and in this context, the Structured Objective Clinical Examination (OSCE) presented itself as the instrument closest to the ideal assessment of competence meeting the criteria of objectivity, reproducibility and multi-dimensionality.

The OSCE is a formative and summative evaluation tool deemed relevant for its reliability and validity during the clinical evaluation.

Some of the goals of the OSCE are:

- To test the competencies developed during the medical clerkship
- To obtain a feedback from health professionals
- To develop a more active pedagogy
- To promote learning by skill
- To improve the educational coherence

Although the OSCE is considered the most effective instrument for evaluating clinical competence worldwide [1], the experiment of this type of exam is still limited in Morocco.

Our study aims to report the development and implementation of the OSCE as a first experience by the pedagogical team of the Faculty of Medicine and Pharmacy of Marrakech, to assess the overall perception and acceptance of the students regarding this new assessment tool and to identify its strengths and weaknesses through their feedback.

Material and Method

I. Participants:

1. Type of study:

Our work is a cross-sectional study asserting the preferences and perceptions of medical students in their final years of clinical clerkship or internship who have participated in an OSCE in gynecology & obstetrics.

2. Setting of study:

The study was conducted at the Faculty of Medicine of Marrakech, Morocco. The students were asked to complete the survey in the pedagogical staff room after their completion of the OSCE.

3. Duration of study:

The study was conducted from December 2016 to February 2018 with a total of 6 sessions of OSCE.

4. Participants of the study:

This study includes all medical students in the final year of their curriculum who have taken part of an OSCE in gynecology & obstetrics in the period of the study. There was no age or gender restriction. A total of 360 students participated in the six sessions of OSCEs. A total of 253 students participated in our survey.

i. **Inclusion criteria:**

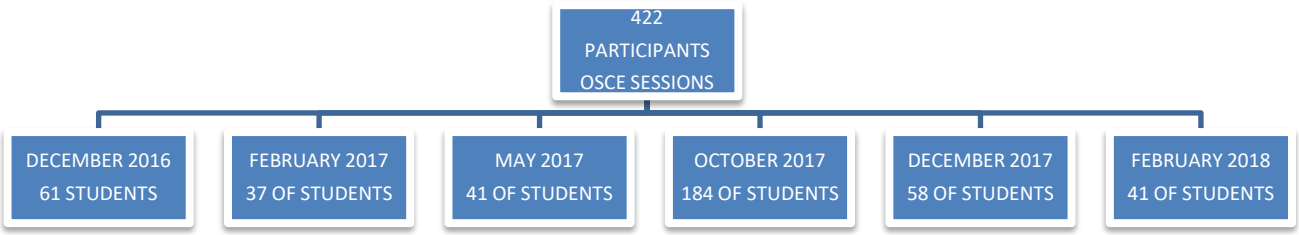
a. Participated in an OSCE in gynecology and obstetrics in one of the sessions from December 2016 to February 2018

b. Being part of an internship or a clerkship

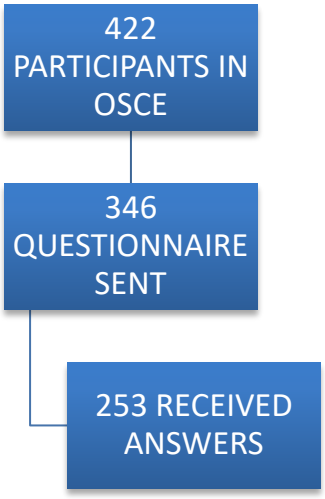
c. Being in the 6th, 7th or 8th grade

ii.

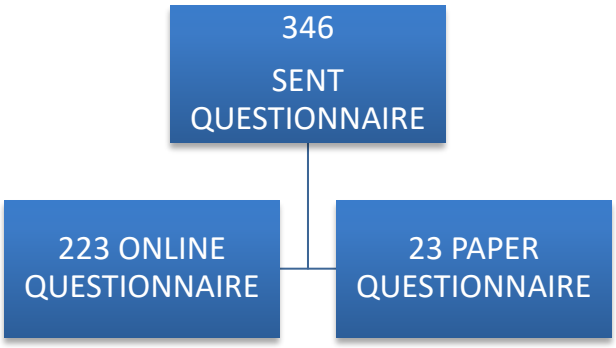
None



Flow chart1; Number of students taking OSCE during our study period



Flow chart 2: Students filling out the questionnaire



Flow chart3: Paper VS. Online questionnaire

II. Method:

1. Questionnaire:

We used a validated questionnaire (see appendices) with various sections, modified from a study by Pierre et al. (2004) [2].

The questionnaire is comprised of 4 sections and 22 questions to evaluate the students' perceptions of the nature, content, structure and organization of the OSCE; quality of performance and objectivity of the OSCE process; and perceptions of OSCE validity and reliability. The questionnaire was created using Google forms.

- **Section 1:**

This section assesses medical students' evaluation of the OSCE attributes, and it includes 6 items such as the fairness of the exam, level of stress, exam maximizes chances of passing and exam being intimidating.

- **Section 2:**

This section reports students' level of preparation of the exam with items such as being well informed of the nature of the exam, of the level of knowledge needed to pass the exam, difficulty to prepare for the exam.

-

This section discusses the organization of the exam with items about the number of stations, the time allocated to each stations, the organization, the instructions and the realness of stations with SPs.

- **Section 4:**

Exclusion criteria:

This section discusses the content of the examination with items about the knowledge covered by the evaluation, the clinical skills reflecting the ones taught and being the ones needed for a general practice.

A psychometric five-level Likert scale that indicates degrees of agreement was used to assess most of the dimensions in the questionnaire, where Strongly Agree (SA)=5, Agree (A)=4, Neutral (N)=3, Disagree (D)=2, Strongly Disagree (SD)=1.

A Perceived Stress Scale (PSS) was used to measure the stress level of students during the exam. A ten-item PSS was used with 1 being very low level of stress and 10 being very high level of stress.

2. Data collection:

The questionnaire was self-administered with online questionnaires and paper questionnaires.

Section 3:

The online questionnaire was sent to the students via Facebook and collected with Google Forms and the paper questionnaire was handed out to some students immediately after completing the OSCE circuit and before leaving the examination venue.

The students were quickly briefed about the objectives of the survey. They were also informed that the responses they provide would remain confidential and their identity would not be disclosed, and if they chose not to participate; they would not be pressured to do so.

3. Collected variables:

- Attributes of OSCE
- Preparation for OSCE
- Organization of OSCE
- Content of OSCE

4. Statistical analysis:

Data collection was carried out with Google forms and transferred for analysis to Microsoft Office Excel 2007 using SPSS-16 version. The analysis was conducted at the department of clinical epidemiology and statistics with the help of Pr. Majda Sebbani. The analysis was descriptive. The quantitative variables were expressed as frequencies and percentages. The comparison between the two subgroups was done using the Fisher exact test with a statistically significant threshold (P)=5%. Basic statistical analysis of the Likert items was conducted by calculating frequencies and percentages.

5. Study limits:

The study was limited due to:

- Inappropriately filled questionnaire
- Unwillingness to fill out the questionnaire
- Answers may be altered because of lack of memory on the subject, or even boredom
- Answers may be altered by the stress of the exam
- Examiners feedback was not evaluated

6. Ethical consideration:

The permission required to conduct the study was obtained from the ethical committee of the Faculty of Medicine of Marrakech after explaining the purpose of the study. The students' approval was obtained by explaining the significance of the study to them and assuring their confidentiality of data collection.

Results

I. Students Profile:

a. Year of study:

In our study group, out of the 242 participants, the majority were in their 8th year representing 79% and 21% were in their 7th year.

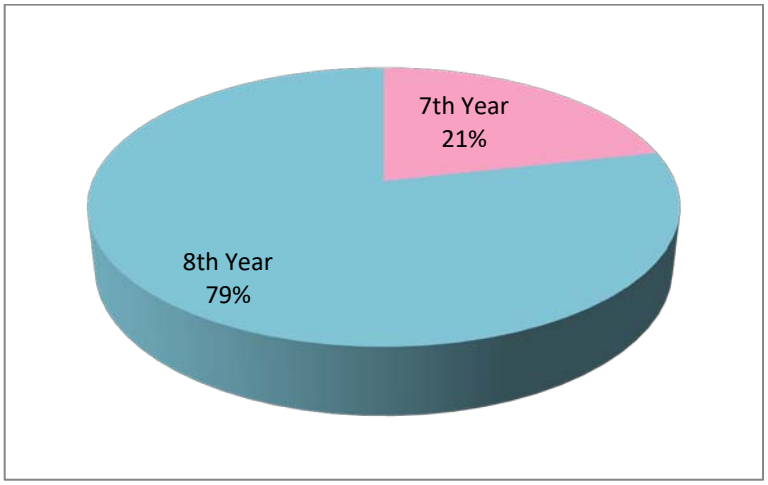


Figure1: Year of study

b. Students status:

The majority of our study group was enrolled in a clerkship representing 76%, while 24% was enrolled in an internship.

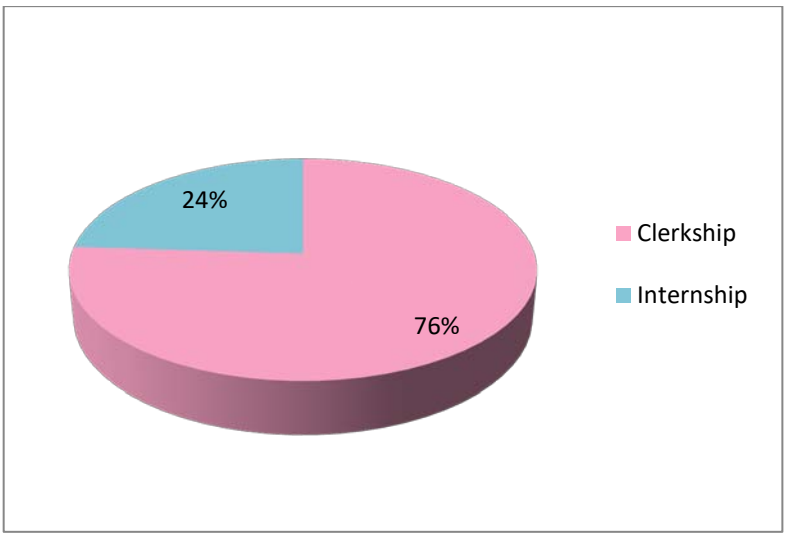


Figure2: Students' status

II. Perception and feedback:

a. OSCE attributes:

i. Exam's fairness:

More than half of our study group (52%) felt that the exam was fair, while (26%) viewed the exam as unfair.

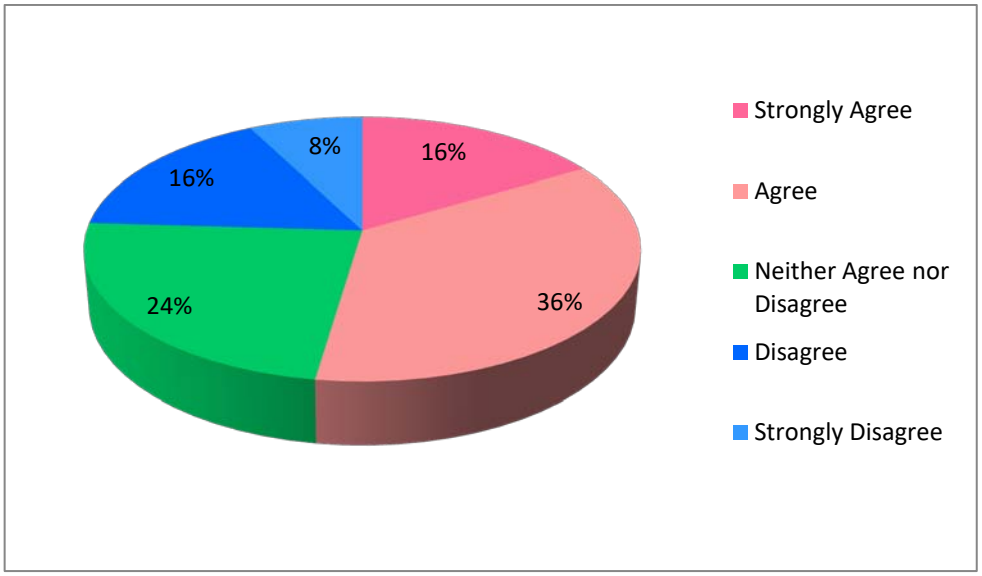


Figure3: Student's view on exam's fairness

ii. Exam's level of stress:

The level of stress of the students varied, with (24, 2%) feeling a level 8 of stress.

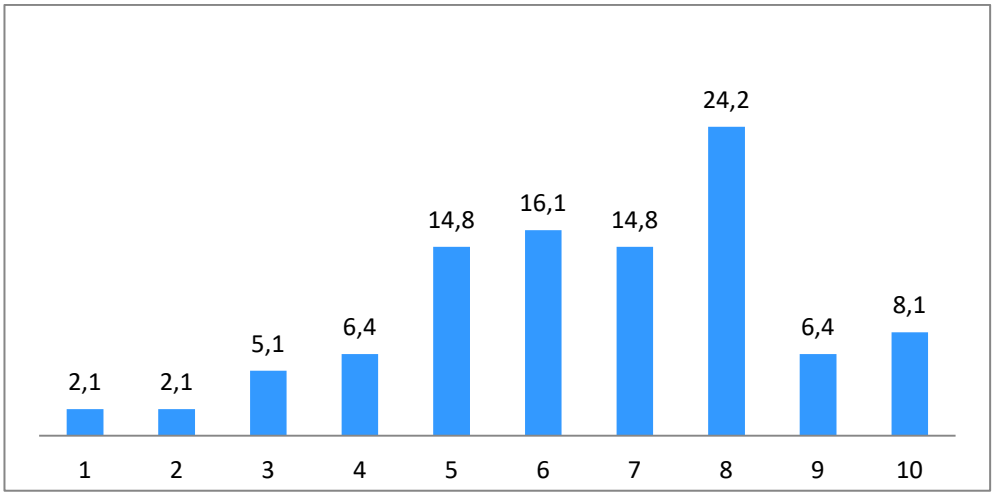


Figure4: Student's level of stress during the exam

iii. Exam increases chances of passing:

In our study, (83%) of students felt that the OSCE increased chances of passing while only (4%) disagreed. The remaining (13%) neither agreed nor disagreed.

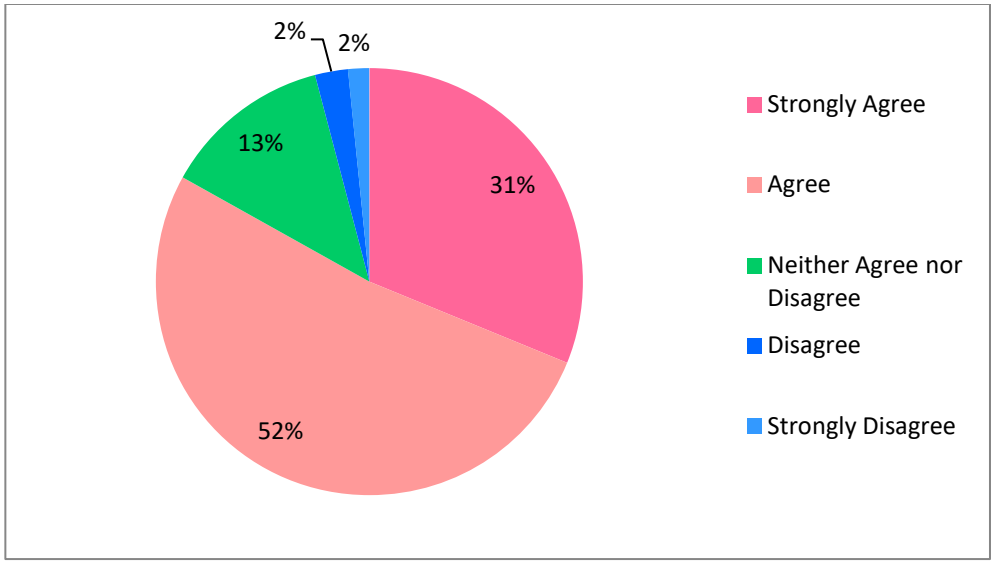


Figure5: Exam increases chances of passing

iv. Exam is intimidating:

(40%) of the participants felt the exam to be intimidating while (37%) felt that it wasn't.

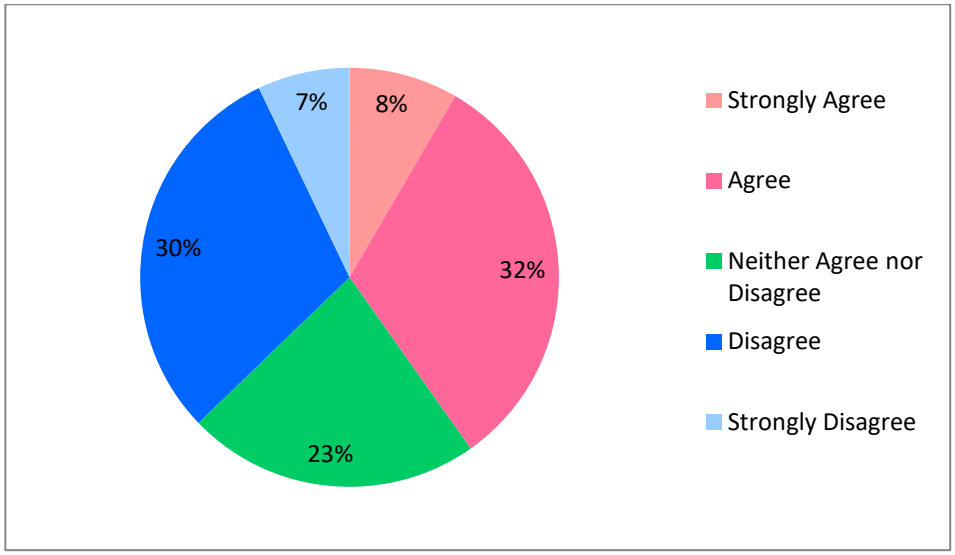


Figure6: Exam is intimidating

v. Preference between TCE and OSCE:

In our study group, (71,2%)) of the participants felt that the OSCE are less stressful than the TCE. We found similar results for the sub-groups who experienced both type of examination.

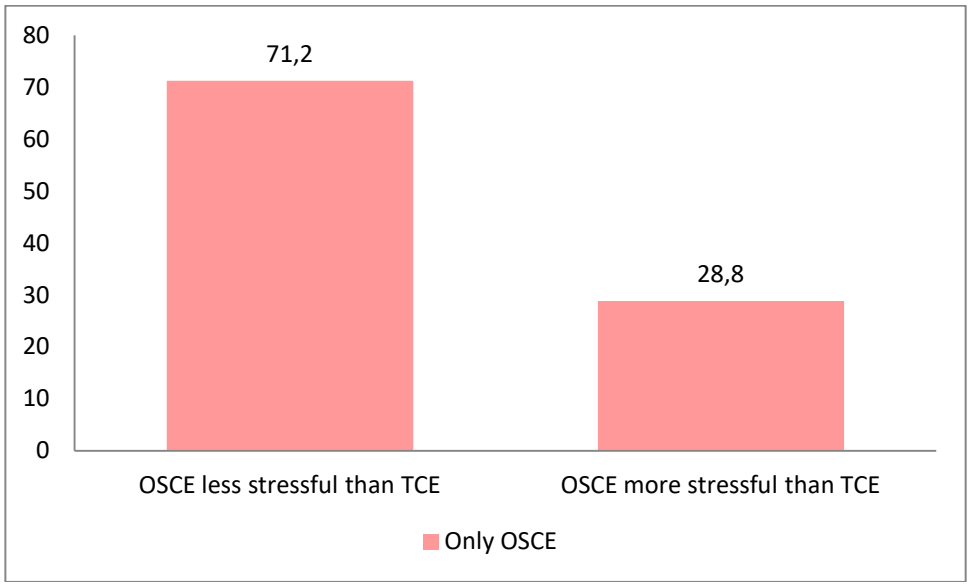


Figure7: Perception of stress comparing TCE and OSCE for students who only experienced OSCE

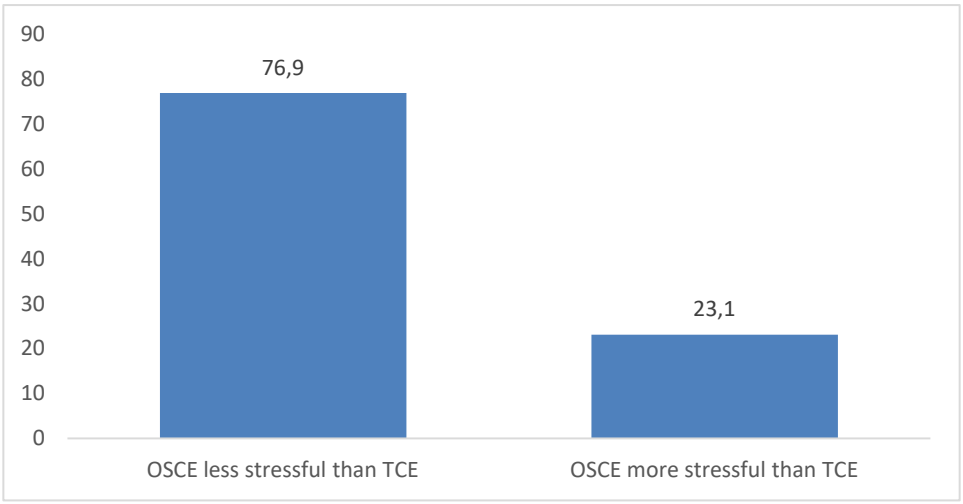


Figure7 bis: Perception of stress comparing TCE and OSCE for students who experienced both TCE and OSE

(91, 3%) of the participants were more favorable to the OSCE and only (8, 7%) were more in favor of the TCE.

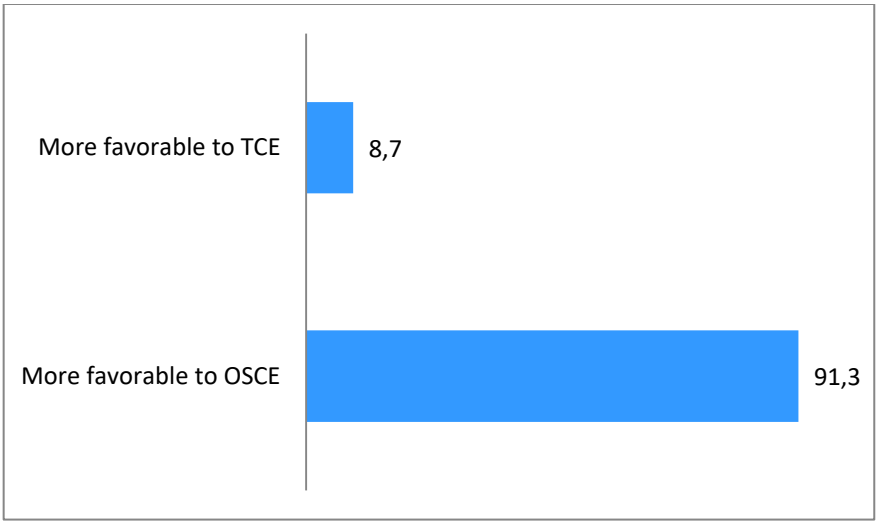


Figure8: Preference of students between OSCE and TCE

b. Preparation for the exam:

i. Awareness of nature of exam:

In our study group, an average of (55%) of the participants felt that they were fully aware of the nature of the exam, while an average of (27%) felt the opposite. (18%) were neutral.

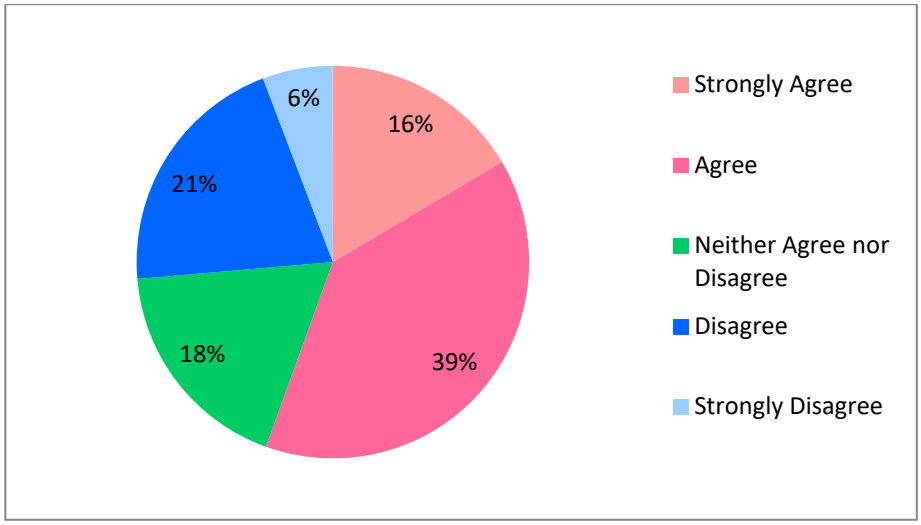


Figure9: Student's awareness of the nature of the exam

ii. Awareness of level of knowledge needed:

(44%) of the participants felt they were not fully aware of the level of knowledge needed to pass the OSCE, while only (36%) felt that they were aware enough.

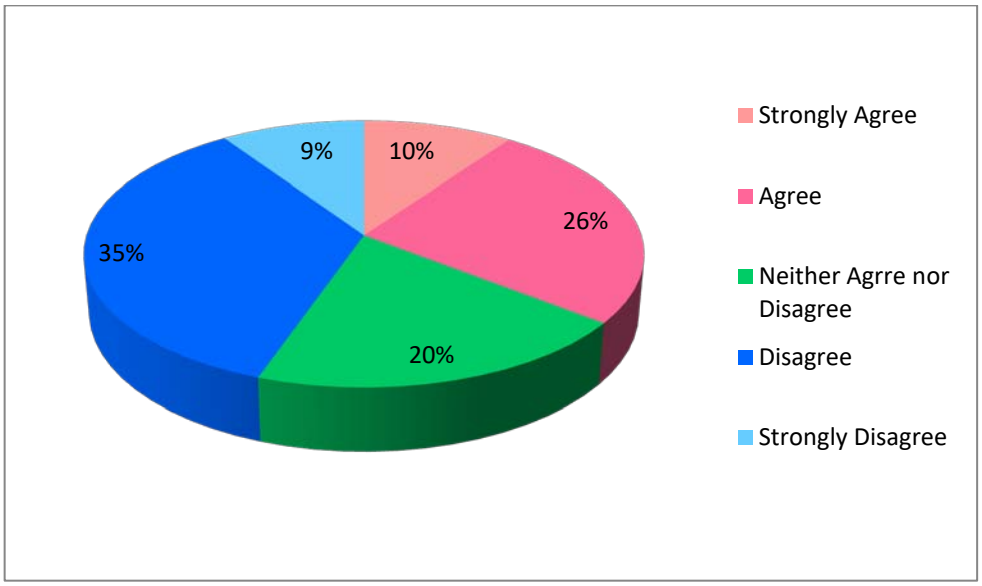


Figure10: Student's awareness of level of knowledge needed for the exam

iii. Exam provided opportunities to learn:

In our study group, the majority of the students felt that the OSCE provided them with an opportunity to learn some competencies in a better way, with (58%) strongly agreeing, (24%) agreeing, and only (9%) disagreeing.

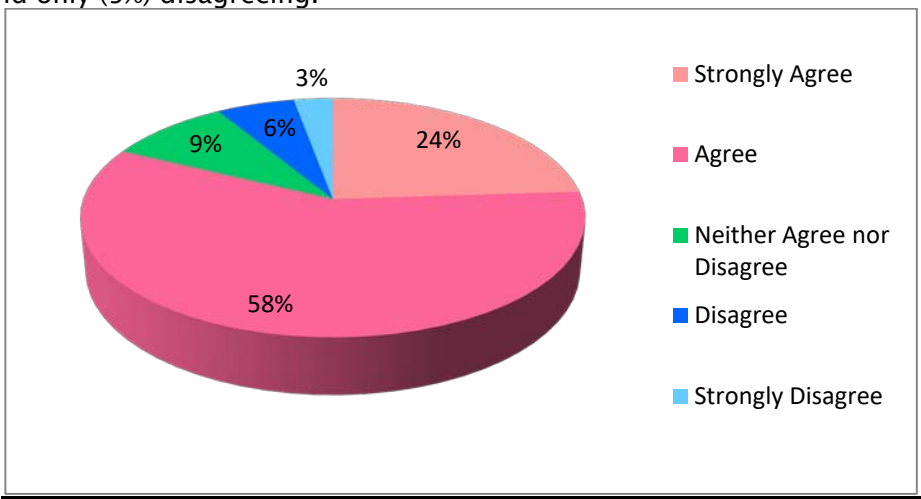


Figure11: Student's perception of exam providing opportunity a better way to learn some competencies

iv. Difficulty to prepare for exam:

In our study, (58, 2%) of the respondents found it difficult to prepare for the exam and (19, 8%) felt the opposite.

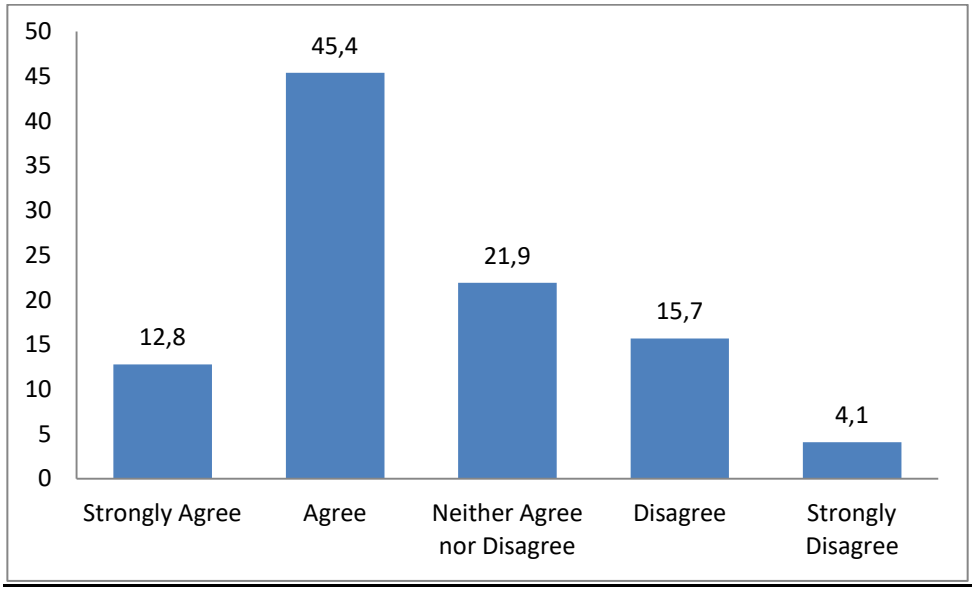


Figure12: Difficulty to prepare for the exam

c. OSCE organization and set-up:

i. Organization of the OSCE:

Approximately (68%) of the participants felt that the OSCE was well organized, while (18%) felt it wasn't.

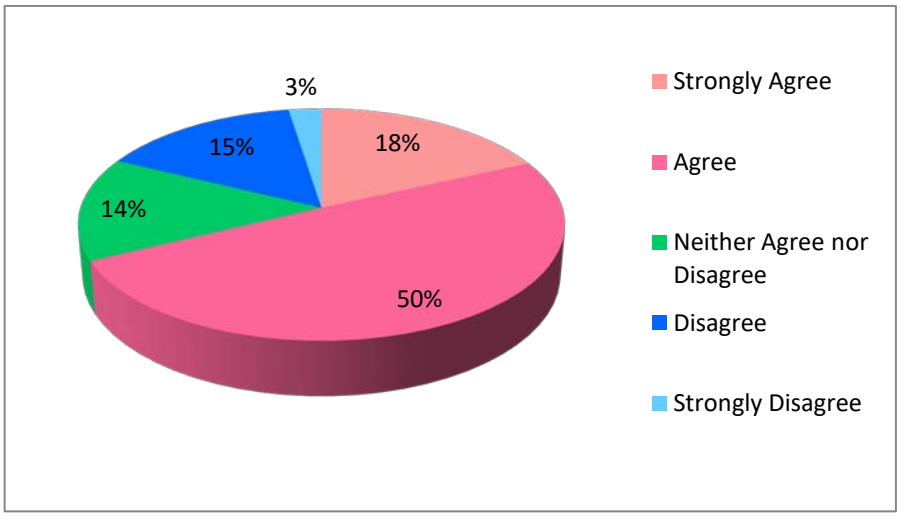


Figure13: Student's opinion about the organization of the OSCE

ii. Number of stations:

Over half of the examinees (52%) felt that the number of stations was adequate and (28%) feeling it was not.

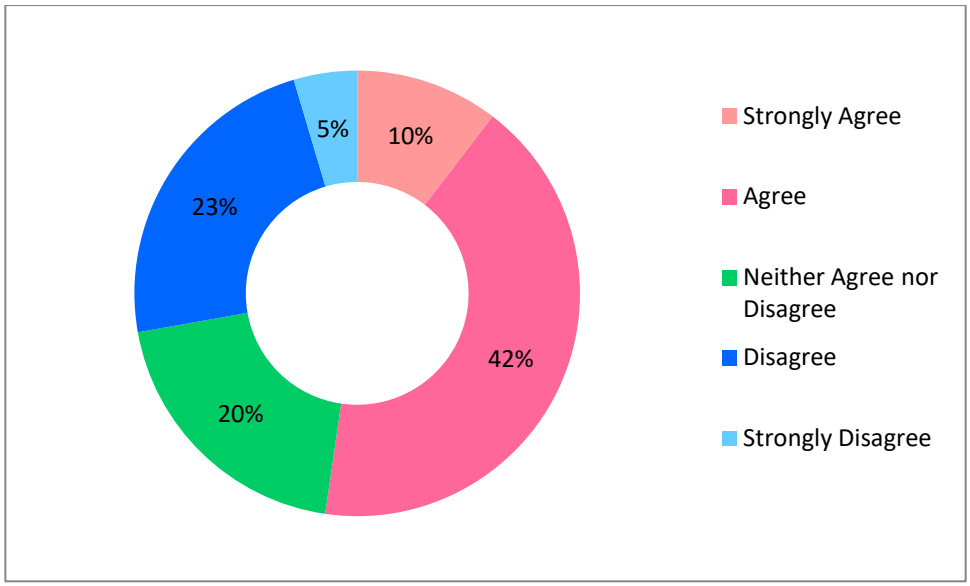


Figure14: Student's opinion about the number of stations

iii. Time allocated for each station:

In our study, (45%) felt that the time allocated to each station was not enough, while just (41%) felt the opposite.

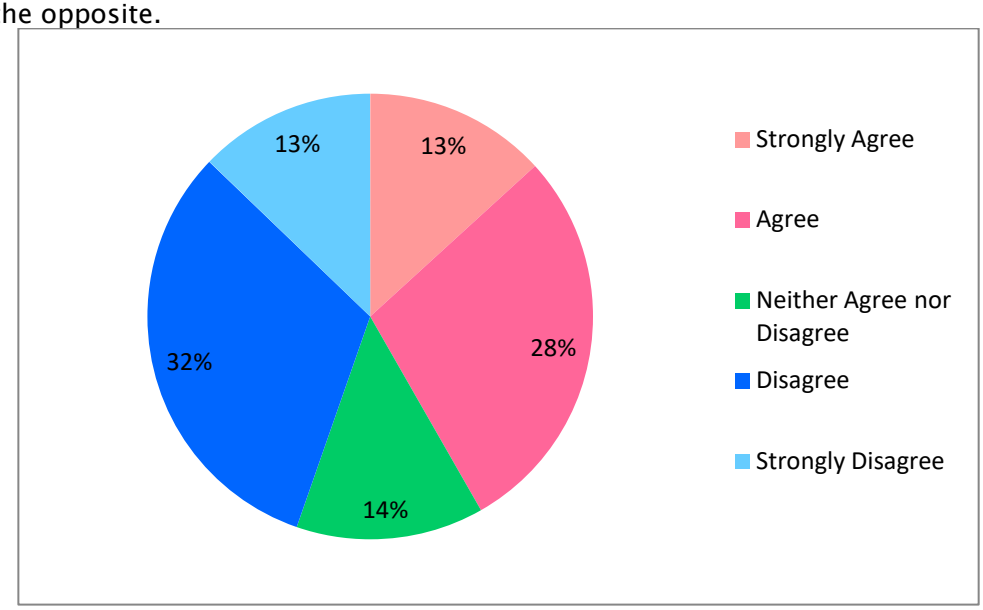


Figure15: Student's opinion about time allocated to each station

iv. Instructions were clear and non-ambiguous:

We had (43,8%) of the participants who felt that that the instructions weren't clear and were ambiguous.

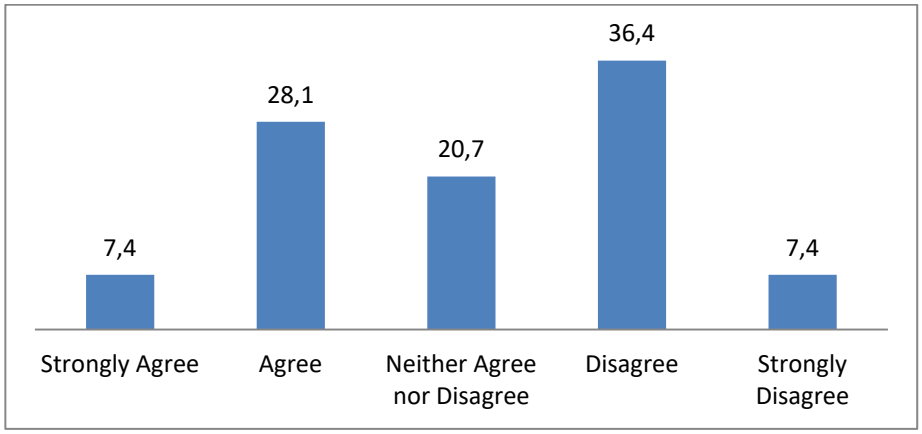


Figure16: Student's opinion about the instructions at the stations

v. SPs stations were simulating real life scenarios:

Over half of the examinees (52%) felt that the stations with SPs were close to real life scenarios, with only (29%) disagreeing.

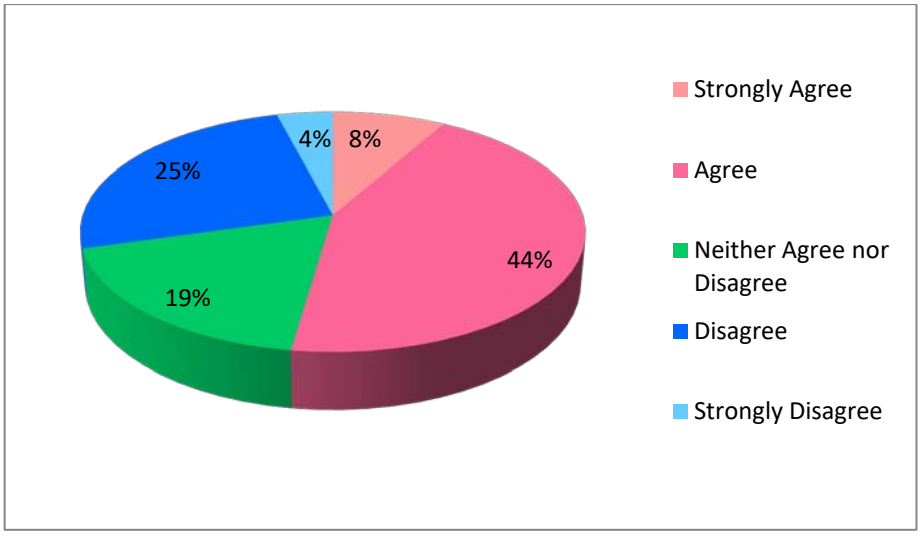


Figure17: Student's opinion about the stations with SPs

d. Content of OSCE:

i. Exam covers a wide area of competencies:

(73%) of the students felt that the OSCE covered a wide area of competencies.

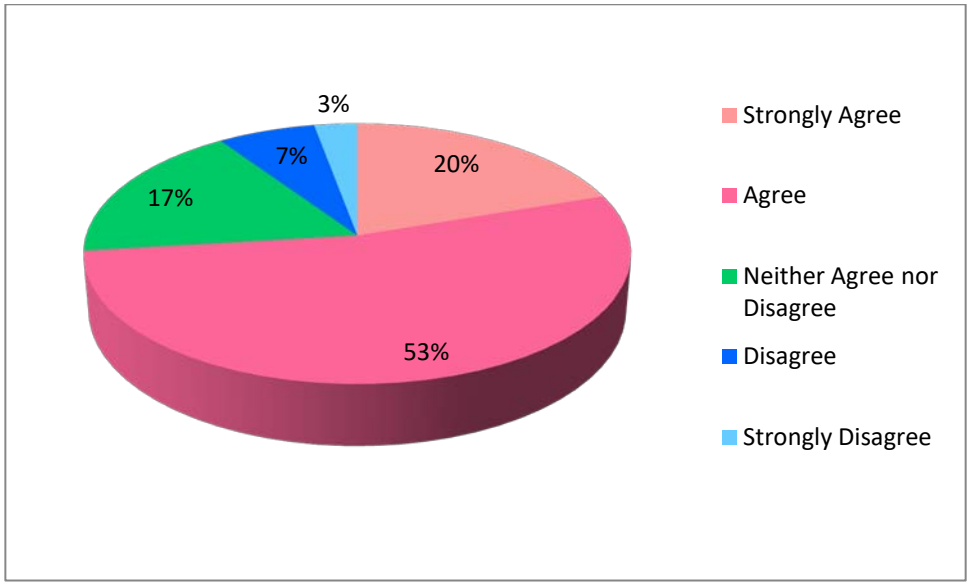


Figure18: Exam covers a wide area of competencies

ii. Clinical competencies evaluated reflected those taught:

Out of 242 participants, (45%) felt that the clinical competencies evaluated didn't reflect those taught, while only (33%) felt the opposite.

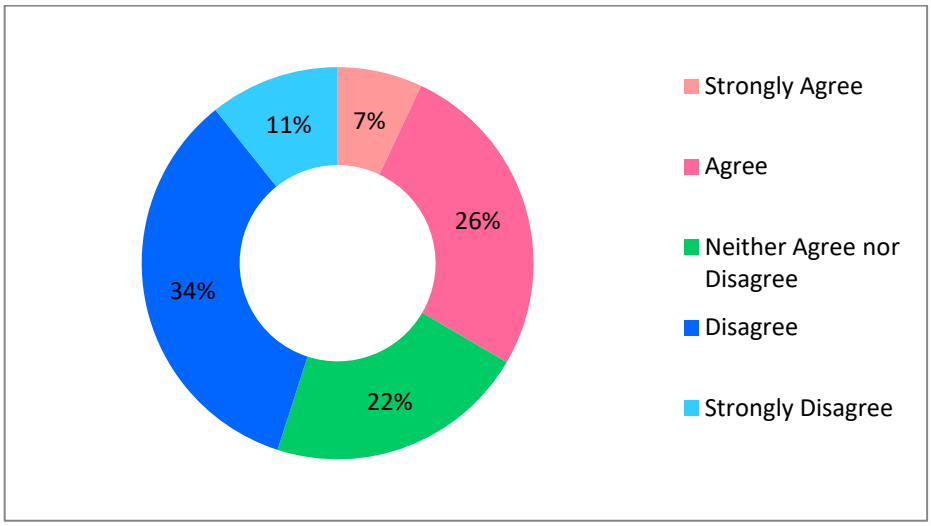


Figure19: Clinical competencies reflected those taught

i. Clinical competencies evaluated reflected those needed for general practice:

Over half of the students (51%) felt that the competencies evaluated during the OSCE were the ones needed for a general practitioner.

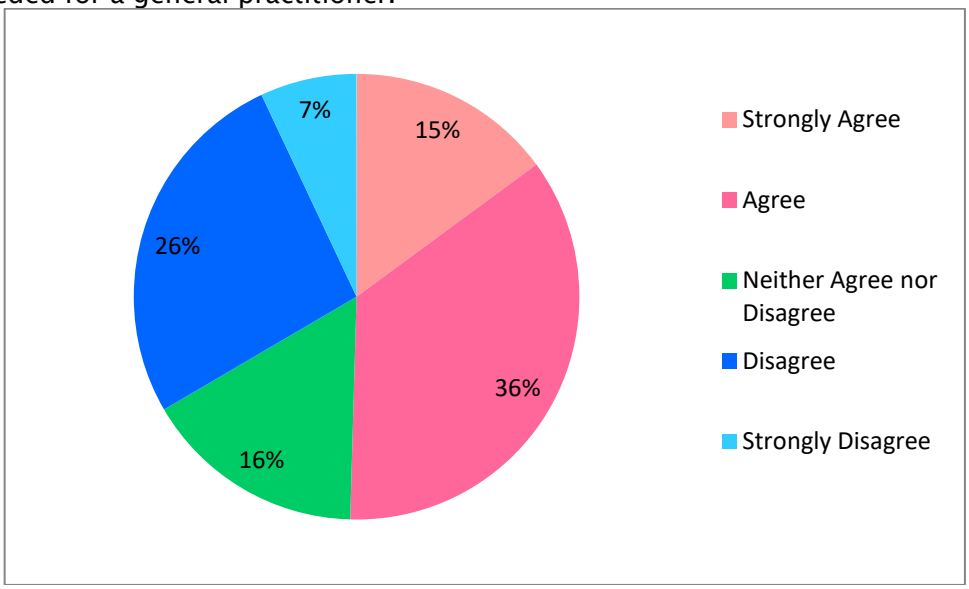


Figure20: Clinical competencies evaluated reflected those needed for a general doctor

Table I: Medical undergraduates' students' evaluation of OSCE attributes

Survey Items	Degree of response		
	Agree ((%)	**Neutral (%)**	**Disagree (%)**
Exam was fair	52%	24%	24%
Exam was intimidating	40%	23%	37%
Exam minimized chance of failing	83%	13%	4%
OSCE is less stressful than other exams	71,2%	0%	28,8%
Awareness of the nature of the exam	55%	18%	27%
Awareness of level of knowledge needed	36%	20%	44%
Exam provided opportunities to learn	82%	9%	9%
Difficulty to prepare for the exam	58,2%	21,9%	19,8%
Exam was well organized, structured and sequenced	68%	14%	18%
Adequate number of stations	52%	20%	28%
Time at each station was adequate	45%	14%	41%
Instructions were clear and unambiguous	35,5%	20,7%	43,8%
SPs stations felt authentic	52%	19%	29%
Wide area of knowledge covered	73%	17%	10%
Tasks reflected skills taught	33%	22%	45%
Tasks reflected skills required for a general practitioner	51%	16%	33%

Discussion

I. Reminder:

1. A brief history of the OSCE:

While deficiencies in the conventional or traditional clinical examinations have been clearly identified [3,4], few attempts have been made to improve the assessment of a student's clinical skills. The need for a more objective approach to the assessment of clinical competence has been widely advocated [5,6].

In long and short case examinations:

- The candidate was assigned a patient in a clinical setting that involved varying levels of simulations
- The candidate was given time to take the patient's history and do a physical examination
- A board of examiners interviewed the candidate afterward, asking about the case
- The candidate was not observed in the patient interaction
- Each candidate had an entirely unique (inconsistent) examination experience[7]

In this context, Harden described for the first time in 1975 [8], what was later considered the "gold Standard" [9] for evaluating clinical competence, the Objective Structured Clinical Examination or OSCE, which avoids many of the disadvantages of the more conventional methods of assessing clinical competence.

The OSCE is now used in countries around the world to assess clinical competence in a range of disciplines, in different health care professions such as medicine, nursing [10], dentistry[11] physiotherapy [12] and pharmacy [13] and in the different phases of education. It has also been used outside medicine, for example in the police force [1]. A study from Hardem et al. [14] showed that 239 universities, institutions or organizations use or have used the OSCE, and that the three countries who have published most articles on the OSCE were the USA, Canada and the UK.

2. Definition of the OSCE:

The objective structured clinical examination, or the OSCE for short, is an approach to the assessment of clinical competence in which the components of competence are assessed in a planned way with attention being paid to the objectivity of the examination [15].

The clinical competence to be tested is broken down into its various components, for example, taking a history of a patient, auscultation of the heart, interpretation of an ECG or coming to a conclusion on the basis of the findings. Each component is assessed in turn and is the objective of one the stations of the examination [16].

This examination includes a circuit of stations each candidate is examined with one or two examiners. Some stations use SPs or real patients. At each station, there is one or two examiners, as opposed to the traditional method of clinical examinations where a candidate is assigned to a jury for the whole exam. All candidates perform the same stations. The stations are standardized, allowing the comparison between the candidates.

This exam was designed to be:

- Objective: all candidates are evaluated using exactly the same stations (although there might be some slight variations due to SPs or actual patients) with the same grid and scoring. Noting each candidate with the same scale when they perform each of the station's tasks correctly makes the assessment more objective.

- Structured: Each station of the exam has a very specific task. When SPs are used, detailed scripts are provided to ensure that the information they give to the candidates is the same, including the emotions that the patient express during the consultation. The instructions are carefully written to ensure that the candidate identifies that he has a specific task to complete. The exam is carefully structured to include parts of all curriculum elements as well as a wide range of skills.

- Clinical: The OSCE is designed to apply theoretical and clinical knowledge to simulated situations. Theoretical questions may be asked by the examiner at the end of each station. These questions are standardized and the candidate is questioned only if the questions are on the exam sheet for the station.

- Examination: An OSCE enables a reliable assessment of a candidate's competence. OSCEs are suitable for use in high-stakes assessments. OSCEs are now used widely in undergraduate, postgraduate and licensing assessments.

3. Development of an OSCE program:

In Morocco, a project for the reform of medical, pharmaceutical and odonatological studies (REMPO) was launched in 2005. The aim of this reform was to link our medical education system in the international sphere by registering it in the License (Bachelor)-Master-Doctorate

(LMD) System. In addition to this, the reform came as an answer to the changing needs in society, the changing nature of healthcare, the need to train a new general practitioner profile that apply the principles of health promotion based on the disease trends of the population and apply public health strategies [17].

The current medical education system is based on a curriculum that is subject-centred and time-based. Most evaluations are summative, with little opportunity for feedback. The teaching-learning activities and the assessment methods focus more on knowledge than on attitude and skills. Thus, graduates may have extraordinary knowledge, but may lack the basic clinical skills required in practice. In addition, they may also lack the soft skills related to communication, doctor-patient relationship, ethics, and professionalism.

Competency-based medical education (CBME) has been suggested and tried to tackle these concerns. Competency is defined as "the ability to do something successfully and efficiently," [18] and CBME is an approach to ensure that the graduates develop the competencies required to fulfil the patients' needs in the society. It de-emphasizes time-based training and promises greater accountability, flexibility, and learner-centeredness [19]. This means that teaching-learning and assessment would focus on the development of competencies and would continue till the desired competency is achieved. The training would continue not for a fixed duration, but till the time the standard of desired competency is attained. Assessments would be frequent and formative in nature, and feedback would be inbuilt in the process of training. Furthermore, each student would be assessed by a measurable standard which is objective and independent of the performance of

other students. Thus, it is an approach in which the focus of teaching-learning and assessment is on real-life medical practice. [20]

Since CBME is learner-centred, offers flexibility in time, and focuses on all the three domains of learning together (cognitive, affective and psychomotor); the teaching-learning activities would need a change in structure and process. Since it focuses on outcomes and prepares students for actual professional practice, teaching-learning activities would be more skill-based, involving more clinical, hands-on experience.

As CBME promises greater accountability, the assessment needs to be robust and multifaceted. It should also answers to Miller's pyramid of assessment [21].

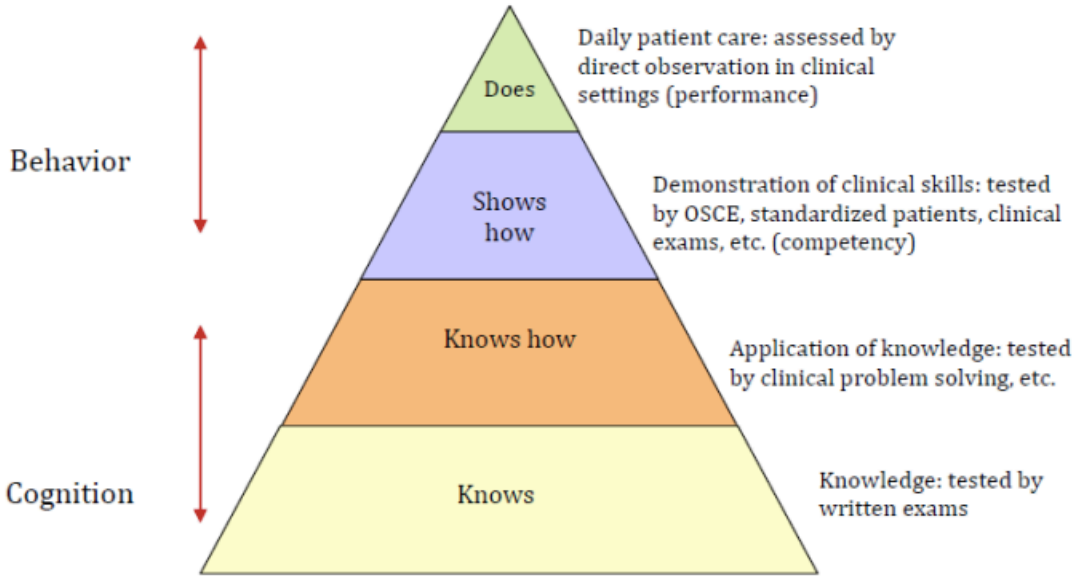


Figure21 : Miller's pyramid of Assessment

Since naming him Dean of the Faculty of Medicine and Pharmacy of Marrakech, Pr. Mohamed Bouskraoui, has been working on applying the objective of the medical education reform. One of his main concerns was the students' learning and evaluation experience.

In his desire to improve the quality of evaluation techniques and to be abridged of current instructional technologies in medical education [22], he took a pioneering role and introduced the OSCE during the 2016-2017 academic sessions.

Implementing the OSCE program required considerable financial resource and faculty time and effort. As a first step, the faculty organized multiple seminars and workshops aimed at training teachers by inviting speakers specialized in medical pedagogy from countries such as Canada and the UK. The training lasted over one year.

Figure22: OSCE workshop at the pedagogy department

An OSCE committee was then created to chaperon upcoming exams. Its main objectives were to organize the OSCE circuits, design stations, choose questions and design instructions to candidates, design performance and assessment instruments such as marking schemes and grids, and finally recruit and train simulated patients.

An OSCE team is also required during the exam for correct movement of candidates and accurate time keeping.

As a second step, a mock session was organized to get both teachers and students acquainted to this new method. Students were actively invited to enroll in this experimental session. The grade obtained in this session were not counted in the total student's grades.

After the pilot session, the OSCE was officially implemented as the final year medicine clerkship exam.

Figure23: A OSCE mock session

4. Preparation and organization of the OSCE:

The organization of the OSCE requires considerable financial resource and faculty time and effort. It could be divided into three separate steps.

i. First step:

An evaluation committee composed of exam officers was appointed. This committee determined:

- The skills to be evaluated
- The number of stations required for the exam, as well as their characteristics according to the clinical skills selected.
- The calendar of events which must include the dates of the informative sessions to the students, to the evaluators and the schedule of the meetings for the final rating.
- The designation of the managers of each station.

An OSCE coordinator is designated as well and its principal roles are to:

- Prepare the venue of the examination with the help of the faculty's staff.
- Supervise the confidentiality of the print media.
- Send reminders to the teachers.
- Make a report to the Vice Dean of educational affairs. The latter sends convocations for the examination.

Frequent meetings are organized a month ahead of the exams at the Center for the Medical Pedagogy of the Faculty of Medicine and Pharmacy of Marrakech.

Figure24: Center for Simulation and Innovation in Health Sciences (CSISS) of the Faculty of Medicine and Pharmacy of Marrakech.

Figure25: OSCE committee preparation meeting

ii. Second step:

It consists of preparation of the examination venue and to chaperon the progress of the examination. All persons involved in the examinations are required to report to the examination site in advance.

- Pedagogical and administrative staff: One hour before
- Students: 30 minutes before
- Teachers: 20 minutes before
- SPs: 15 minutes before

Enough space is required for circuit running and to accommodate the various stations, equipment and materials for the exam. It should be able to accommodate an examiner, a student and possibly the SP and also allow for enough privacy of discussion so that the students performing other tasks are not distracted or disrupted. The faculty opted for two venues on two separate levels with four rooms each, which allowed for two groups to pass the exam simultaneously. Each room could fit up to four stations if needed.

Figure26 : Examination venue

The number of each station and the direction to the next one was clearly marked so not to confuse the student. In addition, a coordinator stands in between the rooms to guide the students to the next station.

Figure27: Directions and number of stations

Multiple circuit settings are available for the OSCE (See Appendices). We opted for a U-shaped layout with an opening in the middle of the rooms. This allowed students to move smoothly between stations. They were then equipped, according to the necessity of the stations, with patient beds and examination tables, diagnostic instruments and digital audio-visual monitoring system.

Figure28: U-shaped setting of stations

Upon arriving at the examination venue, the students are quickly briefed about the OSCE in separate lecture halls by the OSCE marshal, Pr. El Fezzazi.

Since the number of candidates varies from a session to another, the number of stations varies as well, depending on the number of students enrolled. The first two groups are called upon and each group is guided to their correspondent venue. The student, rotates round a number of stations, usually about 6, spending a speci n. The time allowed is the same for all the stations which is usually about 5 minutes. An additional 30 seconds was allowed for the examiner to finalize the marking scheme and for the student to move to the next station. This is done until every candidate has visited each station. A rest fied time at each station. On a bell signal, the student moves on to the next station and so o station is placed if there is considerable distance between two stations.

Figure29: Coordination committee station

iii. Third step:

The third and final step consists of deliberations and validation of final marks. It is done on the same day right after the examination. The teachers agree on the number of stations required to pass the exam. The Vice Dean of educational affairs, the OSCE coordinator and the coordinator of the specialty moderate the deliberation session.

The verification of the number of validated stations as well as the grade is discussed for each student. At the end of the deliberations, the grades are announced on the same day.

5. Design of an OSCE station:

i. Type of stations:

There are different classifications of OSCE and many type of stations. We follow this classification:

- Anamnesis stations: the student is required to gather history of patient.
- Dry stations: the student is required to interpret laboratory tests or medical imagery such as a mammography and conclude to a diagnosis. This station could require some material such as audio-video system, pictures or x-rays.
- Manikin stations: or procedural stations; the student is required to accomplish a medical procedure such as perform a breast or pelvic examination, a pap smear or a baby delivery.
- Communication skills stations: the student is required to demonstrate his communication skills through tasks such as announcement of a cancer diagnosis, explication of a treatment and the medical management to a patient or therapeutic education.

Figure30: Anamnesis station, with the examinee, the SP, the evaluator and the head of the station

Figure31: Dry station with the examinee, the examiner and the head of the station

Figure32: Procedural station; here we have a student performing a pap smear.

Figure33: Student performing a breast examination on a manikin

Figure34: Dry station; interpretation of a mammography

ii. Guidelines for writing a station:

- Choose the topic of the station and its aim
- Choose the station writers
- Identify the skills to be assessed
- Choose the station type based on the evaluated skills to be assessed
- Follow a station template for the type of station chosen
- Establish the instructions for the stations (see appendices)
- Establish the instructions for SPs and prepare the scenarios to follow
- Establish the marking grid and schemes (see appendices)
- Prepare a checklist for the station: material, room setting requirement[23] (see appendices)

II. Discussion of the results:

1. Student's perception of OSCE:

Understanding the perspective of students especially in the case of implementation of new methods of evaluation is particularly important and valuable. Similarly, to other studies of student's perception of OSCE [24,25,26] we tried to acknowledge different aspects of students' perception of this method of examination. Questions in the survey concerned both the general attributes of the exam (fairness, difficulty, equality, etc…) and the organization factors (including the amount of time at stations, quality of instructions, etc…).

Students' evaluation of OSCE in this study was encouraging. This was demonstrated by the favourable responses concerning its accuracy in measuring knowledge and skill, fairness of the examination process, additional experience, and learning from the OSCE and its enhancement of communication skills. These modest levels of acceptance of the OSCE by students have been described in previous studies [27,28,29].

i. General attributes of OSCE:

In our study, (52%) of the students believed that the exam was fair. Even though more than half the students agree on the exam's fairness, our exam did not score very high compared to other reports [2, 13,30-33]. (See Table.II)

Table II: Exam's fairness compared to other studies

Authors	Agree	Neutral	Disagree
Our study	52	24%	24%
Pierre (Jamaica, 2004)	68%	19%	12%
Awaisu (Malaysia, 2007)	64%	24%	9%
Al Omari (Jordan, 2010)[28]	72%	12%	15%
Jawaid (Pakistan, 2014)[30]	76,1%	19,3%	2,8%
Ameh (Nigeria, 2014)[31]	94,9%	4,5%	0,6%
Saeed (Saudi Arabia, 2016)[32]	71,8%	16,7%	11,5%

The observation that the OSCE is much more intimidating (40%) than other written examination methods, is consistent with other studies [2,13,33,34,35]. (See Table.III)

Table III: Exam being intimidating compared to other studies

Authors	Agree	Neutral	Disagree
Our study	40%	23%	37%
Pierre (Jamaica, 2004)	48%	32%	20%
Awaisu (Malaysia, 2007)	36%	44%	20%
Ali (Egypt, 2012)[33]	43,1%	41,1%	12,1%
Jindal (India, 2016)[34]	57,1%	28,5%	8,5%
Saeed (KSA, 2016)	65,4%	24,4%	10,3%

A possible explanation is that a written examination is undertaken in relatively anonymity, whereas the constant monitoring and observation during an OSCE may increase anxiety levels. Also, in a written examination, there is no time limit for each question and students can spend their time on any question, and if they do not know the answer to one question, they can think about it at the end of the exam. However, during an OSCE, usually each station has its own time,

which cannot be extended; and if the students are not able to answer one station, they do not have time to think about it.

In contrast to OSCE being intimidating, (71,2%) of students felt the OSCE to be less stressful than other evaluation methods which is consistent with similar studies [2,13,30,33,34,35]. (See Table. IV).

Table IV: OSCE less stressful than other exams

Authors	Agree	Neutral	Disagree
Our study	71,2%	0%	28,8%
Pierre (Jamaica, 2004)	15%	40%	35%
Awaisu (Malaysia, 2007)	41%	27%	32%
Ali (Egypt, 2012)[33]	70,7%	10,3%	17,2%
Jawaid (Pakistan, 2014)[31]	74,3%	18,3%	6,4%
Ameh (Nigeria, 2014)	59,6%	31,4%	9,0%
Jindal (India, 2016)[34]	82,8%	17,1%	0%

Despite our effort to give two briefing sessions and conduct a mock session of the OSCE, only (55%) of the students felt that they were fully aware of the nature of the exam. This is not consisting with other studies with relatively high rates on this fact [2,31,32,33]. (See Table.V)

Table V: Degree of awareness of nature of exam compared to other studies

Authors	Agree	Neutral	Disagree
Our Study	55%	18%	27%
Pierre (Jamaica, 2004)[2]	87%	9%	4%
Ali (Egypt, 2012)[33]	70,7%	22,4%	6,9%
Ameh (Nigeria, 2014)[31]	72,4%	20,5%	7,1%
Saeed (Saudi Arabia, 2016)[32]	70,5%	0%	19,2%

Furthermore, only (36%) of the participants felt that they were aware of the level of knowledge needed to pass the exam. These findings are lower than reports by other studies [2,13,31,33,34,35]. (See Table.VI)

Table VI: Degree of awareness of level of knowledge needed compared to other studies

Authors	Agree	Neutral	Disagree
Our study	36%	20%	44%
Pierre (Jamaica, 2004)[2]	53%	26%	21%
Awaisu (Malaysia, 2007)[13]	54%	34%	12%
Ali (Egypt, 2012)[33]	55,2%	10,3%	32,8%
Jawaid (Pakistan, 2014)[35]	58,7%	27,5%	6,4%
Ameh (Nigeria, 2014)[31]	54,5%	30,8%	11,5%
Jindal (India, 2016)[34]	74,2%	14,2%	11,4%

On a better note, (82%) of our group perceived that the OSCE provided an opportunity to better learn skills and competencies. The finding that an overwhelming proportion of students admitted that the OSCE provided a useful and practical learning experience was consistent with similar studies reported elsewhere [2,13,26,32-35]. (See Table.VII)

Table VII: Exam provided opportunities to learn

Authors	Agree	Neutral	Disagree
Our Study	82%	9%	9%
Pierre (Jamaica, 2004)[2]	69%	21%	11%
Ali (Egypt, 2012)[33]	84,5%	22,4%	6,9%
Ameh (Nigeria, 2014)[13]	74,4%	1,9%	5,8%
Nasir (Nigeria, 2014)[26]	56,9%	28,5%	11,9%
Jawaid (Pakistan, 2014)[35]	77,1%	12,8%	2,8%
Saeed (KSA, 2016)[32]	79 5%	0%	20 5%
Jindal (India, 2016)[34]	91,4%	8,5%	0%

ii. Organization and set-up of OSCE:

Students offered constructive criticism of the structure and organization of the process. (68%) of the participants felt that the exam was well organized with logical and appropriate sequence of stations, which confirmed the findings of other studies [2,13,28,32-35]. (See Table.VIII)

Table VIII: Perception of the OSCE's organization compared to other studies

Authors	Agree	Neutral	Disagree
Our Study	68%	14%	18%
Pierre (Jamaica, 2004)[2]	57%	30%	13%
Al Omari (Jordan, 2010)[28]	95%	0%	5%
Ali (Egypt, 2012)[33]	86,2%	5,2%	8,6%
Ameh (Nigeria, 2014)[13]	90,4%	8,3%	1,3%
Jawaid (Pakistan, 2014)[35]	85,3%	8,3%	2,8%
Saeed (KSA, 2016)[32]	70,5%	19,2%	25,7%
Jindal (India, 2016)[34]	85,7%	11.4%	2.8%

(52%) of students felt that the number of stations was adequate, but the response of students on time allocated to each stations was equivocal. (45%) felt that the time allocated to each station was enough and (41%) felt it wasn't. Review of the literature found that Jindal[34], Awaisu[13] and Pierre[2] concluded that the time allocated to the stations was insufficient. The study by Nasir[26] and Jawaid[35] found that the time at stations was enough. (See Table. IX)

Table IX: Perception on station time compared to other studies

Authors	Agree	Neutral	Disagree
Our study	45%	14%	41%
Pierre (Jamaica, 2004)[2]	21%	35%	44%
Awaisu (Malaysia, 2007)[13]	32%	22%	46%
Al Omari (Jordan, 2010)[28]	93%	4%	3%
Ali (Egypt, 2012)[33]	44,8%	37,9%	17,2%
Ameh (Nigeria, 2014)[13]	47,4%	29,5%	22,4%
Nasir (Nigeria, 2014)[26]	70,2%	21,9%	7,9%
Jawaid (Pakistan, 2014)[35]	64,2%	14,7%	2,8%
Jindal (India, 2016)[34]	20%	20%	59,9%

The response of the students on clarity of instruction at the stations was equivocal making interpretation difficult. Overall, (35%) of students felt that it was easy to understand written instruction, whereas (43,8%) agreed that instructions at some station were rather ambiguous. The literature on this matter differs widely [2,13,26,33,35]. (See Table. X)

Table X: Perception on instructions compared to other studies

Authors	Agree	Neutral	Disagree
Our study	35,5%	20,7%	43,8%
Pierre (Jamaica, 2004)[2]	58%	27%	15%
Ali (Egypt, 2012)[33]	50%	37,9%	12,1%
Ameh (Nigeria, 2014)[13]	88,5%	9,0%	2,6%
Nasir (Nigeria, 2014)[26]	29,8%	25,8%	44,4%
Jawaid (Pakistan, 2014)[35]	76,1%	13,8%	3,7%

i. Content of the OSCE:

In our survey, students showed high satisfaction (73%) with the range of knowledge covered by the OSCE, and this was consistent with results of other studies [2,13,28,32-35]. (See Table.XI)

Table XI: Wide area of knowledge covered

Authors	Agree	Neutral	Disagree
Our study	73%	17%	10%
Pierre (Jamaica, 2004)[2]	95%	5%	0%
Awaisu (Malaysia, 2007)[13]	79%	20%	2%
Al Omari (Jordan, 2010)[28]	95%	2%	3%
Ali (Egypt, 2012)[33]	72,4%	5,2%	22,4%
Jawaid (Pakistan, 2014)[35]	86,2%	12,8%	0,9%
Saeed (KSA, 2016)[32]	82,1%	11,5%	6,4%
Jindal (India, 2016)[34]	94,2%	5,8%	0%

On the other hand, only (33%) of our study group felt that the skills evaluated reflected those taught throughout the medical curriculum. This was consistent with the study by Nasir[26] and Ali[33]. It was not congruent with other studies findings such as Pierre[2], Ameh[13] and Jawaid[35]. (See Table.XII)

Table XII: Skills evaluated reflected skills taught

Authors	Agree	Neutral	Disagree
Our study	33%	22%	45%
Pierre (Jamaica, 2004)[2]	73%	23%	4%
Ali (Egypt, 2012)[33]	36,2%	32,7%	31%
Ameh (Nigeria, 2014)[13]	76,9%	18,6%	22,4%
Nasir (Nigeria, 2014)[26]	46,4%	31,8%	20,5%
Jawaid (Pakistan, 2014)[35]	61,5%	17,4%	4,6%

2. Limits and strengths of OSCE:

As many medical schools have adopted a student-centered approach to medical education, greater students' participation in quality of assessment methods must be encouraged.

Students' evaluation of OSCE in this study was encouraging. This was demonstrated by favorable responses concerning its accuracy in measuring knowledge and skill, fairness of the examination process, additional experience, and learning from the OSCE and its enhancement of communication skills.

The majority of students saw the OSCE as an unprecedented opportunity to encounter real-life scenarios. It also provided students with feedback mechanism to measure their strengths and weaknesses in clinical skills.

Another advantage of OSCE is that it can be adapted according to the local needs, departmental policies and availability of resources.

However, some might argue that personality, social relations, and gender affected their performance and scores in the examination. Similarly, both the variability in examination venue and that of examiner were identified by other studies [26] as sources of bias in scores.

In other studies [13,35], students expressed considerable concern that examiners were a major sources of bias in scores. Checklist is meant to reduce this evaluator variability but no matter what version of scoring is used, there is always concern for evaluator reliability and differences between evaluator evaluations. A study from one well-established OSCE testing center revealed the presence of 4 common evaluator errors (leniency, inconsistency, the halo effect, and restriction of range) despite intensive evaluator training and experience [26].

The number of students aware of the nature of the exam and the knowledge needed to pass the exam was low compared to other studies. This problem should be tackled by exposing the students to this assessment method at an earlier stage along with the CBME approach.

By design, OSCEs were meant to lead to continuous and deep learning strategies with incentives to practice with patients. Those expectations were not met in many studies, calling for caution in predicting pre-assessment effects [36,37,38]. Medical students will usually align their learning strategies to achieve the best performance in the task to come. Studies [39,40] showed that medical students seldom practice for OSCEs through patient contact, often focusing on rehearsing a structure rather than acquiring authentic clinical competencies. Assessment "checklists," rather than learning criteria, will sometimes guide students' learning strategies [41].

In another studies, students raised concern about time allocated at stations being insufficient, and stressed that it should not become an exercise on how fast students can perform a technique but rather focus on how well they can perform [34].

Another one of its limits, is that it can lead to observer fatigue if he/she has to record the performance of several candidates on lengthy checklists.

Studies surveying students' attitudes during the OSCE have documented that the OSCE can be a strong anxiety- producing experience [42], and that the level of anxiety changes little as students progress through the examination. However, students' perception of the OSCE may have been influenced by anxiety and lack of confidence associated with a new assessment format. This was understandable, as it was their first encounter with this type of assessment [26].

Another disadvantage of the OSCE is its high cost and its time-consumerism. In our study

it was not possible to calculate the exact cost. However, it is important to highlight that it required additional effort from the faculty. This was also the case with other studies [43].

Another concern, is that the students desire more feedback on their performance and this should be included in our OSCE experience [44].

Another recurrent concern of this approach is that the student's skills and knowledge are being put into compartments and that he is being discouraged from looking at the patient as whole [8, 13].

3. Recommendations for improvement of the OSCE:

Like any other assessment method, OSCE presents with some flaws that makes it unfit to rely on it solely [45]. The findings of this study strengthen the findings of previous studies which emphasized on the use of multiple tests rather than just a single test to make judgment on students' performance especially in high stakes examination. The existence of both examination formats could help in making a more comprehensive decision on student's [24].

OSCE should be used both as summative and a formative tool, which would make it primarily a learning tool and would not contribute to a student's final assessment mark. It would also be an opportunity to familiarise students with the OSCE process early in their curriculum and to provide feedback on their performance, thereby enabling improvement before the summative OSCE.

The value of such formative assessment in higher education is well documented. It is important to distinguish between mock OSCEs and formative OSCEs, as they serve different purposes and have different educational outcomes. A mock OSCE replicates the summative OSCE,

allowing students to experience the timings, format, layout, length, and station content of a summative OSCE. A formative OSCE, however, may take a different format or length to a summative OSCE, and is primarily designed to enhance learning of clinical and examination skills.

A formative OSCE may be helpful to identify struggling students to enable additional support prior to any summative OSCE. In general, the formative OSCE was viewed as a positive and useful activity, with the majority of students applying their learning experience to their preparation for the summative OSCE. Students clearly appreciate the opportunity to practise their clinical and examination skills under the 'low-risk' conditions of a formative exam [46].

Another suggestion, would be to integrate simulation-based learning into OSCEs. Such a combination already exists in the form of TIPS: The Test of Integrated Professional Skills which is an OSCE-Simulation Hybrid exam using standardized patient interactions and skill performance to assess a range of skills in order to generate personalized learning plans [47].

CONCLUSION

Although the implementation of the OSCE in the FMPM has been challenging, considering the heavy logistics and costs it requires; and the fact that it was the first time students encountered this type of evaluation method; the findings of our study demonstrates an overall acceptance and satisfaction with this method.

This appears in student feedback which confirmed their acceptance of OSCE, stating that it was fair, unbiased, covers a wide range of knowledge and is comprehensive tool for assessment. The students' noted that, the exam was well-structure and sequence, provide opportunities to learning experience and reflected real life situation. Also the majority of examinees was satisfied with conduct, organization and administration of the OSCE; as well prefer using the OSCE exam more in the clinical exams than other assessment tools.

The survey further highlighted for future refinement, the strengths and weaknesses associated with the development and implementation of an OSCE.

In light of this finding, it is recommended that the OSCE must be used as an integral part of the overall assessment strategy and introduced to students earlier in their studies; moreover, the OSCE shouldn't be relied on solely and should be used it in conjunction with other classical clinical examination methods.

More studies are required involving larger number of students and teachers to further establish the effectiveness of the OSCE within the undergraduates' medical curriculum.

APPENDICES

APPENDIX : QUESTIONNAIRE

Perception et feedback des étudiants en médecine par rapport aux ECOS en gynécologie-obstétrique

Chères étudiantes, Chers étudiants,
Dans le cadre d'une étude sur l'instauration des ECOS comme nouvelle méthode d'évaluation de l'enseignement médical, je vous prie de bien vouloir remplir ce questionnaire.
Nous portons à votre connaissance que les informations collectées resteront anonymes.
Merci pour votre collaboration.

1. **Question 1: En quelle année êtes-vous?**
   Mark only one oval.
   - ◯ 6ème année
   - ◯ 7ème année
   - ◯ En instance de thèse

2. **Question 2: Êtes-vous interne ou FFI?**
   Mark only one oval.
   - ◯ Interne
   - ◯ FFI

3. **Question 3: Avez-vous déjà passé une session d'examen clinique traditionnel?**
   Mark only one oval.
   - ◯ Oui
   - ◯ Non

L'examen en général:

4. **Question 4: Pensez-vous que l'examen est équitable?**
   Mark only one oval.
   - ◯ Tout à fait d'accord
   - ◯ D'accord
   - ◯ Ni en désaccord ni en accord
   - ◯ Pas d'accord
   - ◯ Pas du tout d'accord

5. **Question 5: A votre avis,**
   Mark only one oval.
   - ◯ Les ECOS sont moins stressants que les méthodes d'évaluation traditionnelles (épreuve-malade devant un seul jury)
   - ◯ Les ECOS sont plus stressants que les méthodes d'évaluation traditionnelles (épreuve-malade devant un seul jury)

6. **Question 6: Sur une échelle de 1 à 10, votre niveau de stress au cours de l'examen était de**
Mark only one oval.

	1	2	3	4	5	6	7	8	9	10	
Pas du tout stressant	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Très stressant

7. **Question 7: Pensez-vous que l'examen (ECOS) augmente vos chances de réussite?**
Mark only one oval.

- ◯ Tout à fait d'accord
- ◯ D'accord
- ◯ Ni en désaccord ni en accord
- ◯ Pas d'accord
- ◯ Pas du tout d'accord

8. **Question 8: Pensez-vous que ce type d'évaluation (ECOS) est intimidant?**
Mark only one oval.

- ◯ Tout à fait d'accord
- ◯ D'accord
- ◯ Ni en désaccord ni en accord
- ◯ Pas d'accord
- ◯ Pas du tout d'accord

9. **Question 9: En général, êtes-vous plus favorable pour les ECOS ou aux méthodes d'évaluation traditionnels (Epreuve-malade classique avec un seul jury)?**
Mark only one oval.

- ◯ Plus favorable aux ECOS
- ◯ Plus favorable à l'épreuve-malade classique

Préparation à l'examen:

10. **Question 10: Pensez-vous que vous étiez bien informé sur la nature de l'examen?**
Mark only one oval.

- ◯ Tout à fait d'accord
- ◯ D'accord
- ◯ Ni en désaccord ni en accord
- ◯ Pas d'accord
- ◯ Pas du tout d'accord

11. **Question 11: Pensez-vous que vous étiez bien informé sur le niveau de connaissances requis pour bien réussir l'examen?**
Mark only one oval.

- ◯ Tout à fait d'accord
- ◯ D'accord
- ◯ Ni en désaccord ni en accord
- ◯ Pas d'accord
- ◯ Pas du tout d'accord

12. **Question 12: Pensez-vous que la préparation à l'examen vous permet un meilleur apprentissage de certaines compétences?**
Mark only one oval.

- ◯ Tout à fait d'accord
- ◯ D'accord
- ◯ Ni en désaccord ni en accord
- ◯ Pas d'accord
- ◯ Pas du tout d'accord

13. **Question 13: Avez-vous trouvé des difficultés pour la préparation à cet examen?**
Mark only one oval.

- ◯ Tout à fait d'accord
- ◯ D'accord
- ◯ Ni en désaccord ni en accord
- ◯ Pas d'accord
- ◯ Pas du tout d'accord

14. **Question 14: Avez-vous trouvé que le guide de stage était un support suffisant pour guider votre préparation à l'examen?**
Mark only one oval.

- ◯ Tout à fait d'accord
- ◯ D'accord
- ◯ Ni en désaccord ni en accord
- ◯ Pas d'accord
- ◯ Pas du tout d'accord

Déroulement de l'examen:

15. **Question 15: Pensez-vous que le nombre de stations était correct?**
Mark only one oval.

- ◯ Tout à fait d'accord
- ◯ D'accord
- ◯ Ni en désaccord ni en accord
- ◯ Pas d'accord
- ◯ Pas du tout d'accord

16. **Question 16: Pensez-vous que l'examen était bien organisé?**
Mark only one oval.

- Tout à fait d'accord
- D'accord
- Ni en désaccord ni en accord
- Pas d'accord
- Pas du tout d'accord

17. **Question 17: Pensez-vous que le temps alloué à chaque station était suffisant?**
Mark only one oval.

- Tout à fait d'accord
- D'accord
- Ni en désaccord ni en accord
- Pas d'accord
- Pas du tout d'accord

18. **Question 18: Pensez-vous que les instructions et les consignes pour chaque station étaient claires et non ambigües?**
Mark only one oval.

- Tout à fait d'accord
- D'accord
- Ni en désaccord ni en accord
- Pas d'accord
- Pas du tout d'accord

19. **Question 19: Trouvez-vous que les stations avec des patients standardisés (acteurs) sont proches d'une situation réelle?**
Mark only one oval.

- Tout à fait d'accord
- D'accord
- Ni en désaccord ni en accord
- Pas d'accord
- Pas du tout d'accord

Contenu de l'examen:

20. **Question 20: Pensez-vous que l'examen évalue un assez large éventail de compétences cliniques?**
Mark only one oval.

- Tout à fait d'accord
- D'accord
- Ni en désaccord ni en accord
- Pas d'accord
- Pas du tout d'accord

21. **Question 21: Pensez-vous que les compétences cliniques évaluées reflètent celles qui vous ont été enseignées?**
Mark only one oval.

- ◯ Tout à fait d'accord
- ◯ D'accord
- ◯ Ni en désaccord ni en accord
- ◯ Pas d'accord
- ◯ Pas du tout d'accord

22. **Question 22: Pensez-vous que les compétences cliniques évaluées sont celles requises pour un médecin généraliste?**
Mark only one oval.

- ◯ Tout à fait d'accord
- ◯ D'accord
- ◯ Ni en désaccord ni en accord
- ◯ Pas d'accord
- ◯ Pas du tout d'accord

APPENDIX : OB-GYN SAMPLE STATION

ECOS de gynécologie obstétrique
Contraception

Station :

1. **Type de station :** demande de contraception.
2. **Durée :** 05 minutes
3. **Matériel nécessaire :**
   - **Un bureau**
   - **Deux chaises :** une pour le candidat, une autre pour l'évaluateur.
4. **Documents :**
   - Feuille de l'énoncé.
   - Scenario
   - Grille d'évaluation.
5. **Scénario :**
   - **Situation clinique :** consultation de contraception
   - **Enoncé :** Madame Fatima, vous consulte pour demande de contraception. Vous avez **05 minutes** pour relever les éléments anamnestiques et l'aider à choisir la contraception adéquate
   - **Script pour la patiente simulée :**

     Fatima, 34 ans
     Mariée depuis 10 ans
     3 grossesses, 2acouchement et une fausse couche
     - 1ere grossesse : accouchement par voie basse sans anomalies, garçon vivant de 8 ans
     - 2eme grossesse : accouchement par voie basse, fille de 2 ans
     - 3eme grossesse : FC spontanée, il y a 1an

     ATCD de thrombophlébite surale traitée il y a 2 ans au cours de la

APPENDIX : MARKING SHEET SAMPLE FOR THE EVALUATOR (WITHOUT SCORING)

	items	fait	Non fait
	Interrogatoire précis :		
	Age		
	Gestité et parité		
	Date des dernières règles		
	Contraception antérieure		
	ATCD thrombophlébite personnel		
	ATCD thrombophlébite familial		
	HTA		
	Diabète		
	Migraine		
	Contexte IST		
	Prise médicamenteuse		
	Prise Anticoagulant		
	Dysménorrhées		
	ménorragies		
	Durée désirée de contraception		
	synthèse		
	Proposer des moyens contraceptifs : DIU		
	Explications DIU		
	Proposer des moyens contraceptifs : micro progestatif		
	Explications micro progestatifs		
	Proposer des moyens contraceptifs : implant		
	explications		
	Citer que les oestroprogestatifs sont CI		
	Proposer les oestroprogestatifs		

	Demander le choix de la patiente		
	Expliquer les effets secondaires du moyen choisi		
	Expliquer le mode d'utilisation		
	Se présenter		
	Demande objectif de la visite		
	Impression globale sur l'attitude		

APPENDIX : MARKING SHEET SAMPLE FOR THE TEACHER REPONSIBLE FOR THE STATION (WITH SCORING)

items		fait	Non fait
	Interrogatoire précis :		
	Age	2	
	Gestité et parité	2	
	Date des dernières règles	2	
	Contraception antérieure	3	
	ATCD thrombophlébite personnel	3	
	ATCD thrombophlébite familial	2	
	HTA	3	
	Diabète	3	
	Migraine	4	
	Contexte IST	4	
	Prise médicamenteuse	3	
	Prise Anticoagulant	3	
	Dysménorrhées	4	
	ménorragies	4	
	Durée désirée de contraception	4	
	synthèse	4	
	Proposer des moyens contraceptifs : DIU	4	
	Explications DIU	4	
	Proposer des moyens contraceptifs : micro progestatif	4	
	Explications micro progestatifs	4	
	Proposer des moyens contraceptifs : implant	2	
	explications	2	
	Citer que les oestroprogestatifs sont CI	6	

	Proposer les oestroprogestatifs	**- 10**	
	Demander le choix de la patiente	5	
	Expliquer les effets secondaires du moyen choisi	5	
	Expliquer le mode d'utilisation	4	
	Se présenter	3	
	Demande objectif de la visite	3	
	Impression globale sur l'attitude	4	

APPENDIX : STATION EXAMPLE

Examen Clinique Objectif Structuré (ECOS) : Session juin 2018

Patiente âgée de 35 ans, primigeste, primipare et un enfant vivant. Elle vous ramène le résultat de FCU fait pour la première fois dans le cadre du dépistage.

Résultat de l'étude cytologique :

Reçu un FCU de qualité satisfaisante.

L'examen cytologique après coloration au Papanicolaou montre sur un fond légèrement inflammatoire fait de lymphocytes, de plasmocytes et de polynucléaires neutrophiles, la présence de cellules malpighiennnes superficielles et intermédiaires globalement régulière. Les cellules basales et parabasales montrent des noyaux augmentés de taille à chromatine réticulé et dense, aux contours irréguliers, binucléés par place. Le cytoplasme est peu abondant. Présence par ailleurs, des cellules endocervicales régulières regroupées en amas compacts ou dissociés.

→ Frottis cervico-utérin anormal avec des lésions malpighiennes intra-épithéliales de haut grade (HSIL) selon Bethesda 2014

Vous avez 10 min pour expliquer à votre patiente les modalités de sa prise en charge?

APPENDIX : MARKING SHEET SAMPLE FOR THE EVALUATOR (WITHOUT SCORING)

Grille pondérée pour l'enseignant responsable de la station

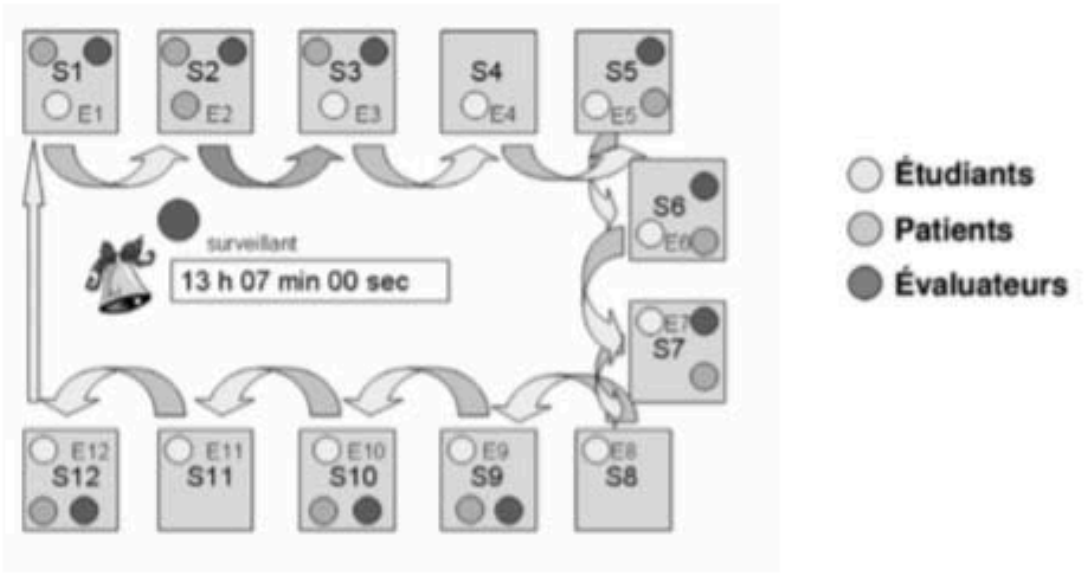
	Items	Fait	Non fait
1	**Contact avec la patiente**		
2	**Expliquer c'est quoi une lésion de haut grade (HSIL) :** - Lésions précancéreuses évoluant vers l'invasion (le cancer) du col utérin en l'absence du traitement		
3	**Prise en charge diagnostique :** - Inutile et dangereux de refaire un second frottis : risque de méconnaître une lésion plus grave et de la laisser évoluer vers l'invasion - Faire un examen colposcopique d'emblée pour : • Repérer les lésions • Et orienter les prélèvements - Lorsque la colposcopie est non satisfaisante (ne permet pas d'observer l'intégralité des lésions cervicales), une exérèse à visée diagnostique est indiquée - 1er contrôle à 3-6 mois : colposcopie et frottis utérin avec biopsies dirigées - Si normal : répéter à 6 mois-1an - Si RAS, cytologie annuelle - Si anomalie : traiter les lésions résiduelles selon leur sévérité et leur situation		
4	**Prise en charge thérapeutique:** - Ces lésions doivent toujours être traitées - Prendre en considération le désir de grossesse de la patiente - Prendre en considération sa compliance pour la surveillance postthérapeutique - Les méthodes de la résection (conisation) : habituellement indiquées • La hauteur de la conisation sera guidée par l'examen colposcopique • Marges saines +++ - Les méthodes de destruction (vaporisation laser ou cryothérapie) peuvent être proposées à une femme désirant une grossesse si : • Elle accepte un suivi régulier • Les lésions sont de petite taille, de siège uniquement exocervical, totalement visibles à la colposcopie		
5	**Surveillance post thérapeutique :** - Surveillance régulière avec un premier contrôle entre 3 et 6 mois associant colposcopie et frottis utérin avec des biopsies dirigées - Si RAS, examens à répéter dans un délai de 6 mois à 1 an - Si RAS, surveillance cytologique annuelle - Si anomalies au premier contrôle, traiter les lésions résiduelles selon leur sévérité et leur localisation (traitement destructeur ou nouvelle exérèse)		

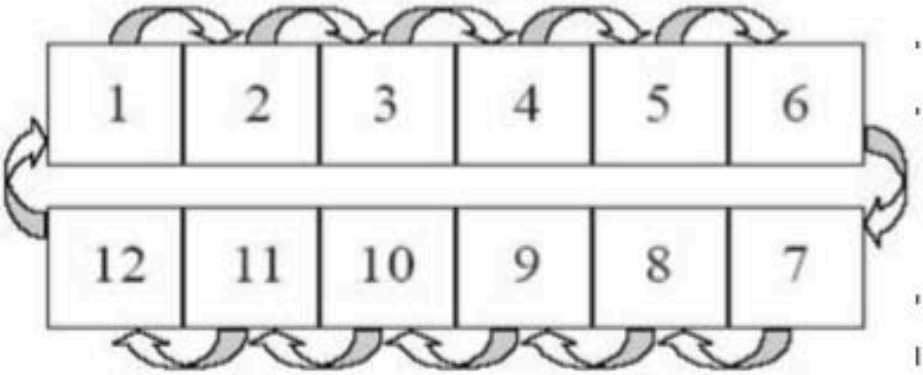
APPENDIX : MARKING SHEET SAMPLE FOR THE TEACHER REPONSIBLE FOR THE STATION (WITHSCORING)

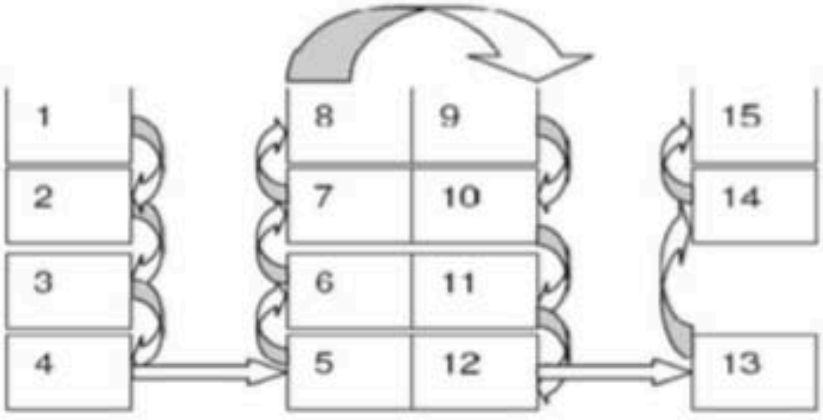
Grille non pondérée (pour l'évaluateur)

	Items	Pondération
1	**Contact avec la patiente**	4
2	**Expliquer c'est quoi une lésion de haut grade (HSIL) :** - Lésions précancéreuses évoluant vers l'invasion (le cancer) du col utérin en l'absence du traitement	4
3	**Prise en charge diagnostique :** - Inutile et dangereux de refaire un second frottis : risque de méconnaître une lésion plus grave et de la laisser évoluer vers l'invasion - Faire un examen colposcopique d'emblée pour : • Repérer les lésions • Et orienter les prélèvements - Lorsque la colposcopie est non satisfaisante (ne permet pas d'observer l'intégralité des lésions cervicales), une exérèse à visée diagnostique est indiquée - 1er contrôle à 3-6 mois : colposcopie et frottis utérin avec biopsies dirigées - Si normal : répéter à 6 mois-1an - Si RAS, cytologie annuelle - Si anomalie : traiter les lésions résiduelles selon leur sévérité et leur situation	4 4 4 4 4 4 4 4 4
4	**Prise en charge thérapeutique:** - Ces lésions doivent toujours être traitées - Prendre en considération le désir de grossesse de la patiente - Prendre en considération sa compliance pour la surveillance postthérapeutique - Les méthodes de la résection (conisation) : habituellement indiquées • La hauteur de la conisation sera guidée par l'examen colposcopique • Marges saines +++ - Les méthodes de destruction (vaporisation laser ou cryothérapie) peuvent être proposées à une femme désirant une grossesse si : • Elle accepte un suivi régulier • Les lésions sont de petite taille, de siège uniquement exocervical, totalement visibles à la colposcopie	4 4 4 4 4 4 4 4 4 4
5	**Surveillance post thérapeutique :** - Surveillance régulière avec un premier contrôle entre 3 et 6 mois associant colposcopie et frottis utérin avec des biopsies dirigées - Si RAS, examens à répéter dans un délai de 6 mois à 1 an - Si RAS, surveillance cytologique annuelle - Si anomalies au premier contrôle, traiter les lésions résiduelles selon leur sévérité et leur localisation (traitement destructeur ou nouvelle exérèse)	4 4 4 4 4
	Total	100

APPENDIX : EXEMPLE OF STATION SETTING







Circuits Proposés

APPENDIX : CONFIGURATION OF A STATION

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ABSTRACT

Abstract:

The aim of this study was to investigate the students' perception of the OSCE as part of an evaluation of clinical skills in undergraduates' medical students in their final year of the curriculum. A self-administered questionnaire inspired by a Pierre *et al.* questionnaire was sent to students via Facebook and distributed to some right after the completion of the OSCE. The questionnaire was composed of 4 sections and 32 items, with questions about the examination's fairness, organization, validity, objectivity and content. The results of this study indicates that OSCE has been viewed as a relatively fair assessment tool (52%), that it minimized the chance of failing (83%) and covered a wide range of knowledge (73%). However, some students felt that OSCE was intimidating (40%), that it was difficult to prepare for the exam (58,2%) and (41%) of student expressed concerns about inadequacy of time. Moreover, the students felt that the OSCE provided opportunities to better learn skills (82%) but didn't feel that the skills evaluated reflected those which were taught (45%). (68%) reported that the stations were well organized and of logical sequence. (52%) of student felt that the SPs stations were authentic and (51%) of them agreed that the skills evaluated reflected those needed for a general practitioner. Student feedback confirmed their acceptance of OSCE as an evaluation tool for their clinical skills, so as to fairness and unbiased, cover a wide range of knowledge and comprehensive, provide opportunities to leaning. Also the majority of examinees was satisfied with organization and administration of the OSCE, they preferred using the OSCE exam more in the clinical exams than the other assessment. More studies are required involving larger number of students and teachers to further establish the effectiveness of OSCE within medical curriculum.

RESUME :

Le but de cette étude était de faire une enquête sur la perception des étudiants par rapport aux ECOS dans le cadre de l'évaluation des compétences cliniques chez les étudiants en médecine en dernière année de cursus. Un questionnaire auto-administré inspiré par Pierre (Jamaïque, 2004) a été envoyé aux étudiants via Facebook et distribué à certains juste après la fin des ECOS. Le questionnaire était composé de 4 sections et de 32 items, avec des questions sur l'équité, l'organisation, la validité, l'objectivité et le contenu de l'examen. Les résultats de cette étude indiquent que l'ECOS a été considéré comme un outil d'évaluation relativement équitable (52%), que cette méthode minimisait les risques d'échec (83%) et couvrait un large éventail de connaissances (73%). Cependant, certains étudiants ont estimé que l'ECOS était intimidant (40%), qu'il était difficile de se préparer à l'examen (58,2%) et (41%) des étudiants ont exprimé des inquiétudes quant au manque de temps. De plus, les étudiants ont estimé que l'ECOS offrait des possibilités de mieux acquérir certaines compétences (82%) mais ne pensaient pas que les compétences évaluées reflétaient celles qui avaient été enseignées (45%). (68%) ont signalé que les stations étaient bien organisées et de séquence logique. (52%) des étudiants estimaient que les stations de SP étaient authentiques et (51%) d'entre eux étaient d'accord que les compétences évaluées reflétaient celles requises pour un praticien généraliste. Les commentaires des étudiants ont confirmé leur acceptation de l'ECOS en tant qu'outil d'évaluation de leurs compétences cliniques, en étant équitable et impartial, de couvrir un large éventail de connaissances et d'offrir des possibilités d'apprentissage. La majorité des candidats étaient satisfaits de l'organisation et de l'administration de l'ECOS, ils ont en outre préféré cette méthode à d'autres méthodes d'évaluation clinique. Plus d'études sont nécessaires impliquant un plus grand nombre d'étudiants et d'enseignants pour établir davantage l'efficacité de l'OSCE dans le cursus médical.

ملخص

كان الغرض من هذه الدراسة التحقق من وجهة نظر الطلاب عن التقييم السريري موضعي البناء كأداة تقييم المهارات السريرية لطلاب الطب في السنة النهائية من دراستهم. تم إرسال استبيان ذاتي الإدارة مستوحى من بيير جامايكا إلى الطلاب عبر فيسبوك وتوزيعه على البعض بعد انتهاء التقييم السريري موضعي البناء. يتكون الاستبيان من 4 أقسام و32 بندًا، مع أسئلة حول الإنصاف والتنظيم والصلاحية والموضوعية ومحتوى الاختبار. تشير نتائج هذه الدراسة إلى أن التقييم السريري موضعي البناء تعتبر أداة تقييم عادلة نسبياً (52٪)، وأن هذه الطريقة قللت من خطر الفشل (83٪) وغطت مجموعة واسعة من المعرفة (73٪). ومع ذلك، شعر بعض الطلاب أن التقييم السريري موضعي البناء كانت تخيف (40 ٪)، وأنه كان من الصعب التحضير للامتحان (58.2 ٪) و (41 ٪) من الطلاب أعرب عن قلقه إزاء عدم وجود الوقت. بالإضافة إلى ذلك، شعر الطلاب بأن التقييم السريري موضعي البناء قد أتاحت فرصًا للحصول على مهارات معينة بشكل أفضل (82٪)، لكنهم لا يعتقدون أن المهارات التي تم تقييمها تعكس تلك التي تم تدريسها (45٪). ذكر (68 ٪) من الطلاب أن المحطات كانت أصلية و (51٪) اتفقوا على أن المهارات PS كانت منظمة تنظيما جيدا ومنطقية. (52٪) من الطلاب شعروا بأن المحطات التي تم تقييمها تعكس تلك المطلوبة لطبيب عام. أكدت ردود فعل الطلاب قبولهم من الطلاب كأداة لتقييم مهاراتهم السريرية، وكونها نزيهة ومحايدة، تغطي مجموعة واسعة من المعرفة وتوفر فرص التعلم. كانت غالبية المتقدمين راضية عن تنظيم وإدارة التقييم السريري موضعي البناء، وفضلوا هذه الطريقة على طرق أخرى للتقييم السريري. هناك حاجة لمزيد من الدراسات التي تشمل المزيد من الطلاب والمعلمين لتعزيز فعالية التقييم السريري موضعي البناء في المناهج الطبية.

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قسم الطبيب

أقسم بالله العظيم

أن أراقب الله في مهنتي
وأن أصون حياة الإنسان في كافة أدوارها في كل الظروف والأحوال
باذلاً وسعي في استنقاذها من الهلاك والمرض والألم والقلق
وأن أحفظ للناس كرامتهم، وأستر عورتهم، وأكتم سرهم
وأن أكون على الدوام من وسائل رحمة الله،
باذلاً رعايتي الطبية للقريب والبعيد،
للصالح والخاطئ، والصديق والعدو
وأن أثابر على طلب العلم، أسخره لنفع الإنسان.. لا لأذاه
وأن أوقر من علمني، وأعلم من يصغرني، وأكون أخاً لكل زميل في المهنة الطبية
متعاونين على البر والتقوى
وأن تكون حياتي مصداق إيماني في سري وعلانيتي ، نقيةً مما يشينها تجاه الله ورسوله والمؤمنين

والله على ما أقول شهيد

كليـــــــة الـطـب
والصيدلة - مراكش
FACULTÉ DE MÉDECINE
ET DE PHARMACIE - MARRAKECH
جامعة القاضي عياض
UNIVERSITÉ CADI AYYAD

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التقييم السريري موضعي البناء في طب النساء و التوليد: حول تجربة كلية الطب و الصيدلة بمراكش

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من طرف

الآنسة: أسماء خاوا

لنيل شهادة الدكتوراه في الطب

الكلمات الاساسية:

التكوين الطبي ـ تقييم ـ التقييم السريري موضعي البناء

اللجنة

السيد	أ. السوماني أستاذ في أمراض النساء و التوليد	الرئيس
السيد	ك. هارو أستاذ في أمراض النساء و التوليد	المشرف
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